

MARINE SAFETY: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS



**COMDTINST 16000.74
September 2021**



COMDTCHANGENOTE 16000
20 SEP 2021

COMMANDANT CHANGE NOTICE 16000

Subj: CH-3 TO MARINE SAFETY MANUAL VOLUME II, COMDTINST M16000.7B

1. PURPOSE. This Commandant Change Notice publishes the cancellation of Marine Safety Manual Volume II, COMDTINST M16000.7B, and replacement with separate Commandant Instructions, one for each chapter of the existing Manual.
2. ACTION. All Coast Guard unit commanders, commanding officers, officers-in-charge, deputy/assistant commandants, and chiefs of headquarters staff elements shall comply with the provisions of this Commandant Change Notice. Internet release is authorized.
3. DIRECTIVES AFFECTED. With the addition of this Commandant Change Notice, Marine Safety Manual Volume II, COMDTINST M16000.7B, is cancelled.
4. DISCUSSION. The content of Marine Safety Manual remains intact. The primary reason for this change is to allow for timely revision and re-publication of the individual Commandant Instructions.
5. DISCLAIMER. This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is intended to provide operational guidance for Coast Guard personnel and is not intended to nor does it impose legally-binding requirements on any party outside the Coast Guard.
6. MAJOR CHANGES. Sections A through G of Marine Safety Manual Volume II, COMDTINST M16000.7B, are now individual and independent Commandant Instructions. They are listed below.
 - a. Marine Safety: Marine Inspection Administration, COMDTINST 16000.70 (pages A1-1 - A7-43)

DISTRIBUTION - SDL No. 170

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
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NON-STANDARD DISTRIBUTION:

- b. Marine Safety: Domestic Inspection Programs, COMDTINST 16000.71 (pages B1-1 – B10-3)
- c. Marine Safety: Inspection of Engineering Systems, Equipment, and Materials, COMDTINST 16000.72 (pages C1-1 – C5-31)
- d. Marine Safety: Port State Control, COMDTINST 16000.73 (pages D1-1 – D7-38)
- e. Marine Safety: International Conventions, Treaties, Standards, and Regulations, COMDTINST 16000.74 (pages E1-1 – E4-3)
- f. Marine Safety: Carriage of Hazardous Materials, COMDTINST 16000.75 (pages F1-1 – F5-35)
- g. Marine Safety: Outer Continental Shelf Activities, COMDTINST 16000.76 (pages G1-1 – G6-24)

7. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.

- a. Commandant CG-47 reviewed the development of this Instruction, and the general policies contained within it, and determined that this policy falls under the Department of Homeland Security (DHS) categorical exclusion A3. No further environmental analysis is necessary in accordance with the U.S. Coast Guard Environmental Planning Policy, COMDTINST 5090.1 (series).
- b. This Instruction will not result in any substantial change to existing environmental conditions or violation of any applicable federal, state, or local laws relating to the protection of the environment. It is the responsibility of the action proponent to evaluate all future specific actions resulting from this policy for compliance with the National Environmental Policy Act (NEPA), other applicable environmental mandates, and the U.S. Coast Guard Environmental Planning Policy, COMDTINST 5090.1(series).

8. DISTRIBUTION. No paper distribution will be made of this Commandant Change Notice. An electronic version will be located on the following Commandant (CG-612) web sites. Internet: <http://www.uscg.mil/directives/>, and CGPortal: <https://cg.portal.uscg.mil/library/directives/SitePages/directives.aspx>

9. PROCEDURE. Cancel Marine Safety Manual Volume II, COMDTINST M16000.7B and replace with COMDTINSTs 16000.70 thru 16000.76.

10. RECORDS MANAGEMENT CONSIDERATIONS. Records created as a result of this Instruction, regardless of format or media, must be managed in accordance with the records retention schedules located on the Records Resource Center CGPortal site: <https://cg.portal.uscg.mil/units/cg61/CG611/SitePages/Home.aspx>.

11. FORMS/REPORTS. The forms called for in this Commandant Change Notice are available in USCG Electronic Forms on the Standard Workstation or on the Internet: <https://www.dcms.uscg.mil/forms/>; CGPortal at <https://cgportal.uscg.mil/library/forms/SitePages/Forms.aspx>; and Intranet at <https://www.dcms.uscg.mil/forms/>.

12. REQUEST FOR CHANGES. Request for changes to the previous mentioned Commandant Instructions may be sent to Commandant (CG-CVC) at HQS-SMB-COMDT-CG-CVC@uscg.mil.

/J. W. MAUGER/
Rear Admiral, U. S. Coast Guard
Assistant Commandant for Prevention Policy

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS****A. INTRODUCTION**

In 1973, the International Maritime Organization (IMO) adopted the International Convention for the Prevention of Pollution by Ships, which was later modified by Protocol in 1978. This convention, known as MARPOL 73/78, seeks to limit shipborne pollution by restricting operational pollution and reducing the possibility of accidental pollution. When a national government accepts MARPOL 73/78, it is also obligated to make the requirements part of domestic law. MARPOL 73/78 consists of six separate annexes, each of which is designed to combat a particular class of pollutants. The six annexes are:

Regulations for the Prevention of Pollution from Ships, MARPOL 73/78	
Annex	Title
I	Regulations for the Prevention of Pollution by Oil
II	Regulations for the Control of Pollution by Noxious Liquid Substances (chemicals) in bulk
III	Regulations for the Prevention of Pollution by Harmful Substances in Packaged Form
IV	Regulations for the Prevention of Pollution by Sewage from Ships
V	Regulations for the Prevention of Pollution by Garbage from Ships
VI	Regulations for the Prevention of Air Pollution from Ships

The United States has ratified Annexes I and II (both in force internationally and mandatory for nations party to MARPOL 73/78), III, V, and VI. MARPOL Annexes III, IV, V, and VI are optional annexes, which require separate ratification even for nation's signatory to MARPOL 73/78. An optional annex enters into force 1 year from the date on which at least 15 nations, representing 50 percent of the world's shipping tonnage, have ratified it. Annex V entered into force on December 31, 1988; Annex III on July 1, 1992; Annex IV on August 1, 2005; and Annex VI (revised) July 1, 2010. This chapter describes the MARPOL 73/78 procedures that should be followed during exams. The enforcement guidance for MARPOL 73/78 Annex I discrepancies discovered during exams is in the MSM Volume I, Administration and Management, COMDTINST M16000.6 (series), Chapter 4. During vessel examinations, the Coast Guard ensures MARPOL 73/78 compliance and checks for violations. MARPOL 73/78 deficiencies discovered during an exam must be immediately reported to the ship's master or owner's representative. The United States has set forth, in the Act to Prevent Pollution from Ships (APPS) (33 U.S.C. 1901 et seq.), a civil penalty of not more than \$25,000 for each MARPOL 73/78 violation. A strong, fair, and consistent enforcement program is essential to ensure MARPOL 73/78's success in significantly reducing marine pollution

from ships. For guidance on MARPOL 73/78 compliance for foreign flag ships in U.S. waters, please see MSM Volume II, Materiel Inspection, COMDTINST M16000.7A, Chapter D2.

1. Liaison

- a. Port State Control representatives should liaison with the following groups and ensure each is aware of its responsibilities with respect to MARPOL 73/78:
 - (1) U.S. Department of Agriculture Animal and Plant Health Inspection Service (APHIS) and Plant Protection and Quarantine (PPQ) personnel.
 - (2) Facility managers.
 - (3) Port authorities.
 - (4) Shipping agents.
 - (5) Reception facilities.
 - (6) Marina owners/operators.
 - (7) Reservists.
 - (8) Auxiliaries.
 - (9) Local Coast Guard Group and Station personnel.
 - (10) National Marine Fisheries Service personnel.
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2. Compliance

- a. Port State Control Examiners/Officers shall check for compliance with MARPOL during the course of their vessel inspections and that this is noted in their inspection books..
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USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS****3. Violations**

- a. The Chief, Inspections Division should ensure that all MARPOL violations are properly entered into MISLE and that any possible violation is thoroughly and accurately investigated and documented.
 - b. In the case of a suspected MARPOL violation that cannot be supported by sufficient evidence, any available information should be entered so that suspected violators can be flagged by other ports as possible sources of noncompliance.
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4. Interaction

- a. The Port State Control Examiners/Officers should maintain positive and proactive interaction with APHIS and PPQ inspectors. When resources allow, these inspectors board every vessel arriving from a foreign port and are an extremely valuable resource to the MARPOL enforcement program.
 - b. Port State Control personnel should conduct periodic MARPOL training at local APHIS offices to ensure that APHIS inspectors are aware of the Coast Guard's interest in MARPOL V compliance, specifically, the importance of notifying the Coast Guard of possible violations and sending any evidence of noncompliance to the Coast Guard unit as soon as possible.
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5. Facility Certificates of Adequacy (COA)

- a. Port State Control personnel should liaison with Facility inspectors to reexamine all local waterfront facilities and determine which are required to have a Certificate of Adequacy (COA) for each annex and whether the facility holds a valid COA.
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6. Facility Disposal Methods

- b. Coast Guard personnel should be responsive to reports from vessels of facility inadequacy. In the case of such a report, the incident should be thoroughly investigated and take appropriate corrective action.
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USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

7. Unit Training

- a. The MITO or unit training officer should coordinate periodic unit training on MARPOL requirements, enforcement procedures, compliance, and effective civil penalty case preparation.
- b. Inviting APHIS inspectors to speak to the unit is also highly encouraged.

8. Education and Training

B. AUTHORITY

- (1) MARPOL Annexes I, II, V, and VI have been incorporated into U.S. law by APPS, which requires the Coast Guard to draft regulations and enforce the provisions of these MARPOL 73/78 Annexes.
- (2) The MARPOL regulations for inspected vessels are in 33 CFR Part 151 and the MARPOL regulations for uninspected vessels are in 46 CFR Subchapter C. The regulations specify ship-generated discharge restrictions for all vessels operating on all waters subject to U.S. jurisdiction. These regulations apply to U.S. vessels regardless of where the vessel is operating.
- (3) For MARPOL-related regulations for reception facilities, see 33 CFR Part 158.
- (4) MARPOL Annex III was implemented by The Hazardous Materials Transportation Act (HMTA). For the relevant regulations, see 49 CFR Parts 171, 172, 173, 174. For Harmful Substances Carried by Sea in Packaged Form or in Freight Containers, Portable Tanks or Road and Rail Tank Wagons, see 49 CFR Part 176. The regulations list the criteria for the designation, description, and classification of those hazardous materials.

C. DEFINITIONS

The following definitions are provided to assist in understanding the terminology associated with the regulatory requirements for enforcing the provisions of MARPOL 73/78.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

1. Adequate Reception Facility

Adequate reception facility, as defined in 46 CFR 153.2, “means each facility certified as adequate under 33 CFR 158.160 and each facility provided by an administration signatory to MARPOL 73/78 under Regulation 7 of Annex II.”

2. Administration

Administration, as defined in article 2(5) of MARPOL 73/78, “means the Government of the state under whose authority the ship is operating. For fixed or floating platforms engaged in exploration and exploitation of the coastal seabed and subsoil, the Administration is the Government of the coastal state exercising sovereign rights for the purpose of exploration and exploitation of their natural resources.”

3. Animal and Plant Health Inspection Service (APHIS)

APHIS operates under the Customs and Border Protection. Its local officers, officers, board U.S. and foreign vessels upon vessel arrival at U.S. ports to enforce sanitation and health regulations regarding foreign food and plants.

4. Ash and Clinkers Handling

Ash and clinkers are the by-products of shipboard incinerators and coal-burning boilers. They are considered operational wastes. The term “clinker” can also be used to refer to plastic residue or pieces that have not been fully reduced to ash by incineration or barrel burning. Plastic clinkers must be treated as plastic and retained aboard ship for discharge at port reception facilities.

5. Built

Built, as defined in 46 CFR 153.2, “means that a ship's construction has reached any of the following stages:

- a. The keel is laid.
 - b. The mass of the partially assembled ship is 50,000 kg.
 - c. The mass of the partially assembled ship is one percent of the estimated mass of the completed ship.”
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6. Cargo Associated Wastes

Cargo associated wastes, as defined in 33 CFR 151.05, “means all materials which have become wastes as a result of use on board 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.”

7. Cargo Residue and Sweepings

Cargo residue and sweepings are the remnants of any cargo material on board that either cannot be placed in proper cargo holds or that remains after unloading is completed. This includes both loading excess or spillage and unloading residual and spillage. Cargo residue and sweepings should be in small quantities. They should be treated as garbage under MARPOL Annex V and are subject to the same restrictions, except when the residue or sweepings are substances defined or listed under the other annexes to the MARPOL convention.

8. Certificate of Adequacy (COA)

Certificate of Adequacy (COA), as defined in 33 CFR 158.120, “means a document issued by the Coast Guard or other authorized agency that certifies a port or terminal meets the requirements of this part with respect to reception facilities under [APPS] MARPOL 73/78, and has Form A, Form B, or Form C attached.”

9. Commercial Fishing Facility

Commercial fishing facility, as defined in 33 CFR 158.120, “means docks, piers, processing houses or other facilities which receive commercial fishery products from ships.”

10. Daily Vessel Average

Daily vessel average, as defined in 33 CFR 158.120, “means the total number of oceangoing tankers, or any other oceangoing ships of 400 gross tons or more, carrying residues and mixtures containing oil, serviced over a typical continuous 12 month period, divided by 365.”

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

11. Discharge

Discharge, as defined in 33 CFR 151.05, “means, as defined by MARPOL 73/78 in relation to harmful substances or effluent containing such substances, means any release, however caused from a ship, and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying. It does not include--

- a. Dumping within the meaning of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter, done at London on November 13, 1972; or
- b. The release of harmful substances directly arising from the exploration, exploitation, and associated offshore processing of seabed mineral resources; or
- c. The release of harmful substances for purposes of legitimate scientific research relating to pollution abatement or control.”

12. Dishwater

Dishwater, as defined in 33 CFR 151.05, “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.”

13. Equivalent

Equivalent means an alternative for a fitting, material, appliance, or apparatus that is allowed by the Administration and is at least as effective as the MARPOL 73/78 requirement. The substitution of an operational method of control of oil discharge in lieu of design and construction features required by MARPOL 73/78 is not an equivalent.

14. Existing Ship

Existing ship, as defined in 33 CFR 151.05, “means a ship that is not a new ship.”

15. Form A

Form A, as defined in 33 CFR 158.120, “means the application for a reception facility Certificate of Adequacy for oil, Form USCG-CG-5401A (9–85).” International Oil Pollution Prevention (IOPP) supplement, Form OMB Approval No. 2415-D543 is also a Form A.

16. Form B

Form B, as defined in 33 CFR 185.120, means the application for a reception facility Certificate of Adequacy for NLS, Coast Guard form USCG-CG-5401B(2–87).” Form B is also an IOPP supplement.

17. Form C

Form C, as defined in 33 CFR 158.120, “means the application for a Certificate of Adequacy for a Reception Facility for Garbage, Coast Guard form USCG-CG-5401C.”

18. Garbage

Garbage, as defined in 33 CFR 151.05, “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.”

19. Graywater

Graywater, as defined in 33 CFR 151.105, “means drainage from dishwasher, shower, laundry, bath, and washbasin drains and does not include drainage from toilets, urinals, hospitals, and cargo spaces.”

20. Harmful Substance

Harmful substance, as defined in 33 CFR 151.05, “means any substance which, if introduced into the sea, is liable to create hazards to human health, harm living resources and marine life, damage amenities or interfere with other legitimate uses of the sea, and includes any substance subject to control by MARPOL 73/78.”

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

21. Hazardous Material

- a. Hazardous material means a liquid material or substance that is--
- b. Flammable or combustible;
- c. Designated a hazardous substance under section 311(b) of the Federal Water Pollution Control Act (33 U.S.C. 1321); or
- d. Designated a hazardous material under section 104 of the HMTA (49 U.S.C. app. 1803).

NOTE: The Environmental Protection Agency (EPA) designates certain materials as hazardous substances in 40 CFR, Table 116-4.a.

The Coast Guard designates hazardous materials that are transported by water as bulk liquids in 46 CFR Part 153.

22. High Viscosity NLS

High viscosity NLS, as defined in 33 CFR 158.120, “includes Category A NLSs having a viscosity of at least 25 mPa.s at 20°C and at least 25 mPa.s at the time they are unloaded, high viscosity Category B NLSs, and high viscosity Category C NLSs.”

23. High Viscosity Category B NLS

High viscosity Category B NLS, as defined in 33 CFR 158.120, “means any Category B NLS having a viscosity of at least 25 mPa.s at 20°C and at least 25 mPa.s at the time it is unloaded.”

24. High Viscosity Category C NLS

High viscosity Category C NLS, as defined in 33 CFR 158.120, “means any Category C NLS having a viscosity of at least 60 mPa.s at 20°C and at least 60 mPa.s at the time it is unloaded.”

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**25. IMO Bulk Chemical Code**

The term IMO Bulk Chemical Code includes the IMO International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, Resolution Marine Environmental Protection Committee (MEPC) 19(22), 1985 and the IMO Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, Resolution MEPC 20(22), 1985.

26. IMO Certificates

IMO certificates include a Certificate of Fitness (COF) for the Carriage of Dangerous Chemicals in Bulk, issued under the IMO Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, Resolution MEPC 20(22), 1985; and an International COF for the Carriage of Dangerous Chemicals in Bulk, issued under the IMO International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, Resolution MEPC 19(22), 1985.

27. International Oil Pollution Prevention (IOPP) Certificate

IOPP Certificate means a certificate issued to a ship by an Administration party to MARPOL 73/78 after the ship has successfully completed a survey to ensure its compliance with MARPOL 73/78 requirements. An IOPP Certificate is only issued to ships whose flag state is a party to MARPOL 73/78.

28. IOPP Certificate Equivalency

IOPP Certificate equivalency means valid documentation showing that a non-Party ship has been surveyed in accordance with and complies with the requirements of MARPOL 73/78. Evidence of compliance may be issued by either the government of a country or a recognized classification society. The evidence of compliance must contain all of the information in and have substantially the same format as the IOPP Certificate, Form A or Form B as appropriate.

29. Liquid

Liquid, as defined in 46 CFR 153.2, “means each substance having a vapor pressure of 172 kPa or less at 37.8°C.”

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

30. MARPOL 73/78

MARPOL 73/78, as defined in 33 CFR 151.05, “means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating to that Convention.”

31. Maintenance Waste

Maintenance waste, as defined in 33 CFR 151.05, “means materials collected while maintaining and operating the ship, including, but not limited to, soot, machinery deposits, scraped paint, deck sweepings, wiping wastes, and rags.”

32. Medical Waste

Medical waste, as defined in 33 CFR 151.05, “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.”

33. Mineral and Oil Industry Shorebase

Mineral and oil industry shorebase, as defined in 33 CFR 158.120, “means a place or onshore structure or facility which is a base of operations for ships serving the mineral and oil industry.”

34. Nearest Land

Nearest land, as defined in 33 CFR 151.05, “means from the baseline from which the territorial sea of the territory in question is established in accordance with international law, except that, for the purposes of these regulations, “from the nearest land” off the north eastern coast of Australia shall mean from a line drawn from a point on the coast of Australia in—latitude 11°00' South, longitude 142°08' East to a point in—latitude 10°35' South, longitude 141°55' East, thence to a point—latitude 10°00' South, longitude 142°00' East, thence to a point—latitude 9°10' South, longitude 143°52' East, thence to a point—latitude 9°00' South, longitude 144°30' East, thence to a point—latitude 13°00' South, longitude 144°00' East, thence to a point—latitude 15°00' South, longitude 146°00' East, thence to a point—latitude 18°00' South, longitude 147°00' East, thence to a point—latitude 21°00' South, longitude 153°00' East, thence to a point on the coast of Australia in latitude 24°42' South, longitude 153°15' East.”

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**35. New Ship**

New ship, as defined in 33 CFR 151.05, “means a ship—

- (1) For which the building contract is placed after December 31, 1975; or
 - (2) In the absence of a building contract, the keel of which is laid or which is at a similar stage of construction after June 30, 1976; or
 - (3) The delivery of which is after December 31, 1979; or
 - (4) That has undergone a major conversion—
 - (i) For which the contract is placed after December 31, 1975;
 - (ii) In the absence of a contract, the construction work of which is begun after June 30, 1976; or
 - (iii) That is completed after December 31, 1979.
 - (5) For the purposes of [33 CFR] 151.26 through 151.28, which is delivered on or after April 4, 1993.”
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36. Non-Party

Non-Party means a country that has not ratified MARPOL 73/78 or Annex V of MARPOL 73/78.

37. Noxious Liquid Substance (NLS)

Noxious Liquid Substance (NLS), as defined in 33 CFR 158.120, “means—

- (1) Each substance listed in §151.47 or §151.49 of this chapter;
 - (2) Each substance having an “A”, “B”, “C”, or “D” beside it's name in the column headed “Pollution Category” in table 1 of 46 CFR Part 153; and
 - (3) Each substance that is identified as an NLS in a written permission issued under 46 CFR 153.900(d).”
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USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

38. Oceangoing Ship

Oceangoing ship, as defined in 33 CFR 151.05, “means a ship that--

- (1) Is operated under the authority of the United States and engages in international voyages;
- (2) Is operated under the authority of the United States and is certificated for ocean service;
- (3) Is operated under the authority of the United States and is certificated for coastwise service beyond three miles from land;
- (4) Is operated under the authority of the United States and operates at any time seaward of the outermost boundary of the territorial sea of the United States as defined in §2.22 of this chapter; or
- (5) Is operated under the authority of a country other than the United States.
- (6) Note: A Canadian or U.S. ship being operated exclusively on the Great Lakes of North America or their connecting and tributary waters, or exclusively on the internal waters of the United States and Canada; is not an “oceangoing” ship.”

39. Oil

Oil means petroleum in any form, including crude oil, fuel oil, sludge, oil refuse, and refined products. Oil does not include animal or vegetable based oil, nor does it include NLSs designated under Annex II of MARPOL 73/78.

40. Oily Mixture

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

41. Operational Waste

Operational waste, as defined in 33 CFR 151.05, “means all cargo-associated waste, maintenance waste, and cargo residues other than oil residues and NLS cargo residues. “Operational wastes” includes ashes and clinkers (*i.e.* , a mass of incombustible matter

fused together by heat) from shipboard incinerators and coal-burning boilers but does not include plastic clinkers, which are treated as an Annex V waste, or oily rags, which are treated as an Annex I waste.”

42. Owner

Owner means any person holding the title to or, in the absence of title, any other indicia of ownership of, a ship or terminal. “Owner” does not include a person who, without participating in the management or operation of a ship or terminal, holds indicia of ownership primarily to protect a security interest in the ship or terminal.

43. Party

Party means a country that has ratified MARPOL 73/78 and Annex V of MARPOL 73/78.

44. Person

Person, as defined in 33 CFR 151.05, “means an individual, firm, public or private corporation, partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body. ”

45. Person in Charge

Person in Charge (PIC), as defined in 33 CFR 158.120, means an owner, operator, or a person authorized to act on behalf of a port or terminal. Note: The “person in charge” under this part is not necessarily the same person as the “person in charge” referred to in parts 151, 154, 155, and 156 of [33 CFR Subchapter O] (as defined in § 154.105 of [33 CFR Subchapter O].)”

46. Plastic

Plastic, as defined in 33 CFR 151.05, “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 crabshells and other types of

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

shells, which appear normally in the marine environment, are not plastics under this part. 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 (vaporproof 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.” Degradable plastic products on the commercial market are considered plastic within the context of MARPOL enforcement.

47. Port

Port, as defined in 33 CFR 158.120, “means--

- (1) A group of terminals that combines to act as a unit and be considered a port for the purposes of this part;
 - (2) A port authority or other organization that chooses to be considered a port for the purposes of this part; or
 - (3) A place or facility that has been specifically designated as a port by the COTP.”
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48. Public Vessel

Public vessel means any warship, naval auxiliary or other ship owned or operated by a country and engaged in non-commercial service.

49. Reception Facility

Reception facility, as defined in 33 CFR 158.120, “means anything capable of receiving shipboard oily mixtures or NLS residue, or receiving garbage, including, but not limited to—

- (1) Fixed piping that conveys residues and mixtures from the ship to a storage or treatment system;
 - (2) Tank barges, railroad cars, tank trucks, or other mobile facilities;
 - (3) Containers or other receptacles that are used as temporary storage for garbage; or
 - (4) Any combination of fixed and mobile facilities.”
-

50. Recreational Boating Facility

Recreational boating facility, as defined in 33 CFR 158.120, “means a facility that is capable of providing wharfage or other services for 10 or more recreational vessels. It includes, but is not limited to, marinas, boatyards, and yacht clubs, but does not include a place or facility containing only an unattended launching ramp.

51. Regulated NLS Cargo

Regulated NLS cargo, as defined in 33 CFR 158.120, “includes each Category A or high viscosity or solidifying Category B or C NLS cargo listed in Table 1 of 46 CFR Part 153 that contains a reference to 153.908(a) or 153.908(b) in the "Special Requirements" column of that table and is unloaded at the port or terminal within a typical continuous 12 month period either before or after application is made for a Certificate of Adequacy.”

52. Residues and Mixtures containing NLSs (NLS residue)

Residues and mixtures containing NLSs (NLS residue), as defined in 33 CFR 151.05, “means—

- (1) Any Category A, B, C, or D NLS cargo retained on the ship because it fails to meet consignee specifications;
 - (2) Any part of a Category A, B, C, or D NLS cargo remaining on the ship after the NLS is discharged to the consignee, including but not limited to puddles on the tank bottom and in sumps, clingage in the tanks, and substance remaining in the pipes; or
 - (3) Any material contaminated with Category A, B, C, or D NLS cargo, including but not limited to bilge slops, ballast, hose drip pan contents, and tank wash water.”
-

53. Ship

Ship, as defined in 33 CFR 151.05, “means a vessel of any type whatsoever, operating in the marine environment. This includes hydrofoils, air-cushion vehicles, submersibles, floating craft whether self-propelled or not, and fixed or floating drilling rigs and other platforms.”

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

54. Slop Tank

Slop tank, as defined in 46 CFR 153.2, “includes slop tanks and cargo tanks used as slop tanks.”

55. Solidifying NLS

Solidifying NLS, as defined in 33 CFR 158.120, “means a Category A, B, or C NLS that has a melting point—

- (1) Greater than 0 °C but less than 15 °C and a temperature, measured under the procedure in 46 CFR 153.908(d), that is less than 5 °C above its melting point at the time it is unloaded; or
 - (2) 15 °C or greater and has a temperature, measured under the procedure in 46 CFR 153.908(d), that is less than 10 °C above its melting point at the time it is unloaded.”
-

56. Special Area

Special area, as defined in 33 CFR 151.05, “means a sea area, where for recognized technical reasons in relation to its oceanographical and ecological condition and to the particular character of the traffic, the adoption of special mandatory methods for the prevention of sea pollution by oil, NLSs, or garbage is required.”

57. Tank Barge

Tank barge means a tank vessel not equipped with a means of self-propulsion.

58. Terminal

Terminal, as defined in 33 CFR 151.05, “means an onshore facility or an offshore structure located in the navigable waters of the United States or subject to the jurisdiction of the United States and used, or intended to be used, as a port or facility for the transfer or other handling of a harmful substance. The Coast Guard interprets commercial fishing facilities, recreational boating facilities, and mineral and oil industry shorebases to be terminals for the purposes of Annex V of MARPOL 73/78, since these facilities normally provide wharfage and other services, including garbage handling, for ships.”

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS****59. The Act**

The Act, as defined in 33 CFR 150.120 for the purposes of 33 CFR Part 150, “means the Act to Prevent Pollution from Ships (94 Stat. 2297, 33 U.S.C. 1901 et seq).”

In this chapter of the MSM Volume II, Material Inspection, COMDTINST M16000.7A (series), the Act to Prevent Pollution from Ships is referred to by the acronym APPS.

60. Victual Waste

Victual waste, as defined in 33 CFR 151.05, “means any spoiled or unspoiled food waste.”

D. MARPOL 73/78 ANNEX I GUIDANCE AND PROCEDURES

The MARPOL Annex I Compliance Checklist (Figure E1-1 of this Chapter) may be used to aid in an Annex I compliance verification for both U.S and foreign vessels.

1. MARPOL compliance for U.S ships

- a. Coast Guard Marine Inspectors conduct the MARPOL 73/78 Annex I surveys and issue the IOPP Certificates for U.S. ships, using the guidance in NVICs 8-83 and 6-94. IOPP surveys of U.S. inspected ships will coincide with regularly scheduled inspections unless required earlier. The compliance verification procedures outlined below for Port State Control exams should be referred to when conducting MARPOL surveys on U.S. ships.
- b. Each U.S. oil tanker of 150 GT and above and each other U.S. ship of 400 GT and above that engages in voyages to ports or offshore terminals under the jurisdiction of other parties to MARPOL 73/78 must have a valid IOPP Certificate.
- c. Inspected ships engaged solely in coastwise trade are not required to have an IOPP Certificate, since they are not making an international voyage.
- d. Such ships must have the Form A or Form B Supplement, as appropriate.
- e. These ships are required to have MARPOL 73/78 pollution prevention equipment on board and functioning, as required by 33 CFR Parts 151, 155, and 157, and in accordance with the policy stated in NVIC 7-83.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

- f. IOPP Certificate surveys of U.S. uninspected ships are performed only upon request. U.S. uninspected oceangoing ships not visiting foreign ports do not need an IOPP Certificate. However, these ships are required to have MARPOL 73/78 pollution prevention equipment on board and functioning, as required by 33 CFR Parts 151, 155, and 157.
- g. ORB requirements. Oceangoing oil tankers of 150 GT and above and all other oceangoing ships 400 GT and above, without regard to the ship's age, are required by MARPOL Annex I and 33 CFR 151.25 to maintain an ORB. U.S. ships are required to obtain the U.S. version of the ORB (yellow cover) from a Sector, Activity or MSU. The U.S. version of the ORB contains Part I for Machinery Space Operations and Part II for Cargo/Ballast Operations as a single volume. Oil tankers and ships with bulk oil cargo spaces having an aggregate capacity of 200 m³ or more must maintain one ORB solely dedicated to machinery space operations and another ORB solely dedicated to cargo/ballast operations. Other ships only have to maintain one ORB for machinery space operations.

2. Port State Control (PSC) Examinations

- a. All foreign vessels within the applicable gross tonnage requirements in MARPOL Annex I, without exception, must have on board a valid IOPP Certificate or for non-party vessels (vessels whose flag State is not signatory to MARPOL); a valid IOPP Certificate equivalent.
- b. Intentional discharges of oil contaminated bilge water and sludge in direct contravention of MARPOL requirements is a significant threat to the marine environment. In 2005, a review of several years of data from Coast Guard PSC exams indicated an increased frequency of non-compliance with MARPOL Annex I requirements. MARPOL Annex I violation investigations have demonstrated that ship owners and vessel crews have concealed accidental or deliberate discharges of oily waste and sludge. These discharges were usually caused by malfunctioning equipment, poorly managed maintenance programs or as an effort to reduce operational costs.

3. Documentation Review

- a. IOPP Certificate. The IOPP Certificate and supplement details the ship's arrangements and equipment for meeting applicable Annex I requirements. The Certificate shows the expiration date and as applicable, endorsements for the annual and intermediate surveys. The required supplement is either a Form A, Record of Construction and Equipment for Ships Other than Oil Tankers; or a

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

Form B, Record of Construction and Equipment for Oil Tankers. The Form A and B Supplements provide specific information on the ship and its pollution prevention equipment. The IOPP Certificate or Certificate equivalency, for non-parties, allows a PSCO to easily determine if a ship has all of the required MARPOL Annex I equipment on board.

- b. The PSCO must check the IOPP Certificate for validity and verify ship name and registry, carefully noting any exemptions or equivalencies in pollution prevention arrangements. Determine if any equivalents in Section 6 of Form A or in section 10 of Form B are acceptable to the United States. This may require contacting Commandant (CG-CVC). Verify the vessel arrangements and equipment listed on the IOPP match the vessel's equipment and are in accordance with the Annex I requirements.

4. Oil Record Book (ORB) requirements

- a. Oceangoing oil tankers of 150 GT and above and all other oceangoing ships 400 GT and above, without regard to the ship's age, are required by 33 CFR 151.25 to maintain an ORB.
- b. Foreign Vessels signatory to MARPOL are required to use their country's version of the ORB. Some Parties publish Part I and Part II of the ORB separately. The ORB is acceptable whether published together as a single volume or in two separate volumes.
- c. Foreign Vessels not signatory to MARPOL are required to have and maintain the ORB on board. Any equivalent format that provides the same information as the ORB is acceptable.
- d. Shipboard oil transfer and discharge operations are required to be recorded in the ORB. The PSCO must conduct a spot check of the ORB. The master's signature is required to be on each page of the ORB; in addition, the officer in charge of the listed operation must sign each entry. Recent entries must be reviewed to ascertain whether these activities represent the actual procedures followed by shipboard personnel. The Coast Guard and Department of Justice may use a falsified ORB as criminal evidence against a ship and its crewmembers suspected of an illegal oil discharge.
- e. The PSCO should investigate any ORB irregularities, which may include:
 - (1) If amounts processed exceed rated capacity of the pollution prevention equipment, compare system through-put to what is indicated on the IOPP. For

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

example, the ORB indicates 30 cubic meters (approx. 7920 gallons) of oily water processed in 3 hours by an Oily Water Separator (OWS) having a maximum capacity of 5 cubic meters per hour;

- (2) Check entries for wrong codes, dates that are not in order and missing pages;
 - (3) Repetitive entries that may indicate falsification of ORB activities;
 - (4) If waste oil, sludge, bilge and other tank levels noted during the inspection vary significantly from last entries. For example, the ORB indicates a liquid level in the vessel's sludge tank at the completion of the previous voyage, the sludge tank is currently at a lower level, and the ORB does not indicate how the ship disposed of this liquid; and
 - (5) Recorded quantities of oily bilge water pumped to holding tanks or processed by the OWS directly from the bilge wells that do not compare to observed conditions within the machinery space. Recorded quantities should be compared to the observed bilge loads associated with such conditions as leaking pump glands, piping systems, main and auxiliary equipment casing leaks or problems from other systems that cause releases into the bilge.
- f. Appendix III to MARPOL Annex I provides additional guidelines for ORB entries; the PSCO must be familiar with this guidance when conducting an expanded examination. The ORB must address the following, as appropriate:
- (1) For machinery space operations (all ships): ballasting and cleaning of oil fuel tanks; discharge of dirty ballast containing or cleaning water from oil fuel tanks; disposal of oily residues; and discharge overboard or disposal otherwise of bilge water which has accumulated in machinery spaces; equipment malfunction or irregularities;
 - (2) For cargo/ballast operations (oil tankers): loading of cargo oil; internal transfer of oil during voyage; unloading of cargo oil; ballasting of cargo tanks and dedicated clean ballast tanks; cleaning of cargo tanks including crude oil washing; discharge of ballast except from segregated ballast tanks; discharge water from slop tanks; closing of valves necessary for isolation of dedicated clean ballast tanks from cargo and stripping lines after slop tank discharge operations; and disposal of residues.

5. Oil Discharge Monitor and Control System (commonly referred to as ODME) Record Review

- a. All oil tankers of 150 GT or more or other ships with bulk cargo spaces with an aggregate capacity of 200 m³ or more are required to have oil discharge monitors with automatic recording devices on board and operating. The ship's IOPP certificate should be checked to determine if the ship has an automatic device installed and functioning. Per 33 CFR 157.37, the monitor continuous records are to be kept on board for 1 year from the date of the last entry and be available for review for 3 years from the date of the last.
- b. Monitoring devices that produce a continuous record showing the date and concentration of oil discharges is an important enforcement tool for ensuring compliance with MARPOL 73/78 discharge restrictions. For ships equipped with such monitors, the continuous recordings should be reviewed at each boarding to verify proper functioning of the device and ensure that oil discharges are in accordance with MARPOL 73/78.
- c. The PSCO must review the IOPP Certificate to determine whether the ship needs an oil content/discharge monitor equipped with an automatic recording device. Equipment should match what is listed on the IOPP certificate.
- d. The PSCO should confirm that the ODME records for the previous year are onboard and that machinery bilge space records from the past three years are onboard.
- e. The PSCO should review the dates, times, and concentration of discharges from the most recent voyage by checking the ORB. Check the last discharge on the continuous record to determine if the concentration discharged and the location of the discharge were authorized and compare it to the last discharge recorded in the ORB.
- f. If the vessel arrived in ballast and deballasted while in port, the deballasting entries in the ORB should correspond to the monitor recording. If the monitor is inoperative or indicates a discharge in excess of MARPOL 73/78 limits, the problem should be indicated in the ORB what action the ship has taken to correct the problems.
- g. PSCOs should be aware that the Coast Guard has learned of instances where such monitoring equipment has been tampered with, similar to OWS equipment in order to discharge oily waste that exceeds allowable limits. An example of tampering is manually changing recorder entries such as vessel speed and dates.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

- h. If an unauthorized discharge is indicated by the continuous records, conduct a more thorough review as described in Paragraph D.4.b of this Chapter. Additional evidence of the discharge must be obtained to support submission of a discharge violation for civil penalty proceedings or for referral to another Flag State.
- i. Shipboard Oil Pollution Emergency Plan (SOPEP). Every oil tanker of 150 GT and above, and every ship other than an oil tanker of 400 GT and above, must have a SOPEP on board. The PSCO should verify that the vessel has a SOPEP on board that has been approved by the vessel's Flag Administration. Pollution response equipment listed in the SOPEP should be spot checked and the phone numbers and points of contact listed in the SOPEP are up to date, i.e., National Response Center, local COTP or Sector offices, etc.
- j. Vessel examination and operational inspection of equipment. Considering that many of the primary systems supporting the propulsion equipment will be secured during in-port inspections and that close examination of various components such as piping runs, control valves, heat exchangers, and pump glands is necessary to develop an adequate perception as to the equipment's condition during actual operation, the PSCO should conduct a walk-through examination of the main machinery spaces to form a general impression of the state of the engine room, machinery spaces and the physical condition of systems, equipment and components, being alert for excessive leakage of water, oil and other substances into the machinery space bilges. The PSCO should also evaluate the vessel's Safety Management System (SMS) procedures regarding the management of bilge and sludge type wastes routinely generated by various systems.
- k. During this walk-through observation, the PSCO should examine overboard piping to identify conditions that may indicate the disassembly of piping segments, flanges, blanks, or valves tied into any systems that lead overboard. This may include other systems such as overboard cooling water systems, drains, boiler blow downs, etc. Pay particular attention to loose bolts, blanked flanges, capped pipes, dead-end valves and tees, chipped paint, evidence of work such as handprints against the hull or piping, or even fresh paint, oil stains, drippings, splatter oil on valve stems, particularly near systems capable of directing fluids overboard. Portable pumps and hoses, although common shipboard equipment, are occasionally used for improper transfers; check for improper tie-in with systems capable of discharging overboard. Be alert to independent segments of piping and fittings stowed, but designed to fit in-between certain flanges of equipment capable of discharging overboard.
- l. The discovery of conditions described above may not be evidence of improper activities, but must be considered with other factors discovered during the

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

examination; in addition, some conditions may provide a direct indication of potential improper activities which require further inspection. The PSCO should not consider a single observation as conclusive indication of illegal activity. In fact, suspicious conditions may have a reasonable and innocent explanation, so carefully consider the totality of these observations when making an assessment.

- m. During all PSC exams and other inspections verifying MARPOL Annex I compliance, the PSCO should conduct operational tests of the OWS and Oil Content Meter (OCM) to determine the equipment functions properly together as a system and not only as individual system components. Properly operating equipment should run trouble free, and personnel responsible for operating the equipment should be knowledgeable in all aspects of the equipment.

6. Oily Water Separator.

- a. Prior to conducting an operational test of the OWS, verify that the OWS has been approved by the USCG or appropriate Administration. If the OWS is approved in accordance with Resolution MEPC.107(49), the following should be used to determine compliance:
 - (1) Conduct a cursory review of 15 parts per million (ppm) bilge monitoring/alarm records.
 - (2) Oily water monitoring/bilge alarm equipment should be designed to store data for up to 18 months and should be able to display or print a protocol for inspectors if needed.
 - (3) Recorded items should include: date, time, alarm status, and operating status of the 15 ppm separator.
 - (4) Inspectors should compare those entries against existing Oil Record Book entries to determine any non-conformities.
 - (5) All 15-ppm monitor/bilge alarms should be sealed to prevent willful manipulation of overboard discharge data.
 - (6) At each International Oil Pollution Prevention (IOPP) Certificate renewal, the accuracy of the 15-ppm oily water monitors and/or bilge alarms should be completed by an authorized equipment testing company.
 - (7) PSCOs should accept a valid IOPP certificate accompanied by the manufacturer's calibration certificate as proof of compliance.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- (8) Manufacturers' calibration certificates cannot be accepted as proof of compliance if they are more than 5 years old.
- (9) An alternative to manufacturer's calibration testing is that the entire alarm unit may be replaced by a calibrated 15 ppm alarm. A bilge alarm should not be accepted as compliant if it is over five years old unless it has been calibrated as discussed above. When this alternative is used, appropriate installation documentation should be verified.
- (10) It is not necessary to witness an OWS test unless tampering or malfunctioning is suspected or if the manufacturer's calibration certificate is more than 5 years old.
 - (a) An important feature of an OWS approved under MEPC.107(49) is that a bilge alarm must activate when clean water is used for cleaning or calibration of the unit.
- (11) For equipment meeting older standards, the PSCO should require an operational test of the OWS using the below procedures. During the test, great care should be exercised by the ship's crew to prevent overboard releases of oil, even if such efforts require the separation of pipe or flanges after the discharge control devices.
- (12) Identify crewmembers responsible for the operation of the OWS based on the Safety Management System or by asking the chief engineer. During the operational test, the PSCO should observe and determine the crew's competency and knowledge of the equipment and associated piping. Crewmember inability to successfully operate pollution prevention equipment may indicate that the equipment is not routinely used. If the equipment is not functioning correctly, examine the ORB for entries that indicate when the system failed and the reason for the failure.
- (13) Consult the manufacturer's operations manual for operating the OWS and OCM and follow any relevant procedures provided.
- (14) Regardless of the manufacturer's instructions, the PSCO should additionally ensure the following:
 - (a) The operational test should last at least 15-20 minutes and should be generally trouble free.
 - (b) The fluid entering the OWS for processing comes directly from the bilge

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

holding tank or rose box and is not diluted by open sea or fresh water connections.

- (c) There is no dilution of the processed oily water sample line to the OCM. The OCM outlet fluid should be visible as well. Some systems use a three-way valve which must be positioned correctly to prevent any dilution of the OWS discharge sample to the OCM.
- (d) If the vessel uses a source tank to supply oily water to the OWS, the source tank level should drop proportionately in comparison to the capacity of the OWS for the period of time the equipment was run. This drop in tank level is based on the size and configuration of the source tank and the duration of the test. In some arrangements the level may not drop an appreciable amount.
- (e) The OWS effluent is visibly clean. Ask the crew to obtain a sample of OWS effluent in a clean container. The sample should be similar in appearance to the outlet flow from the OCM and should have no visible surface oil.
- (f) If the OWS equipment uses consumable filter elements, coalescing media, recording paper, etc., verify that reasonable quantities of these consumables are onboard. In addition, the OWS manufacturer's recommended spare parts should also be onboard.

7. Oil Content Monitor/Meter.

Per MARPOL Annex I, ships of 10,000 gross tonnage and above, and ships carrying large quantities of fuel oil, are required to have an OCM. PSCOs should witness an operational test of the alarm (usually at the same time as the OWS) using the below procedures:

- a. Prior to testing, examine ORB entries relating to maintenance done to the unit.
- b. While testing the OCM, examine the unit closely for indications of tampering, be aware that personnel can easily bypass or disable an OCM with very simple electrical modifications and adjustments of the electronic components that can affect the unit's sensitivity to accurately measure the oil content of the effluent.
- c. Ensure the crew uses great care to prevent discharging unlawful quantities of oil.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- d. The OCM must activate the alarm and close the overboard discharge valve and direct the discharge back to a tank or the bilge when the processed effluent exceeds 15 ppm of oil. Most OWS units have a sample valve located before the OCM where a sample can be drawn and visually checked; oily water typically produces a sheen at concentrations greater than 15 ppm.
- e. Trace the OCM sample line to ensure it is coming from (sampling) the discharge side of the OWS. Verify there is no means to dilute the source sampling entering the OCM. Ensure that OCM fresh water flush valve, if provided, is closed when the OCM is sampling.
- f. Always refer to the manufacturer's specified procedure or the vessel's written procedures for proper testing of the OCM. Never test the OCM using sticks, tea, coffee, or similar unorthodox methods.
- g. When testing the OCM alarm, there may be up to a 20 second delay after the detection of excess oil in the OWS discharge before the alarm sounds and the overboard discharge control devices are activated. Refer to the manufacturer's technical manual to confirm the acceptable time delay.

8. Sludge Tank (Tank for Oil Residues)

- a. The sludge tank stores oil residue, i.e. sludge or waste oil, which is left over from processing oily water through the OWS and from other sources like fuel oil and lube oil purifiers.
- b. Determine the sludge tank level and the rate at which the ship generates sludge and whether the sludge tank has sufficient capacity to store waste oil generated by the ship's machinery operations during its next voyage.
- c. In general, the quantity of fuel oil sludge produced should be equivalent to 1- 2 percent of the heavy fuel oil burned. For example, a vessel that burns 45 cubic meters (11,880 gallons) of fuel per day should develop between 450 to 900 liters (119 – 238 gallons) of oil and oily water each day.
- d. Confirm that the sludge tank level is consistent with entries in the ORB. Ask a ship's engineer how the ship disposes of sludge, ashore or through incineration.
- e. Review ORB entries and verify the method of sludge disposal is accurately documented. There may be several different tanks used to manage oily bilge water and sludge type wastes. Some sludge tanks are fitted with heating coils to

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

evaporate excess water. Accordingly, these tanks may contain less fluid than indicated in the ORB.

- f. Incinerator (if installed on board). A properly functioning incinerator is an integral part of disposing sludge. Sludge and waste oil are generated from a properly operating OWS, from fuel and lube oil purification, and other main engine sources. Incinerators installed on or after January 1, 2000 must be approved by the flag Administration, based on IMO resolution MEPC.76 (40). Incinerators installed between March 26, 1998 and December 31, 1999, also requires IMO or class approval per IMO resolution MEPC. 59(33). Installations completed before March 26, 1998 need not be approved. Examine the ORB for quantities of sludge incineration; infrequent entries in the ORB for shore-side discharge of sludge may indicate that the incinerator is frequently used. An operational test of the incinerator may be necessary when conducting an expanded exam. During an expanded exam, PSCOs should—
- (1) Verify that the crew can safely operate the installed incinerator per the manufacturer's instruction operations manual;
 - (2) Question the ship's crew on how much sludge the incinerator burns. If the crew claims that it is all burned, verify and compare the capacity of the incinerator against the ship's daily production of sludge. As discovered in recent MARPOL investigations, ORB entries documenting the quantities and methods for handling oily wastes are occasionally falsified. Investigators have learned that, in such cases, wastes are sometimes discharged overboard. Examination of the vessel's engineering log, specifically daily fuel consumption entries, will help verify the accuracy of the quantities expressed in the ORB; and
 - (3) Consult the manufacturer's operations manual for operating the incinerator and follow any relevant procedures provided. Regardless of the manufacturer's instructions, the PSCO may:
 - (a) Sound and note the level of the source tank. The tank should also be at the proper temperature and circulators, if fitted, should be operating.
 - (b) Verify the content of the source tank as sludge. Be aware that some investigators have identified the incinerator supply tanks as having been filled with clean diesel fuel to falsely give the impression of proper operation during testing of the equipment.
 - (c) Closely examine the firebox refractory. Fireboxes that are too clean with minimal deposits may indicate that the equipment is not regularly used. Alternatively, thick carbon deposits throughout the furnace area may indicate excessive heat and running the machine at too high or over

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

capacity. When the unit is used to burn solid wastes, ash and other debris may be indicated on the furnace floor. The waste oil nozzle should have some carbon deposits which are evidence of use.

- (d) Make certain incinerators have gone through a warm-up stage and that the pre-sludge burning furnace temperatures have been reached prior to burning sludge.
- (e) Once the proper warm-up temperatures are reached, ensure the incinerator burns sludge for 15-20 minutes and checks for a corresponding drop in the source tank. This drop in tank level is based on the size and configuration of the source tank, the burn rate of the incinerator, and the duration of the test, it may not be an appreciable amount, but the quantity should be measurable.
- (f) Check the incinerator manual for the manufacturer's list of recommended spare parts inventory. If the ship has few or no spare parts on hand, or if the parts box appears untouched with very old parts in original packaging, it may indicate that the incinerator has not required significant maintenance and may reflect little usage. Review entries in the ORB and check for repairs or maintenance done to the equipment.
- g. Standard discharge connection. Examine the standard discharge connection for evidence of use. The ORB should be reviewed for entries indicating shore-side discharge through the standard discharge connection. If the ORB indicates recent shore-side or barge discharges, then the crew should be able to produce the standard discharge connection quickly and it should show signs of recent use. In contrast, if the ORB indicates no shore-side discharge and the standard discharge connection shows signs of recent use such as a clean threaded valve stem, further investigation may be needed. Be concerned if you discover fittings like a hose barb that would allow a hose without a coupling to be slipped over a pipe section and attached to a flange, or a flange that adapts the discharge connection to a fire hose coupling. Some investigations have concluded a fire hose was used to pump oily waste and sludge directly overboard.
- h. Procedures for conducting an expanded exam. Prior to expanding an exam of pollution prevention equipment and procedures, ensure that clear grounds exist to justify a more in depth exam. Clear grounds is defined by the IMO as evidence that the ship, its equipment, or its crew does not correspond substantially with the requirements of the relevant conventions or that the master or crew members are not familiar with essential shipboard procedures relating to the safety of ships or the prevention of pollution. Evidence of troublesome or problematic equipment operations or the appearance of the crewmember's inability to operate

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

the equipment correctly, is sufficient evidence to expand the MARPOL Annex I examination. The items listed below are just a few items that should be checked when conducting an expanded exam; Appendix 2 of the IMO Resolution A.1052(27), Procedures for Port State Control, contains guidance that should be reviewed before conducting an expanded exam.

- (1) Verify that no electrical bypasses, jumpers, or extra switches are configured within the OCM unit; consult the OCM manual and wiring diagram for help in determining this.
- (2) Verify that bilge piping matches approved OWS piping diagram to ensure no unauthorized modifications have been made. If illegal bypasses are suspected, the OWS discharge pipe should be opened. When inspecting the discharge pipe, some light oil residue may be present and considered normal since light residues of oil accumulate in the pipe over time. On the other hand, excessive quantities of oil or build-up of sludge requires further investigation.
- (3) Be vigilant for unauthorized bypasses when malfunctioning OWS equipment is found. Bypasses do not always directly involve the OWS overboard skin valve, many creative means have been used to bypass OWS systems, for example, a bilge water bypass to overboard discharge for another system.
- (4) Compare the ship's Safety Management System requirements for OWS preventative maintenance against actual maintenance conducted. Request proof/documentation of maintenance completed (check for consumables from OWS, receipts of service, technician reports, contractor disposal records, etc.).
- (5) Review meter calibration records if available. Systems approved under MEPC.107(49) are required to have a seal on the bilge alarm, allowing the crew to only check instrument drift, repeatability and have the ability to re-zero the unit. Note: STCW does not require members of the crew to be competent in calibrating OWS equipment.
- (6) Make note of any cleaning products in the engine room. Some cleaning products may emulsify the oil in the bilge water thereby preventing the OWS from properly operating, rendering it ineffective. Consult the OWS manual or other shipboard management policies for approved cleaning products.
- (7) Ask the crewmembers, preferably not in the presence of the chief engineer, about if/when tank soundings are taken, from which tanks they are taken, and how they are recorded/transmitted. If the crew provides sounding logs, compare the entries to those recorded in the ORB for consistency.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

9. U.S. Requirements Exceeding Those of MARPOL 73/78

- a. When U.S. requirements exceed those of MARPOL 73/78, specific examination of these features must be conducted by the PSCO.
 - (1) The U.S. requirements that exceed those of MARPOL 73/78 include--
 - (2) The containment requirements in 33 CFR 155.310;
 - (3) The requirements for the reduced optional period for the use of Clean Ballast Tank (CBT) in lieu of Segregated Ballast Tank (SBT) or Crude Oil Washing (COW) on certain crude oil tankers in 33 CFR 157.10a; and
 - (4) The 33 CFR Part 157 requirements for SBT, CBT, and COW on existing tankers of 20,000 to 40,000 DWT that are 15 years old or more. These requirements went into effect on 1 January 1986 under Section 5(7)(E) and (H) of the Port and Tanker Safety Act of 1978 (46 U.S.C. 3705 and 3706).
-

10. Damage Stability

- a. Proper loading of a ship is essential for safety and to prevent the occurrence of oil spill disasters. Regulation 28 of MARPOL 73/78 contains the requirements for damage stability. The review of damage stability requirements should be conducted during the annual foreign tanker examination and during other exams, such as those for monitoring transfer operations.
- b. Exams to monitor transfer operations are to verify that the ship has the proper stability information on board and is loaded in accordance with the approved stability information.
- c. Regulation 28 of MARPOL 73/78 requires a ship to have information that allows the damage stability of a tanker to be assessed under conditions the same as or similar to those under which the tanker is expected to operate.
- d. IMO determined that only the full load condition and a limited number of partial load conditions needed to be evaluated for approval and kept available to the master. Additional partial loading conditions should be evaluated depending upon the ship's operational needs.
- e. The United States does not accept this interpretation because the partial load conditions provided may be less severe than the ship's actual operating conditions while in U.S. waters. As a result, the United States requires new ships that are oil

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

tankers to have approved stability information on board for the loading conditions under which they are operating while in U.S. waters.

FIGURE E1-5 To Be Added Later in Electronic Version

FIGURE E1-6 To Be Added Later in Electronic Version

- f. Damage stability requirements. All new oil tankers must have damage stability information on board to permit the master to load the ship in a manner to resist damage and minimize oil pollution in case of grounding or collision (Annex I, Regulation 28 of MARPOL 73/78). At the time of their construction, U.S. flag ships are provided with Coast Guard-approved stability information to comply with 33 CFR Part 157. These requirements meet or exceed those in MARPOL 73/78. Damage stability information for U.S. ships is normally found in either the ship's trim and stability booklet or the ship's loading booklet, sometimes referred to as the loading manual. Foreign ships will have stability information in similar documents.
- (1) Trim and stability booklet. From the information in this booklet, the master or chief mate prepares a calculation for the stability for each full or partial loading condition of the ship. The trim and stability booklet typically contains the following information:
- (a) General description and light-ship data.
 - (b) Instructions for calculating draft, trim and the center of gravity (KG).
 - (c) Tank capacity tables.
 - (d) Table of hydrostatic properties for the range of operating drafts, which are used to develop the loading conditions.
 - (e) Curve or table of allowable center of gravity (KG) or required metacentric height (GM) versus draft.
 - (f) Blank calculation forms.
- g. Loading booklet (loading manual). The loading booklet provides the master with a limited number of pre-calculated full and partial loading conditions for departure and arrival. Each condition will be a separate page in the booklet and will show either the amount of cargo or the percentage (0 percent, 50 percent, 75 percent, 98 percent) of cargo in each tank for that loading condition.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

- h. Damage stability exam procedures. Determining whether a ship is properly loaded and has proper damage stability information is difficult, since stability information is highly technical, provided in several acceptable forms, and is usually in the language of the ship's flag state. PSCOs must use all of their skills in communication and observation, as well as common sense and judgment, in determining whether a ship's damage stability information is adequate and whether the ship is correctly loaded. To determine whether a ship complies with the MARPOL 73/78 damage stability requirements, the following procedures should be used when evaluating a ship's loading condition:
- (1) Record the forward, midships (if available), and after drafts observed when boarding the ship. If a midship draft is not available, calculate the mean draft by averaging the forward and after drafts. The difference between the forward and after drafts is the vessel's trim.
 - (2) Ask the master to describe how the vessel's cargo tanks were loaded upon port entry, prior to commencing transfer operations, in terms of percent of the tank full (e.g., fully loaded, #1 tanks full, #2 tanks at 60 percent, etc.). Record the fill percentages of each of the cargo tanks. It is particularly important to note which cargo tanks are partially full, especially cargo wing tanks, since they affect stability to a greater extent than other loaded tanks.
 - (3) Ask the master or the cargo loading officer for the ship's trim and stability booklet or loading booklet (loading manual). If the ship has no stability information, this is a major design deficiency, and the enforcement actions in the Marine Safety Manual, Volume I, Administration and Management, COMDTINST M16000.6 (series), Chapter 4, for a major design deficiency should be followed.
 - (a) If presented with the trim and stability booklet, ask the ship's officer to show you the loading condition calculations. Record the forward, after, and mean drafts calculated and the percentage fill of each cargo tank for that loading condition.
 - (b) If presented with the stability booklet (loading manual), ask the ship's officer to show you the specific page with the calculations that were followed for the ship's loading condition. Record the forward, after, and mean drafts and the percentage fill of each cargo tank from this page.
 - (4) Compare the master's cargo tank levels and the observed drafts to the cargo tank levels and drafts recorded in the ship's trim and stability or loading booklet. Record any cargo tank levels that do not agree within 5 percent. Also record if the mean observed draft does not agree with the calculated mean draft

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

to within 4 inches, and record if the observed trim does not agree with the calculated trim to within 12 inches.

- (5) Ask the ship's officer to explain any differences greater than those indicated in the preceding paragraph. PSCOs must understand that considerable differences between observed drafts and the ship's calculated drafts may occur when the ship is in the process of loading or unloading cargo as compared to the fully loaded or completely ballasted conditions. Differences between the drafts observed or given by a ship's officer and those calculated could also be due to hog or sag conditions; fuel consumed; inaccuracies in reading the draft marks due to weather or the ship's position at the dock; water density; and the different reference points from which draft marks may be measured.
- (6) If the explanation for differences noted between observed and recorded cargo tank levels and mean draft and trim is unsatisfactory, ask the ship's officer to verify the present level in several of the cargo tanks and compare them to the cargo tank levels listed in the stability booklets for the applicable loading condition.
 - (a) Partially loaded cargo tanks should be checked first. The tank levels may be obtained from soundings, reading ullages, or reading tank level indicators.
 - (b) There may be large variations in tank levels due to transfer operations. Unexplained variations of 5 percent or more between the present tank loading level and the tank level used for calculations or listed in the trim and stability booklet or the loading booklet are an indication the ship has a major operational deficiency. The PSCO then should contact the OCMi for direction as to the corrective action that should be taken as well as the enforcement actions to take as indicated in the Marine Safety Manual, Volume I, Administration and Management, COMDTINST M16000.6 (series), Chapter 4 for a major operational deficiency.

11. Procedures for detaining under MARPOL Annex I.

- a. When a PSCO determines that a ship or its crew presents an unreasonable threat to the environment an intervention leading to a detention should take place.
- b. Examples of MARPOL Annex I detainable deficiencies can be found in IMO Resolution A.1052(27), Procedures for Port State Control, and include absence, serious deterioration or failure of proper operation of; the oily-water filtering equipment, the oil discharge monitoring and control system or the 15ppm alarm arrangements; remaining capacity of slop and/or sludge tanks insufficient for the

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

intended voyage; excessive oily water in the bilge; oil record book not available; unauthorized discharge bypass fitted; failure to meet damage stability and loading requirements.

- c. PSCOs should follow the specific procedures for notifying and reporting detentions contained in NVIC 06-03. Deficiencies reported on Port State Control Report of Inspection, Form CG-5437B need to be as specific as possible. The report should describe the MARPOL standard the ship does not meet, and details on specifically how the ship fails to meet the standard. A clearly articulated detention report facilitates the review process and reflects positively on the investigative process and subsequent enforcement measures. Some MARPOL Annex I detentions coincide with civil penalty action and/or criminal investigations.
- d. Initiating a MARPOL Annex I investigation. When a PSCO suspects that a civil or criminal violation has taken place, it is imperative that a thorough investigation of potential violations takes place. A prompt and coordinated investigation is crucial. For procedures to ensure all enforcement options are protected when conducting an investigation, refer to the Maritime Law Enforcement Manual, COMDTINST M16247.1 (series) and MSM Volume V, Investigations and Enforcement, COMDTINST M16000.10A (series).

12. Investigations into Alleged Discharge Violations

- a. Exams conducted as a result of a reported oil sighting require a thorough review of the ORB, monitor continuous recordings, pollution prevention equipment operation, and ship spaces together with interviews of the ship's personnel to determine whether the suspected ship discharged in violation of MARPOL 73/78.
- b. Enforcement guidance for MARPOL Annex I discharge violations is provided in the MSM Volume I, Administration and Management, COMDTINST M16000.6 (series), Chapter 4.
 - (1) Discharge requirements. All ships must comply with the discharge limitations described in the following sections. A summary of the discharge requirements for MARPOL 73/78 is provided as Figures E1-5 and E1-6. All unauthorized discharges must be reported without delay as stated in 33 CFR 153.203 and 33 CFR 151.15.
 - (2) U.S. territorial sea. The Federal Water Pollution Control Act (FWPCA) prohibits the discharge of oil in a "quantity which may be harmful" into the

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

navigable waters of the United States, which includes the territorial sea (0 to 12 nautical miles (nm) offshore).

- (3) Under the FWPCA, the EPA has defined a "quantity which may be harmful" as one which forms a sheen, sludge, film or emulsion (40 CFR Part 110). Therefore, any discharge in the territorial sea that creates a sheen is a violation of the FWPCA even if it is allowed by MARPOL 73/78.
- (4) If a discharge is greater than 15 parts per million (ppm), it is also a violation of MARPOL 73/78.
- (5) U.S. contiguous zone. The U.S. contiguous zone is the area between 12 and 24 nm offshore as measured from the baseline from which the territorial sea is measured.
- (6) In the contiguous zone, oil discharges are restricted by the FWPCA and MARPOL 73/78.
- (7) The FWPCA prohibits discharge of oil in a quantity that may be harmful, as defined in 40 CFR Part 110 (one which forms a sheen, sludge, film or emulsion), but excludes discharges permitted by MARPOL 73/78.
- (8) MARPOL 73/78 permits discharges, while underway, from machinery space bilges and oil fuel tanks in concentrations of less than 15 ppm when the ship has an approved oily-water separator (33 CFR 151.10), and monitor or alarm system in operation (33 CFR 155). Discharges in the contiguous zone in compliance with MARPOL 73/78 restrictions are not a violation of the FWPCA, even if a sheen results. Under most conditions, discharges of 15 ppm should not produce a sheen.
- (9) Discharges beyond the contiguous zone. Beyond the contiguous zone, discharges of oil are presently limited only by MARPOL 73/78, except for discharges associated with outer continental shelf drilling operations, which are governed by National Pollution Discharge Elimination System (NPDES) permits issued by the EPA (40 CFR 435).
- (10) Discharges from machinery space bilges and fuel tanks. MARPOL 73/78 permits discharges from machinery space bilges and oil fuel tanks in concentrations of less than 100 ppm when the following are true:
 - (a) The ship is proceeding en route.
 - (b) The ship is not within a special area (see Figure E1-6).

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

- (c) The ship is more than 12 nm from the nearest land, and is operating an approved oily-water separator and, for ships of 10,000 GT and above, an approved bilge monitor or alarm system (33 CFR 151.10 and MARPOL 73/78 Annex I, Regulations 14 and 15).
- (11) Discharges from tanker cargo tanks and cargo pump room bilges. 33 CFR 157.37 permits discharges of oil from cargo tanks and cargo pump room bilges only when all of the following conditions are met:
 - (a) The tanker is not within a special area.
 - (b) The tanker is more than 50 nm from the nearest land.
 - (c) The tanker is proceeding en route.
 - (d) The instantaneous rate of discharge of oil content does not exceed 30 liters per nautical mile.
 - (e) The total quantity of oil discharged into the sea does not exceed the following:
 - i. For existing tankers: 1/15,000 of the total quantity of the particular cargo of which the residue formed a part.
 - ii. For new tankers: 1/30,000 of the total quantity of the particular cargo of which the residue formed a part.
 - (f) The tanker has in operation, except as allowed in 33 CFR 157.08(i), an approved oil discharge monitoring and control system.
- (12) Fixed and floating drilling rigs and other platforms. There are no additional equipment requirements or discharge limitations on fixed and floating drilling rigs and other platforms which are operating under a valid NPDES permit in accordance with section 402 of the FWPCA, as amended and with 40 CFR Chapter I. When not operating under a permit, the MARPOL 73/78 oil discharge limitations in 33 CFR 151.10 are fully applicable. Compliance with an NPDES permit is a fully satisfactory alternative to compliance with the requirements of MARPOL 73/78.
- (13) Alleged discharge violation investigation procedures. The following procedures should be followed when boarding a ship to investigate an alleged discharge violation:

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- (a) Inform the ship's master that his or her ship is suspected of discharging oil in violation of MARPOL 73/78 and/or APPS.
- (b) Review the IOPP certification for validity and to determine what pollution prevention equipment is on board.
- (c) Review the discharge entries in the ORB for the period of the suspected unauthorized discharge to determine if the ship legally discharged at the time and in the location of the reported sighting.
- (d) Review the continuous records from automatic recording devices, if the ship is equipped with these devices, for the period of the suspected unauthorized discharge to determine if the ship met the requirements for the concentration and the total amount of oil discharged.
- (e) Compare the continuous records, as appropriate, to the ORB entries to see if they correspond.
- (f) Check whether, for the voyage in question, sufficient time elapsed for the ship to have deballasted through the cargo monitor considering the monitor's capacity and the time period logged in the ORB.
- (g) Check that the ORB is not missing any entries that should have been made during a particular voyage or in connection with other associated transfer operations.
- (h) Check the operation of pollution prevention equipment i.e., oily-water separators, monitors, and alarms, if there is reason to suspect any malfunction.
- (i) Check the sequence of oil transfers in the ORB for discrepancies.
- (j) If pages of the ORB are required for evidence, make copies of the ORB pages and have the (master certify they are true copies.)
- (k) Tour the ship's spaces and look for signs of oil discharge.
- (l) Interview ship personnel concerning the ship's operations on the date(s) in question.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

FIGURE E1-1: MARPOL ANNEX I BOARDING CHECKLIST

1. Review IOPP Certificate.
 - Is certificate valid?
 - Does vessel name and registry match certificate?
 - Is equipment required in Form A or Form B on board and functioning?
 - Are there any outstanding Notices of Merchant Marine Inspection Requirements (CG-835) or deficiencies indicated in MISLE?
 - Are any "equivalents" listed in Section 7 of Form A or Section 10 of Form B acceptable to the U.S.?
2. Review Oil Record Book.
 - Does vessel maintain required Oil Record Books? (All ships Part I, Oil Tankers Parts and II)
 - Has each entry been signed by the officer in charge and each page signed by the master?
 - Are oil transfer entries in the proper format?
 - Verify location and concentration of last discharge entry.
 - Review for the last voyage all expected entries such as tank cleaning, ballasting and deballasting.
3. Monitor Continuous Record Review.
 - Does vessel have available on board the continuous records for: the past year for cargo records and the past three years for machinery bilge space records?
 - Were the date, time and concentration of discharges from the most recent voyage recorded in the continuous record (Oil Record Book)?
 - Verify that the location and concentration of the last discharge are authorized.
 - Compare the last discharge recorded with the companion entry in the Oil Record Book.
 - Did vessel arrive in ballast and deballast while in port? Do the deballasting entries in Oil Record Book correspond to monitor recording?
 - If monitor is inoperative, does Oil Record Book indicate the problem and any corrective actions?
 - Do entries match equipment listed on IOPP Certificate?
4. Damage Stability Information Review.
 - Record forward, midships and after drafts you observe when boarding the ship.
 - Ask the master to describe loading of the cargo tanks in terms of percent of tank full.
 - Review the vessel's Trim and Stability Booklet (Loading Manual). If there is no stability Information available, this is considered a major deficiency.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- Compare the cargo tank levels given by the master and the observed drafts to those obtained from the Trim and Stability Booklet or Loading Booklet.
- Ask the ship's officer to explain any discrepancies.

NOTE: ANY DISCREPANCIES NOTED SHOULD INITIATE A MORE THOROUGH REVIEW AS DESCRIBED IN MSM VOLUME II, MATERIAL INSPECTION, COMDTINST M16000.7A (SERIES), CHAPTER E1.

E. MARPOL 73/78 ANNEX II BOARDING GUIDANCE AND PROCEDURES

OCMIs should incorporate review of MARPOL Annex II requirements when conducting compliance exams and when monitoring cargo operations aboard ships carrying Noxious Liquid Substances (NLSs) in bulk. Emphasis should be placed on cargo transfer and waste discharge related records and operational requirements as recorded in the Cargo Record Book (CRB) and described in the ship's Procedures and Arrangements Manual (P&A Manual). Certificates must be reviewed for validity.

Note: The information contained in the section has not been updated to reflect the most recent amendments to Annex II and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) that went into force January 1, 2007. These amendments changed the NLS categories from (old) A, B, C, etc., to (new) X, Y, Z and OS. Old and new categories are referenced below.

Refer to NVIC 03-06 for applicability to U.S. vessels and to clarify any inconsistencies between the revised Annex II and U.S. law and regulations. Foreign flagged vessels operating in the U.S. must comply with existing U.S. laws which may be more stringent than required by Annex II. When conducting U.S. vessel inspection activities, replace PSCO with Marine Inspector. During exams of vessels carrying NLSs, PSCOs must ensure the following:

- (1) That the ship has an approved P&A Manual.
- (2) That the ship properly maintains a CRB.
- (3) That the ship carries NLS in approved tanks.
- (4) That the ship has properly stripped cargo tanks and cleared transfer lines.
- (5) That the ship has correctly discharged NLS waste to the sea.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- (6) That the ship has correctly prewashed tanks and discharged the NLS waste to an adequate reception facility.
- (7) That the ship has the required certificates.

NOTE: PSCOs may use MARPOL Annex II Boarding Checklist provided in Figure E1-7 to aid in a MARPOL Annex II compliance check. Enforcement guidance for Annex II violations is provided in the MSM Volume I, Administration and Management, COMDTINST M16000.6 (series), Chapter 4.

1. Applicability

- a. Annex II of MARPOL 73/78 applies to oceangoing ships carrying NLS in bulk. The regulations implementing MARPOL Annex II requirements pertaining to the various types of ships are as follows:
 - (1) Tankships and tank barges carrying oil-like NLS under 33 CFR Part 151.
 - (2) Offshore supply vessels under 46 CFR Part 98.
 - (3) Chemical tank barges carrying certain Category D NLS under 46 CFR Part 151.
 - (4) Chemical tankships and tank barges under 46 CFR Part 153.
 - b. The regulations do not apply to--
 - (1) A tank barge on a limited short protected coastwise voyage whose COI is endorsed for such a route; or
 - (2) Fixed or floating drilling rigs or other offshore platforms, unless they carry NLS as bulk cargo. (If these ships were designed for carrying NLS cargo in bulk they would be treated as chemical tankers.)
 - c. When an oil cargo and NLS cargo are carried on the same ship, the provisions and appropriate requirements of MARPOL 73/78 Annex I and Annex II apply.
-

2. Document Requirements

- a. There are several certificates and manuals that a ship must have and maintain to carry NLS in bulk. The documents required depend upon the vessel's service, the NLS and other cargoes it carries, where it operates, whether the ship's flag state is a Party to MARPOL 73/78, and whether the ship must meet the International Bulk Chemical Code or the Bulk Chemical Code. (See also NVIC 06-03).
- b. A ship carrying NLS in bulk must have its certificates readily available for inspection. Photocopies are not acceptable. A certificate must have its expiration date and a signature from an authorized issuing authority; e.g., flag administration, recognized organization. A certificate that has been altered is not acceptable.
- c. If the vessel is operating under an alternative or waiver, the document or endorsement indicating such must be on or attached to the certificate. For the addition of new cargoes, a fax from Commandant (CG-OES-3) attached to the certificate is acceptable.
- d. U.S. ships, Party ships, and non-Party ships calling on U.S. ports are examined by marine safety personnel. If the ship is found in compliance with Annex II, it will be issued or must maintain one or more of the following documents as indicated in Figure E1-8. The applicable documents must be available for inspection by Coast Guard personnel. The following paragraphs further describe these documents and the requirements.
- e. For a Party ship, the Certificate of Compliance (COC) is valid for two years as long as the ship has a valid International Certificate of Fitness (ICF), Certificate of Fitness (COF) or NLS certificate. The COC expiration is not affected by reissuance of the COF or NLS certificate. For the purpose of this chapter, the terms ICF and COF are considered interchangeable. Both terms are explained in paragraphs c and d below.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

FIGURE E1-7: MARPOL ANNEX II EXAM CHECKLIST

1. Review vessel documentation.
 - Does the vessel have all required documents? (Refer to Figure E1-8 of MSM Volume II, Material Inspection, COMDTINST M16000.7A (series))
 - Does vessel name and registry match all documents?
 - Verify that the Noxious Liquid Substance (NLS) cargoes on board are authorized by the certificate and are listed on the cargo manifest.
2. Review P&A Manual (if required).
 - Is P&A Manual approved by vessel's flag Administration or the Coast Guard for U.S. and non-Party vessels?
 - Is the P&A Manual in the format prescribed in Appendix 4 of Annex II?
3. Review Cargo Record Book (if required).
 - Is vessel using the correct version of the Cargo Record Book?
 - Has each entry been signed by the officer in charge and each completed page signed by the master?
 - Was the last cargo unloading operation in compliance with Annex II and U.S. regulations?
 - For potentially solidifying or high viscosity NLS, was a prewash required and carried out properly? If a prewash waiver was issued, was the Cargo Record Book signed by a surveyor or government official?
 - For the last voyage, did the vessel discharge any NLS residue? If so, did the vessel meet all discharge restrictions? (Refer to Figures E1-10 and E1-11 of MSM Volume II.)
4. Review monitoring equipment (if required).
 - Compare recorded discharges to the entries in the Cargo Record Book.
 - Is the record signed by the officer in charge?
 - If monitor is inoperative, does Cargo Record Book indicate the problem and any corrective action?
5. If possible, monitor NLS cargo loading, unloading, stripping and line clearing operations.
 - Determine name and category of the NLS cargo.
 - Determine if the cargo tank is approved for carriage of the NLS.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

- Review the Cargo Record Book to determine if there are any problems with any of the equipment (i.e., stripping, temperature sensing systems, cargo pumps, etc.).
- For potentially solidifying or high viscosity Category B (Y) NLSs, determine the temperature at which the cargo must be transferred so as not to require an in-port prewash.
- Ensure that stripping operations are carried out according to the requirements in the vessel's P&A Manual.
- If an in-port prewash is required, follow the procedures in the MSM Volume II, E1.E.7.
- Verify that cargo transfer hoses are not drained back to the ship after unloading an NLS cargo.

NOTE: ANY DISCREPANCIES NOTED SHOULD INITIATE A MORE THOROUGH REVIEW AS DESCRIBED IN VOLUME II, CHAPTER E1.

- f. COI. This certificate is issued to U.S. ships under 46 CFR Subchapters “D and O” or “I and O” and carries endorsements for the carriage of specific NLS cargoes for each cargo tank.
- (1) The OCMI issues a COI after the ship has had a satisfactory inspection.
 - (2) The Coast Guard is responsible for issuing this certificate in accordance with 46 CFR Parts 30-40 and 153.
 - (3) The specific endorsements and conditions for MARPOL Annex II requirements on the COI come from 33 CFR Parts 151 and 157 and 46 CFR Parts 98, 151, 153 and 172. These endorsements and conditions have the same force and effect as the regulations requiring them. Each COI is endorsed according to individual tanks to show which NLSs can be carried and where they may be carried on the ship.
- g. Certificate of Compliance (COC), Form CG-3585. This certificate is issued to foreign ships trading in U.S. waters with NLS cargoes onboard after completion of a satisfactory exam.
- (1) The OCMI issues a COC if a ship has a valid International Certificate of Fitness (ICF) or Certificate of Fitness (COF) issued by a Party signatory to Annex II of MARPOL 73/78. The signature of the OCMI on the COC serves as the cargo endorsement required by 46 CFR 153.900.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- (2) Non-Party ships may not have an ICF or COF but must be examined for a COC under U.S. regulations. In most cases, the Marine Safety Center (MSC) reviews a vessel's "non-Party" ICF or COF and the vessel's P&A manual to verify compliance with the applicable requirements.
- (3) In addition to a COC, Foreign Gas Carriers subject to 46 CFR 154 are required to be issued a Subchapter "O" Endorsement (SOE). The MSC will prepare and upload the SOE into MISLE for printing and issuance by the OCMI with the COC. The SOE will list the Annex II NLS cargoes authorized for carriage in U.S. waters..
- h. ICFs for the Carriage of Dangerous Chemicals in Bulk. This certificate is issued by Party nations under the International Bulk Chemical Code (IBC), as adopted under Resolution Resolutions MSC.176(79) and MEPC.119(52), to their oceangoing ships built after 30 June 1986.
 - (1) Ships built prior to 1 July 1986 may elect to hold the ICF in lieu of the COF.
 - (2) The ICF is required on oceangoing chemical tankers on foreign voyages and on oceangoing tank barges when in the waters of a Party nation. A U.S. or foreign Party ship on an international voyage must have either an ICF or COF according to when the vessel was built.
 - (3) U.S. ships on domestic, oceangoing voyages do not require an ICF.
- i. COF for the Carriage of Dangerous Chemicals in Bulk. This certificate is issued by Party nations under the Bulk Chemical Code (BCH), as adopted under Resolution MEPC.144(54), to their oceangoing ships which were built before 1 July 1986. The COF is required for oceangoing chemical ships on foreign voyages and oceangoing tank barges when in the waters of a Party nation. A U.S. or foreign Party ship on an international voyage must have either an ICF or COF, according to when the vessel was built. U.S. ships on domestic oceangoing voyages do not require a COF.
- j. International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (NLS Certificate). This certificate is issued to oceangoing ships carrying only certain Category Z NLS, listed in the chapter 18 of the IBC.
- k. Vessels carrying only cargoes classified as OS do not require a certificate under Annex II, however vessels authorized to carry NLS cargoes but carrying OS cargoes must be examined to the applicable NLS carriage requirements.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

- (1) Ships carrying oil-like Category D NLS cargoes in bulk may, as an alternative, be issued an International Oil Pollution Prevention Certificate by Party nations.
- (2) Party oil tankers, offshore supply vessels and non-self-propelled vessels carrying Category D NLS cargoes in bulk, which do not have a COC and ICF or COF, are required to have an NLS Certificate when calling on U.S. ports.
- (3) Non-Party ships which do not have an endorsed COC must have a letter issued by Commanding Officer, MSC, indicating compliance with the relevant MARPOL Annex II requirements.
 - (a) International Oil Pollution Prevention (IOPP) Certificate with Form B Supplement Attachment (CG-CPE). This attachment is issued to ships that can carry oil-like Category C or D NLS as oil under the requirements of Annex I of MARPOL 73/78. U.S., Party, and non-Party oil tankers which decide to carry oil-like Category C or D NLS as oils under Annex I of MARPOL 73/78 are required to have an IOPP Form B supplement endorsed for the NLS cargoes.
- l. Procedures and Arrangements Manual (P&A Manual). This document is approved by the Flag Administration and describes, in detail, the procedures for NLS cargo carriage, tank-to-tank transfers, cargo loading, unloading, stripping operations, and tank prewashing and ventilation procedures. The standard format of the P & A Manual is specified in Appendix 4 of Annex II of MARPOL 73/78
 - (1) U.S. and foreign ships must have an approved P&A Manual available on board the ship for inspection by Coast Guard personnel.
 - (2) The Coast Guard approves P&A Manuals for U.S. and conditionally approves them for non-Party ships. Party Administrations approve the P&A Manuals for their ships. The approval will be evident by a stamp and signature of the approving official of an authorized agency of the flag Administration on the cover of the P&A Manual.
 - (3) The P&A Manual requirement is waived for ships carrying NLS cargo in dedicated tanks, OSVs that cannot discharge NLS to the sea, and ships carrying oil-like Category C or D NLS as an oil under MARPOL Annex I.
 - (4) The P&A Manual is not required for some U.S. vessels which discharge all residues to shore reception facilities. A statement on the COI would indicate this exception.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

- m. Cargo Record Book (CRB). This document is required on board every ship carrying NLS in bulk. The CRB is used to record internal and external transfers and discharges of NLS cargo or waste, information concerning inoperative cargo transfer, tank cleaning and pollution prevention equipment, actions by surveyors, and any other cargo or waste related activities. The form of the CRB is specified in Appendix 2 of Annex II of MARPOL 73/78. Specific requirements for U.S., Party and non-Party ships are as follows:
- (1) U.S. ships. U.S. ships are required to obtain and maintain the U.S. version of the CRB from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402. (Sales stock number 050-012-00233-9).
 - (2) Party ships. Party ships are required to use their country's version of the CRB or have a CRB as specified in Appendix 2 of Annex II of MARPOL 73/78.
 - (3) Non-Party ships. Non-Party ships are required to have on board and maintain a CRB. These ships may use the U.S. version or another version as specified in Appendix 2 of Annex II of MARPOL 73/78.
 - (4) Format. The CRB follows an internationally accepted format to record transfer operations in chronological order by coded and numbered entries. An improperly kept CRB may be used as evidence against a ship suspected of an illegal NLS discharge, while a correctly maintained record could establish a successful defense against an alleged violation.
 - (5) Maintenance. The ship's master is responsible for properly maintaining the CRB and for ensuring its availability on board the ship for review. The officer(s) in charge is required to sign the log for each completed operation and the ship's master must countersign each completed page. Ships must keep the CRB on board for a period of 3 years after the date of the last entry.
- n. MARPOL 73/78 Annex II vessel document requirements (Figure E1-8). This figure contains a list of the various combinations of certificates and documents required by Annex II and U.S. law for U.S. ships in U.S. waters. If there is an "or" after the certificate code, it means the ship may hold one or the other of the certificates, but not both.
-

3. Document Review Procedures

- a. Certificates. PSCOs must determine if the certificate is valid by--
 - (1) Comparing the name and the registry of the ship on the front of the certificate to the ship's name and flag;

FIGURE E1-8 To Be Added Later in Electronic Version

 - (2) Checking the certificate for the timely completion of required surveys and the proper recording of the entries, if appropriate;
 - (3) Verifying that the NLS cargoes on board are authorized for carriage by the certificate and endorsement in the tanks where stowed and are listed on the cargo manifest for the current voyage; and
 - (4) Checking the certification date, expiration date, and signature of the issuing authority on the certificate or endorsement to determine if the certificate is valid. If the certificate appears to be invalid, the PSCO should contact the OCMI, for further instructions. For the ICF and COF, the PSCO should also check that--
 - (a) The ICF is issued under Resolutions MSC.176(79) and MEPC.119(52); ii. The COF is issued under Resolution MEPC.144(54)); or
 - (b) For non-Party vessels, the ICF or COF is the same certificate submitted to the MSC during plan review.
- b. P&A Manual boarding procedures. The P&A Manual is an extremely important document, since it gives the detailed procedures for the ship to perform all transfer and tank cleaning operations. PSCOs should do the following:
 - (1) Check that the P&A Manual is on board and is approved by the ship's flag Administration or the Coast Guard for U.S. and non-Party ships.
 - (2) Check that the P&A Manual is in the format prescribed in Annex II Appendix 4. Also check that the P&A Manual has procedures for the operations the ship has most recently performed, i.e., ventilating, prewashing, etc. More specific review procedures are provided in other sections pertaining to cargo transfers and the prewashing of cargo tanks.
- c. CRB. The ship's CRB should be reviewed each time a ship is examined to ensure that the ship's personnel are properly recording NLS transfers and discharges, that

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

discharges of waste into the sea are correctly performed, that equipment failures are logged and that mandatory prewash activities are conducted and the prewash slops discharged to an adequate reception facility. Because of the chronological and numerical entries, PSCOs should be able to determine if the CRB has been properly maintained and the necessary entries have been made. PSCOs should do the following:

- (1) Check whether the ship is using the correct version of the CRB.
- (2) Check entries in the CRB for the signature of the officer(s) in charge for each entry and the master for each completed page.
- (3) Check the last cargo unloading operation for compliance with Annex II and U.S. regulations.
 - (a) Determine the name and category of the NLS unloaded.
 - (b) Determine whether the NLS unloaded is potentially solidifying and/or high viscosity (see E.7 of this Chapter, and MARPOL Annex II Prewash and Prewash Surveyor Guidance and Procedures).
 - (c) For non-solidifying or non-high viscosity NLS, determine if stripping was accomplished in accordance with the P&A Manual.
- (4) For potentially solidifying or high viscosity NLS, determine--
 - (a) The temperature of the cargo during unloading;
 - (b) Whether a prewash was required;
 - (c) If the required prewash was properly conducted;
 - (d) If the prewash slops were discharged to an adequate reception facility;
 - (e) If a surveyor was present to witness the prewash;
 - (f) If a waiver was issued to backload a compatible cargo, and, if so, that the correct cargo was backloaded;
 - (g) If a waiver was issued to allow prewashing in another port, and, if so, that the ship did not ballast or wash tanks while en route, that the prewash was conducted in the other port, and that the slops were discharged to an adequate reception facility; and

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- (h) For waivers, that a surveyor or government official signed the CRB to allow the waiver.
 - (5) For the last voyage, check if the ship discharged at sea.
 - (a) Check if the NLS residue discharged is allowed to be discharged.
 - (b) Check if the ship met the restrictions for the discharge of the category of NLS waste as outlined in Figures E1-10 and E1-11 of this Section.
 - (c) Check output from the discharge recorder for ships operating under the interim standards and discharging Category B NLS waste. If a ship carries oil-like Category C or D NLS under its IOPP Certificate, the ORB must have an entry showing that the ship's monitors have been adjusted to measure the oil-like Category C or D NLS.
-

4. Recording Equipment

- a. Requirements. Ships that carry Category B NLS, were built before July 1, 1986, and operate under the interim standards are required to have recording equipment that is capable of automatically recording the time and date of the beginning and end of a discharge and the flow rate, when appropriate, of the discharge as prescribed in 46 CFR 153.481. See 46 CFR 153.1130 for procedures to follow in the event of failure of this equipment.
 - b. Inspection procedures. To ensure the proper operation of the required recording equipment, the PSCO should check--
 - (1) The times that discharges were recorded compared to the records in the CRB;
 - (2) The flow rate of the discharge, when required to be recorded;
 - (3) That the entries were made correctly;
 - (4) That the record was signed by the person in charge; and
 - (5) That failures of recording device were logged in the CRB.
-

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

5. NLS Cargo Monitoring Procedures

- a. Depending on the operations in progress when the PSCO arrives, the PSCO should monitor part or all of the cargo loading, unloading, stripping, and line clearing operations using the information in the ship's P&A Manual.
 - b. The PSCO should also observe prewash operations if these are being conducted, and observe third-party prewash surveyors if they are verifying the prewash operations. The requirements for surveyor duties during prewashes are provided in E.7 of this chapter.
 - c. Figure E1-9 outlines the stripping requirements for certain types of vessels handling certain types of cargoes. See NVIC 06-03 for additional information on the testing of stripping systems.
 - d. For ships carrying oil-like Category C or D NLS as oils, there is a requirement under 33 CFR 151.37 and 151.41 for a cargo discharge monitor that is designed to measure and record the NLS content of the oil-like cargo residues. The review procedures and enforcement guidance for this monitor are found in the Marine Safety Manual, Volume I, Chapter 4.
- (1) NLS cargo loading monitor procedures. The following items should be reviewed when loading NLS cargo:
- (a) Review the bill of lading or shipping papers to determine the name and category of the NLS being loaded.
 - (b) Find out, from the PIC, which the tank the NLS will be loaded into.
 - (c) Examine the P&A Manual and the appropriate certificates to determine if the NLS can be carried in the tank by.
 - (d) Verify other specific loading requirements are correctly performed as outlined in the P&A Manual.
- e. NLS cargo unloading monitoring procedures. NLS unloading procedures must be correctly performed; otherwise, NLS residues in excess of the amounts permitted may be discharged at sea and cause harm to the marine environment.
- (1) PSCOs should give special attention to stripping and line clearing operations in accordance with the procedures and requirements specified in sections 2 and 3 of the P&A Manual, as well as ensuring prewashes are conducted for Category (X) and solidifying or high viscosity Category (Y) and Z NLSs. The P&A

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

Manual should indicate the method and sequence for operation of the cargo and/or stripping pumps and associated equipment.

- (2) The below items, as appropriate, should be reviewed during NLS unloading operations. If the P&A Manual does not contain complete information, copy the procedures in the P&A Manual and forward them to Commandant (CG-CVC) with the identity of the ship and any other problems encountered. The information in Paragraph E.5.b of this Chapter will normally be obtained during the ship's initial "efficient stripping test." Failure to conduct subsequent stripping and line clearing operations in accordance with the procedures specified in the ship's P&A Manual is likely to leave a greater amount of cargo in the tank than is indicated in the ship's P&A Manual. It may also result in exceeding the quantities permitted by the regulations. In such circumstances the ship may be required to conduct mandatory prewash operations and make arrangements to discharge the resulting prewash residue to an adequate reception facility, unless it can be established that the appropriate tank(s) and piping contain less NLS residue than by following the P&A Manual procedures. See Paragraph E.7.c of this Chapter.
 - (a) Determine the name and category of the NLS being unloaded by reviewing and comparing the cargo manifest, bill of lading, and CRB.
 - (b) Determine the tank to be unloaded by referring to the cargo manifest and bill of lading.
 - (c) Determine if the cargo tank is approved for carriage of the NLS by reviewing the P&A Manual and appropriate certificates.
 - (d) Review the CRB to determine if there are any problems with unloading equipment, i.e., stripping, temperature sensing systems, cargo pumps, etc.
 - (e) For potentially solidifying or high viscosity Category X or (Y) or Z NLSs, determine from the bill of lading or shipping papers the temperature at which the NLS cargo must be transferred so as not to require an in port prewash.
 - (f) Determine from the P&A Manual how and where to read the cargo unloading temperature.
 - (g) For potentially solidifying and high viscosity Category (Y) or Z NLS, verify the cargo unloading temperature and determine whether based upon the unloading temperature a prewash will be required.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

FIGURE E1-9 To Be Added later in Electronic Version

- (h) Review stripping operations by verifying that the following requirements are met as specified in the ship's P&A Manual:
 - i. List and trim.
 - ii. Time required for stripping.
 - iii. Minimum pump speed (or hydraulic supply pressure for hydraulically driven pumps).
 - iv. Minimum purge gas pressure and time required for purging (for hydraulically driven pumps utilizing column purging or purge pipe arrangements).
 - v. Minimum eductor supply pressure and time required for stripping (for ship utilizing stripping eductors).
 - vi. Minimum gas pressure and time needed to clear lines.
 - vii. If an in-port prewash is required, follow the procedures in E.7 of this chapter for verifying that the prewash is properly conducted and the slops are transferred to an adequate reception facility.
 - viii. Verify that cargo transfer hoses are not drained back to the ship.

6. Cargo Discharge Enforcement

- a. Investigation of alleged NLS discharge violations may result from a number of events, including review of the ship's CRB; reports of discharge violations from individuals, companies, or other nations; or from aerial surveillance (if the NLS produces a sheen or discoloration of the water).
 - b. Discharge investigations require a thorough review of the ship's documents, logs, and certificates, particularly the ship's CRB and P&A Manual; inspection of the ship's spaces, and interviews of ship's personnel to determine if the ship's discharges are violations that therefore should be reported, without delay, as required by 46 CFR 153.1132.
- (1) Discharge requirements. The discharge requirements for oceangoing ships carrying NLS in bulk are found in Regulation 13 of Annex II and in 46 CFR

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

153.1102, 153.1122, 153.1124, 153.1126, and 153.1128. Additionally, ships must comply with the stripping, prewashing, surveyor requirements, and associated waivers and exemptions, since a violation or non-compliance with these requirements may result in discharge of NLS residues in excess of authorized amounts. Figures E1-10 and E1-11 summarize the discharge requirements for NLS by category outside and inside Special Areas.

- (a) All authorized discharges of Category X, Y, and Z NLS and ballast water, tank washings, and other residues or mixtures containing NLS must occur beyond the contiguous zone, i.e., greater than 12 nm offshore, and must be made through a suitably sized and approved discharge opening located on the bottom of the ship's hull near the keel.
- (b) Oil-like Category Z NLS has the same discharge requirements as oils when carried as oils under 33 CFR Part 151. See E1.D of this Chapter for further discussion.
- (c) Category X NLS outside of Special Areas. Discharges of Category A (X) NLS and ballast water, tank washings, and other residues or mixtures containing Category X NLS are prohibited (Regulation 13(1) of Annex II and 46 CFR 153.1128). The only exception to this rule is that after an in-port prewash is satisfactorily completed on a tank that held Category X NLS cargo, water added to the tank may be discharged to the sea under the conditions in Figure E1-10.
- (d) Category Y NLS outside of Special Areas. Discharges of Category Y NLS and ballast water, tank washings and other residues or mixtures containing Category B NLS are prohibited, except when discharged in compliance with the restrictions in Figure E1-10.
- (e) Category C NLS outside of Special Areas. Discharges of Category C NLS and ballast water, tank washings and other residues or mixtures containing Category C NLS are prohibited, except when discharged in compliance with the restrictions in figure E1-10.
- (f) Category D NLS outside of Special Areas. Discharges of Category D NLS and ballast water, tank washings and other residues or mixtures containing Category D NLS are prohibited except when diluted with water 10 to 1 and discharged in compliance with the restrictions in Figure E1-10 or discharged through an underwater discharge outlet. Water added subsequent dilution and discharged to the sea may be discharged without restriction.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

- (g) Category A NLS inside of Special Areas. The discharge requirements are the same as in Paragraph E.6.a of this Chapter, except that the discharge restrictions in Figure E1-11 apply.
- (h) Category B NLS inside of Special Areas. Discharges of Category B NLS and ballast water, tank washings, and other residues or mixtures containing Category B NLS are prohibited. The only exception is after a prewash has been satisfactorily completed and these washings transferred ashore, the water added to the tank may be discharged to the sea under the conditions listed in Figure E1-11.
- (i) Category C NLS inside of Special Areas. The discharge requirements are the same as in Paragraph E.6.a of this Chapter, except that the discharge restrictions in Figure E1-11 apply.
- (j) Category D NLS inside of Special Areas. The discharge requirements are the same as in Paragraph E.6.a of this chapter, except that the discharge restrictions in Figure E1-11 apply.
- (k) Uncategorized substances. Substances that have not been categorized or assigned a provisional category are prohibited from being carried in bulk. The discharge of these substances and ballast water, tank washings and other residues or mixtures containing these substances are prohibited.
- (l) Non-harmful substances. Substances, ballast water, tank washings, and other residues or mixtures containing substances evaluated as non-harmful may be discharged without restriction. Non-harmful substances are indicated in 46 CFR Part 153, Table 1, by a "III" in the column titled "IMO Annex II pollution category."
- (m) Fixed and floating drilling rigs and other platforms. If the rig or platform carries NLS cargo in bulk, it must comply with the discharge requirements in 46 CFR Part 153. For rigs and platforms that do not carry NLS in bulk as cargo, the discharge of NLS is prohibited, except when the fixed or floating drilling rig or other platform is operating under a valid NPDES permit in accordance with section 402 of the Clean Water Act, as amended and in accordance with 40 CFR Chapter I.

FIGURE E1-10: NLS DISCHARGE RESTRICTIONS OUTSIDE OF SPECIAL AREA DISCHARGE CRITERIA**Category A (X) is prohibited except—**

1. Ship proceeding en route subsequent after a tank
2. Self-propelled ship's speed 7 kts or prewashing satisfactorily greater; non-self-propelled ship's completed IAW 46 CFR 153 or speed 4 kts or greater Reg 13 of Annex II of MARPOL
3. Discharge is below the waterline is conducted
4. Discharge is further than 12 nm from nearest land.
5. Depth of water is 25 meters or more.

Category B*—

1. Ship proceeding en route.
2. Self-propelled ship's speed 7 kts or greater; non-self-propelled ship's speed 4 kts or greater.
3. Discharge is below the waterline.
4. Discharge procedures are approved in P&A Manual.
5. Discharge is greater than 12 nm from nearest land.
6. Depth of water is 25 meters or more.
7. Quantity of NLS discharged per tank is less than 1 m³ or 1/3,000 of the tank's capacity

Category C*—

1. Ship proceeding en route.
2. Self-propelled ship's speed 7 kts or greater; non-self-propelled ship's speed 4 kts or greater.
3. Discharge is below the waterline.
4. Discharge procedures are approved in P&A Manual.
5. Discharge is greater than 12 nm from nearest land.
6. Depth of water is 25 meters or more.
7. Quantity of NLS discharged per tank is less than 3 m³ or 1/1000 of the tank's capacity.

Category D—

1. Ship proceeding en route.
2. Self-propelled ship's speed 7 kts or greater; non-self-propelled ship's speed 4 kts or greater.
3. Discharge is greater than 12 nm from nearest land.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

4. Discharge concentration from the tank is less than 1 part in 10 or discharged below the waterline.

Provisionally Assessed NLS*—

1. Discharge in accordance with restrictions for provisional category.

Uncategorized Substances*—

1. Prohibited.

Non-harmful Substances—

1. No restrictions on discharges.

NOTE: *Includes ballast water, tank washings, or other residues or mixtures containing such NLS

FIGURE E1-11: NLS DISCHARGE RESTRICTIONS INSIDE OF SPECIAL AREAS**Category A prohibited**

1. Self-propelled ship's speed 7 kts or except subsequent water greater;
2. Non-self-propelled ship's added to tank after tank speed 4 kts or greater prewashing satisfactorily
3. Discharge is below the waterline completed IAW 46 CFR 153 or
4. Discharge is greater than 12 nm from Reg 8 of Annex II of MARPOL nearest land 73/78
5. Depth of water is 25 meters or more

Category B prohibited

1. Ship proceeding en route except subsequent water
2. Self-propelled ship's speed 7 kts or added to tank after tank greater; non-self-propelled ship's prewashing satisfactorily speed 4 kts or greater completed IAW 46 CFR 153 or
3. Discharge is below the waterline Reg 8 of Annex II of MARPOL
4. Discharge procedures are approved in P&A Manual
5. Discharge is greater than 12 nm from nearest land
6. Depth of water is 25 meters or more

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

7. Quantity of NLS discharged per tank is less than 1 m³ or 1/3000 of the tank's capacity

Category C*

1. Ship proceeding en route
2. Self-propelled ship's speed 7 kts or greater; non-self-propelled ship's speed 4 kts or greater
3. Discharge is below the waterline
4. Discharge procedures are approved in P&A Manual
5. Discharge is greater than 12 nm from nearest land
6. Depth of water is 25 meters or more
7. Quantity of NLS discharged per tank is less than 3 m³ or 1/1000 of the tank's capacity

Category D

1. Ship proceeding en route
2. Self-propelled ship's speed 7 kts or greater; non-self-propelled ship's speed 4 kts or greater
3. Discharge is greater than 12 nm from nearest land
4. Discharge concentration from the tank is less than 1 part in 10 or discharged below the waterline

Provisionally Assessed NLS*

1. Discharge in accordance with restrictions for provisional category

Uncategorized Substances

1. Prohibited

Non-Harmful Substances

1. No restrictions on discharges

NOTE: *Includes ballast water, tank washings, or other residues or mixtures containing such NLS.

- (n) Alleged discharge investigation procedures. The following procedures should be followed when investigating an alleged discharge violation. Figure E1-12 may be of help in determining the type of information to gather when investigating a

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

possible violation. For enforcement guidance for MARPOL Annex II discharge violations, see the MSM Volume I, Administration and Management, COMDTINST M16000.6 (series), Chapter 4.

- (1) Prior to boarding, obtain a vessel history from the MISLE. If the investigation is the result of a received report of an alleged discharge violation or from an MISLE Vessel Lookout notice, review the discharge sighting report or contact the office that issued the Lookout to obtain additional information.
- (2) Upon boarding the ship, inform the master that his or her ship is suspected of discharging NLS in violation of Annex II of MARPOL 73/78 and/or APPS.
- (3) Review the ship's COI, COC, COF, NLS Certificate, or IOPP Certificate, as appropriate, for validity and to determine if the ship's equipment and operations comply with MARPOL Annex II and 46 CFR Part 153.
- (4) Review the ship's P&A Manual to determine if the Manual is approved, what NLSs are permitted to be carried, and what the specific procedures are for discharging NLS.
- (5) Review the discharge entries in the CRB and other ship's logs for the period of the suspected unauthorized discharge. Compare this information to the requirements in Figure E1-10 or E1-11 to determine if the ship meets the restrictions for location, speed, depth of water, etc., at the time and in the location of the reported sighting. If no discharge is recorded for the time of the sighting, check the CRB for the last discharge and note if the ship was in the area of the reported sighting when it discharged. Question the master, chief mate, and engineer separately as to what could have been sighted being discharged from the ship, e.g., oil, bilge waste, garbage, gray water, etc.
- (6) For ships using the interim pumping and piping arrangements for tanks carrying Category B NLS, review the outputs of the recording devices to determine the time the discharge started and stopped and to determine, if applicable, if the flow rate requirements stated in the P&A Manual were met.
- (7) Compare the continuous records (Paragraph E.6.b of this chapter), if applicable, to the CRB entries to see if they correspond.
- (8) Compare the discharge information in the CRB to the authorized procedure in the P&A Manual to determine if the discharge quantity was correct and if the P&A Manual procedures were followed correctly.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- (9) Check for missing CRB entries that should have been made during a particular voyage or in connection with associated transfer operations.
- (10) Check the sequence of NLS transfers in the CRB for discrepancies.
- (11) If the pages of the CRB or other documents are required for evidence, make copies and have the master certify the accuracy of the reproductions.
- (12) Interview ship's personnel concerning the ship's operations on the date(s) in question.

7. Annex II Prewash and Prewash Surveyor Guidance and Procedures

- a. General requirements. The United States, in accordance with Regulation 13 of Annex II and 46 CFR 153.1108 and 153.1112, requires ships to conduct mandatory in-port prewashes after unloading Category (X) and solidifying or high viscosity Category B and C (Y) NLSs.
 - (1) Prewashes are also required for other special circumstances such as not following P&A Manual procedures for unloading.
 - (2) 46 CFR 153.1120 requires a prewash surveyor to witness that mandatory prewashes are correctly performed after unloading of Category (X) NLSs. The primary responsibility of the prewash surveyor is to ensure that prewash operations are conducted in accordance with the prewash procedures specified in the ship's P&A Manual.
 - (3) To assist the pre-wash surveyor in performing his or her duties, a check-off list was developed (see Figure E1-13). The check-off list ensures that the surveyor performs all the actions dictated by regulation and the guidance presented here. Upon completion, a copy of the check-off list should be scanned into the vessel's document file in MISLE. The check-off list should be copied directly from this section for local use.
 - (4) As outlined below, cargo tanks containing Category A (X) NLS, as well as those containing Category (Y) NLS considered to be either "solidifying" and/or "high viscosity," require prewashing, unless waived by one of the conditions described in Prewash Waivers, E.7.e of this Chapter.
 - (5) Only Category (X) prewashes must be witnessed a prewash surveyor. In addition to witnessing prewash operations that occur at the unloading port,

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

prewash surveyors are to witness those Category (X) prewashes which might occur at either a tank cleaning facility or at a ship repair yard.

- (a) Unloading operations requiring a prewash and discharge of the prewash residue to an adequate reception facility provided by the terminal.
- (b) Category (X) NLS. After a cargo tank containing a Category A (X) NLS is unloaded, the tank must be prewashed in accordance with the procedures specified in the ship's P&A Manual and in 46 CFR 153.1120. This prewash operation must be witnessed by a prewash surveyor. Furthermore, the prewash residue must be discharged to a reception facility listed on a Certificate of Adequacy for NLSs prior to the ship leaving the unloading port.

**FIGURE E1-12: ITEMIZED LIST OF POSSIBLE EVIDENCE ON ALLEGED
CONTRAVENTION OF
MARPOL 73/78 ANNEX II DISCHARGE PROVISIONS**

1. ACTION ON SIGHTING POLLUTION

- 1.1 Particulars of ship or ships suspected of contravention.
 - 1.1.1 Name of ship.
 - 1.1.2 Reasons for suspecting the ship.
 - 1.1.3 Date and time (UTC) of observation or identification.
 - 1.1.4 Position of ship.
 - 1.1.5 Flag and port of registry.
 - 1.1.6 Type (e.g., tanker, cargo ship, passenger ship, fishing vessel), size (estimated tonnage) and other descriptive data (e.g., superstructure color and funnel mark).
 - 1.1.7 Draught condition (loaded or in ballast).
 - 1.1.8 Approximate course and speed.
 - 1.1.9 Position of slick in relation to ship (e.g., astern, port, starboard).
 - 1.1.10 Part of the ship from which discharge was seen emanating.
 - 1.1.11 Whether the discharge ceased when ship was observed or contacted by radio.
- 1.2 Particulars of slick.
 - 1.2.1 Date and time (UTC) of observation, if different from 1.1.3.
 - 1.2.2 Position of slick in longitude and latitude, if different from 1.1.4.
 - 1.2.3 Approximate distance, in nautical miles, from the nearest land.
 - 1.2.4 Depth of water according to sea chart.
 - 1.2.5 Approximate overall dimension of slick (length, width, and percentage thereof covered).

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

- 1.2.6 Physical description of slick (direction and form, e.g., continuous, in patches or in windows).
- 1.2.7 Color of slick.
- 1.2.8 Sky conditions (bright sunshine, overcast, etc.), lightfall, and visibility (kms) at the time of observation.
- 1.2.9 Sea state.
- 1.2.10 Direction and speed of surface wind.
- 1.2.11 Direction and speed of current.
- 1.3 Identification of the observer(s).
- 1.3.1 Name of the observer.
- 1.3.2 Organization with which observer is affiliated (if any).
- 1.3.3 Observer's status within the organization.
- 1.3.4 Observation made from aircraft, ship, shore or otherwise.
- 1.3.5 Name or identity of ship or aircraft from which the observation was made.
- 1.3.6 Specific location of ship, aircraft, place on shore or otherwise from which observation was made.
- 1.3.7 Activity engaged in by observer when observation was made, for example: patrol, voyage (flight, route from, to ...), etc.
- 1.4 Method of observation and documentation.
- 1.4.1 Visual.
- 1.4.2 Conventional photographs.
- 1.4.3 Remote sensing records and/or remote sensing photographs.
- 1.4.4 Samples taken from slick.
- 1.4.5 Any other form of observation (specify).

NOTE: A photograph of the discharge should be in color. The best results may be obtained with the following three photographs:

- a. Details of the slick taken almost vertically down from an altitude of less than 300 meters with the sun behind the photographer.
- b. An overall view of the ship and "slick" showing a substance emanating from particular ship.
- c. Details of the ship for the purposes of identification.

- 1.5 Other information if radio contact can be established.
- 1.5.1 Master informed of pollution.
- 1.5.2 Explanation from master.
- 1.5.3 Ship's last port of call.
- 1.5.4 Ship's next port of call.
- 1.5.5 Name of ship's master and owner.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

1.5.6 Ship's call sign.

2. INVESTIGATION ON BOARD

2.1 Inspection of the Certificate (COF or NLS Certificate).

2.1.1 Name of ship.

2.1.2 Distinctive number or letters.

2.1.3 Port of registry.

2.1.4 Type of ship.

2.1.5 Date and place of issue.

2.1.6 Date and place of endorsement.

2.2 Inspection of P&A Manual

2.2.1 List of Annex II substances the ship is permitted to carry

2.2.2 Limitations as to tanks in which these substances may be carried

2.2.3 Ship equipped with an efficient stripping system

2.2.4 Residue quantities established at survey

2.3 Inspection of Cargo Record Book (CRB).

2.3.1 Copy sufficient pages of the CRB to cover a full loading/unloading/ballasting and tank cleaning cycle of the ship. Also copy the tank diagram.

2.4 Inspection of log book.

2.4.1 Last port, date of departure, draught forward and aft.

2.4.2 Current port, date of arrival, draught forward and aft.

2.4.3 Ship's position at or near the time the incident was reported.

2.4.4 Spot check if times entered in the cargo record book in respect to discharges correspond with sufficient distance from the nearest land, the required ship's speed and with sufficient water depth.

2.5 Inspection of other documentation on board.

2.5.1 Other documentation relevant for evidence (if necessary make copies) such as the following:

2.5.1.1 Cargo documents of cargo presently or recently carried, together with relevant information on required unloading temperature, viscosity and/or melting point.

2.5.1.2 Records of temperature of substances during unloading.

2.5.1.3 Records of monitoring equipment if fitted.

2.6 Inspection of ship.

2.6.1 Ship's equipment in accordance with the P&A Manual.

2.6.2 Samples taken; state location on board.

2.6.3 Sources of considerable leakage.

2.6.4 Cargo residues on surface of segregated or dedicated clean ballast.

2.6.5 Condition of pumproom bilges.

2.6.6 Slop tank contents (estimate quantity of water and residues).

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- 2.7 Statements of persons concerned. If the CRB has not been properly completed, information on the following questions may be pertinent:
 - 2.7.1 Was there a discharge (accidental or intentional) at the time indicated on the incident report?
 - 2.7.2 Which tanks are going to be loaded in the port?
 - 2.7.3 Which tanks needed cleaning at sea? Had the tanks been prewashed?
 - 2.7.4 When and where were these cleaned?
 - 2.7.5 Residues of which substances were involved?
 - 2.7.6 What was done with the tank washing slops?
 - 2.7.7 Was the slop tank, or cargo tank used as a slop tank, discharged at sea?
 - 2.7.8 When and where was the discharge effected?
 - 2.7.9 What are the contents of the slop tank or cargo tank used as slop tank?
 - 2.7.10 Which tanks contained the dirty ballast during the ballast voyage (if ship arrived in ballast)?
 - 2.7.11 Which tanks contained the clean ballast during the ballast voyage (if ship arrived in ballast)?
 - 2.7.12 Details of the present voyage of the ship (previous ports, next ports, trade).
 - 2.7.13 Difficulties experienced with discharge to shore reception facilities
 - 2.7.14 Difficulties experienced with efficient stripping operations.
 - 2.7.15 Which tanks are clean or dirty on arrival?
 - 2.7.16 Repairs carried out or envisaged in cargo tanks
- 2.8 Miscellaneous information.
 - 2.8.1 Comments in respect of condition of ship's equipment.
 - 2.8.2 Comments in respect of pollution report.
 - 2.8.3 Other comments.

3. INVESTIGATION ASHORE

- 3.1 Analyses of samples.
 - 3.1.1 Indicate method and results of the samples' analyses.
- 3.2 Further information.
 - 3.2.1 Additional information on the ship, obtained from terminal staff, tank cleaning contractors or shore reception facilities may be pertinent.

NOTE: Any information under this heading is, if practicable, to be corroborated by documentation such as signed statements, invoices, receipts, etc.

- 3.3 Information from previous unloading port terminal.
 - 3.3.1 Confirmation that the ship unloaded, stripped or prewashed in accordance with its P&A Manual.
 - 3.3.2 The nature of difficulties, if any.
 - 3.3.3 Restrictions by authorities under which the ship was permitted to sail.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

3.3.4 Restrictions in respect of shore reception facilities.

4. CONCLUSION

- 4.1 Summing up of the investigator's conclusions.
- 4.2 Indication of applicable provisions of Annex II to MARPOL 73/78 which the ship is suspected of having contravened.
- 4.3 Did the results of the investigation warrant the filing of a deficiency report?

(6) Category (Y) - potentially solidifying or high viscosity. A cargo is determined to be a solidifying or a high viscosity substance only at the time of offloading. Cargoes with the potential for being high viscosity substances contain a reference to .908(a) in the Special Requirements column of 46 CFR Part153, Table 1. Those that are potentially solidifying substances contain a reference to .908(b) in 46 CFR Part153, Table 1. A prewash of the cargo tanks and transfer of the NLS residue/water mixture ashore in accordance with 46 CFR 153 is required for these cargoes under the following conditions:

- (a) Category (Y) high viscosity NLS, if unloaded at a temperature where the viscosity is greater than 25 mPa.s.
- (b) Category (Y) high viscosity NLS, if unloaded outside of a Special Area at a temperature where the viscosity is greater than 60 mPa.s.
- (c) Category (Y) high viscosity NLS, if unloaded inside of a Special Area at a temperature where the viscosity is greater than 25 mPa.s.
- (d) Category (Y) solidifying NLS with melting point greater than 0° but less than 15°C, if the temperature of the cargo at the time of transfer is less than 5°C above the melting point of the NLS cargo.
- (e) Category (Y) solidifying NLS with a melting point greater than 15°C, if the temperature of the cargo at the time of transfer is less than 10°C above the melting point of the NLS cargo.
- (f) Cargo melting point and viscosity information may be obtained from the master. Under requirements in 46 CFR 153.908, the shipper is required to supply this information to the master.
- (g) For the purpose of establishing whether a potentially solidifying or high viscosity Category (Y) NLS is unloaded at its proper temperature so as to

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

avoid a mandatory prewash, the temperature of the NLS cargo may be measured by--

- i. A temperature sensor in the bottom of the tank in accordance with 46 CFR 153.440(a)(3);
- ii. A portable temperature sensor in accordance with 46 CFR 153.440(c); or
- iii. A system which measures the temperature of all interior cargo tank surfaces throughout unloading in accordance with 46 CFR 153.1108(c).

(FIGURE E1-13 to be Added Later In Electronic Version)

8. Procedures for Determining Whether an NLS is a Potentially Solidifying and/or High Viscosity NLS and Whether These NLS Require a Prewash

- a. To determine whether an NLS is a potentially solidifying and/or high viscosity NLS, find the name of the NLS in 46 CFR Part 153, Table 1. Potentially high viscosity NLSs will have a reference to .908(a) in the Special Requirements column. Potentially solidifying NLSs will have a reference to .908(b) in the Special Requirements column. Some NLSs will have reference to both .908(a) and .908(b), indicating that they are both potentially solidifying and high viscosity.
- b. Record the MARPOL Annex II pollution category (X, Y, Z or OS).
- c. Determining whether a potentially solidifying NLS needs a prewash.
- d. Find the melting point of the NLS from the Bill of Lading or shipping papers.
- e. If the melting point of the NLS is greater than 0°C (32°F) and less than 15°C (59°F), the NLS must be unloaded at a temperature that is 5°C (9°F) or more above its melting point to not require a prewash.
- f. If the melting point of the NLS is greater than 15°C, (59°F) the NLS must be unloaded at a temperature that is 10°C (18°F) or more above its melting point to not require a prewash.
- g. Compare the actual NLS unloading temperature to the above requirements to determine if a prewash is required.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

- h. For example, Cyclohexane, in 46 CFR Part 153, Table 1, has a reference to .908(b) in the Special Requirements column. From the shipping papers, the melting point is 6.6°C. The unloading temperature is 20°C, which is more than 5°C above the NLSs melting point; therefore, a prewash is not required.
- i. The following procedures describe how to determine whether a potentially high viscosity NLS needs a prewash. From the Bill of Lading or shipping papers, find--
 - (1) For Category (Y) NLS, the temperature at which it has a viscosity of 25 mPa.s; and
 - (2) For Category Y NLS, the temperature at which it has a viscosity of 60 mPa.s.
 - (3) If the actual unloading temperature is greater than the temperature recorded in (a) above, then the NLS does not need a prewash. For example, Cyclohexanol, in Table 1 in 46 CFR 153, is a Category C NLS and has a reference to .908(a) in the Special Requirements column. According to the shipping papers, the temperature at which Cyclohexanol has a viscosity of 25 mPa.s is 40°C. The unloading temperature is 45°C, which is greater than 40°C; therefore, the NLS does not require a prewash.

NOTE: The higher the temperature, the less viscous a material and the smaller the value of mPa.s.

- j. Other situations requiring a prewash.
 - (1) Category B and C non-high viscosity or non-solidifying. Cargo tanks containing Category B or C non-solidifying or non-high viscosity NLS require prewashing as described below:
 - (2) Category B. A ship operating under either the interim standards in 46 CFR 153.481(b) or under a restricted voyage waiver granted under 46 CFR 153.483 must prewash the appropriate tanks in accordance with the procedures specified in the ship's P&A Manual.
 - (a) Under the interim standards, the ship may discharge the NLS waste to either an adequate reception facility or to a slop tank for discharge at sea.
 - (b) When operating under a restricted voyage waiver, a ship must discharge the prewash residue from these operations to an adequate reception facility. See paragraph E.7.e of this chapter on restricted voyage waivers.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- (3) Category C. A ship operating under a restricted voyage waiver granted under 46 CFR 153.483 must prewash the appropriate tanks in accordance with the procedures specified in the ship's P&A Manual. The ship must discharge the prewash residue to an adequate reception facility prior to leaving the unloading port. For more information, see Paragraph E.7.e of this Chapter on restricted voyage waivers.
- (4) Category B And C. In situations where more Category B or C cargo residue remains in a cargo tank and transfer piping because the tank(s) and piping were not capable of being unloaded in accordance with the unloading procedures specified in the ship's P&A Manual, the tank(s) must be prewashed following the procedures specified in 46 CFR 153.1120, except when--
 - (a) The next cargo is one that can be loaded without the need to wash the tank and a waiver can be issued under 46 CFR 153.1114(a) (see paragraph E.7.e of this Chapter); or
 - (b) Alternative unloading procedures have been used and it can be established that the appropriate tank(s) and piping contain less cargo residue than they would if they had been unloaded in accordance with the unloading procedures specified in the ship's P&A Manual. See 46 CFR 153.1116(b).
- k. Ventilation tank cleaning. As an alternative to prewashing, ships may clean tanks by ventilation when unloading Category A (X), B (Y), or C (Z) cargoes whose vapor pressure exceeds 5 kPa (50 mbar) at 20°C (68°F). To clean tanks by ventilation, a ship must have an approved procedure in its P&A Manual. The ventilation procedure may be conducted at sea and does not have to be witnessed by the prewash surveyor. (Ventilation may be prohibited in port by state and local authorities.) The ship's P&A Manual will indicate for which cargoes and cargo tanks ventilation is permitted. The manual will also provide a general description of the ship's ventilation system and how the ventilation equipment must be used for tank cleaning. This will include the following:
 - (1) Number and type of fans required.
 - (2) Fan location.
 - (3) Minimum air flow or fan speed.
 - (4) Minimum time required for ventilation.
 - (5) Procedures and equipment for ensuring that the tanks are dry at the completion for ventilation.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

- (6) Any special safety procedures to be followed during ventilating.
- l. Prewash waivers. The requirement for prewashing cargo tanks from which Category X Y, or ZNLS were unloaded, as outlined in E.2 above, may be waived or otherwise be omitted under any one of the following conditions:
 - (1) If the Commanding Officer, G-MSC grants the ship a restricted voyage waiver, that allows for the appropriate cargo tank(s) to be prewashed only at those ports or terminals specified in the waiver (46 CFR 153.483 and 46 CFR 153.10). This is for Category YNLS only (including potentially solidifying and high viscosity).
 - (2) If the Commanding Officer, MSC, grants the ship a dedicated cargo tank waiver which eliminates prewashing provided that the tank only carries the specific cargo listed on the vessel's COI or COC. If the tank is washed or ballasted, the wash water residue or ballast must be discharged to an adequate reception facility (46 CFR 153.10 and 153.491(a)).
 - (3) A surveyor signs a statement in the CRB that the next cargo has been determined to be one that may be loaded without washing the cargo tank(s) and the cargo tank(s) will not be washed or ballasted before it is reloaded (46 CFR 153.1114(a)).
 - (4) The cargo tank(s) will be cleaned by ventilation (46 CFR 153.1114(b)).
 - (5) The Coast Guard issues written authorization allowing the appropriate tank(s) to be prewashed in another port. If the prewash port is a foreign port, authorization is granted by Commandant (CG-OES); if the prewash port is a U.S. port, authorization is granted by the COTP with jurisdiction over the unloading port. In both cases, the procedures and criteria that need to be complied with before granting authorization are outlined in 46 CFR 153.1119(c).
 - (6) A schematic diagram outlining the relationship between cargo unloading, waivers, and prewash operations is provided as figure E1-14.
- m. Prewash surveyor duties and procedures.
- n. Notification. As required by 33 CFR 151.43, the ship must contact the COTP at least 24 hours before a prewash surveyor is needed. Items i through v, listed below, are required in the notification. The list also includes other, optional, information which will assist in coordinating prewash operations.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- (1) Ship's name.
 - (2) Expected time the prewashing operations will commence (prewash surveyors must arrive by this time, unless the prewash time is postponed by the ship).
 - (3) NLS (by name and category) to be unloaded from the tanks to be prewashed.
 - (4) Estimated volume of prewash residue to be discharged.
 - (5) Name and amount of any tank cleaning agent(s) to be used.
 - (6) Name and location of the unloading terminal.
 - (7) Ship's expected time of arrival at the unloading terminal.
 - (8) Cargo tank(s) to be prewashed.
 - (9) Intended disposition of residues, i.e., reception facility at visiting terminal or a reception facility at another port; and
 - (10) Name and location of the reception facility (if other than the unloading terminal).
- o. Preliminary preparations.
- (1) Upon receipt of the above information, and as a preliminary safety measure, prewash surveyors should familiarize themselves with the characteristics of the NLS to be prewashed, particularly those related to toxicity. Such information can be found in the Chemical data Guide for Bulk Shipment by Water, COMDTINST M16616.6A, the CHRIS Manual (COMDTINST 16465.11 and .12 and the chemical data sheets found in Volumes 2 and 3 of the International Chamber of Shipping (ICS) Tanker Safety Guide (Chemicals).
 - (2) Prewash surveyors should also check that the cargo tank(s) to be prewashed are loaded with Category Xs substances – only Category X prewashes are required to be witnessed by a prewash surveyor.
 - (3) It is anticipated that many of the prewash operations will be conducted with portable tank washing equipment lowered into position through open butterworth holes in the deck. The use of portable tank washing machines can pose particularly acute hazards when tank covers must be removed, increasing the possibility of splash hazard in the area of the tank opening. Consequently, the surveyors should pay particular attention to the health hazard information

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

in the above documents as well as any recommendations for protective clothing needed for working in the vicinity of these cargoes.

- (4) Prewash surveyors should be prepared to use the recommended personal safety equipment. When equipment is not available to match the level of threat of the chemical involved and/or method of prewash involved, surveyors should view the operation at a safe distance.
 - (5) When viewing the operation at a distance, prewash surveyors should verify compliance with the P&A Manual as much as is practical. The start of portable tank cleaning machines can be determined by witnessing the motion of the portable hoses. Often, the pump gauges are located in cargo control rooms at a safe distance from the prewash operations. These methods and others should be employed to maximize the surveyor's personal safety and verify compliance with the prewash requirements.
 - (6) Review the vessel's history from MISLE and confirm the time the prewash is expected to commence.
- p. Arrival at the terminal. Operating expenses for oceangoing chemical carriers typically run in the thousands of dollars per hour. Surveyors should ensure prewash operations are not delayed due to their late arrival. The prewash surveyor, upon arrival at the terminal, should make introductions, advise the reason for visit, and examine the terminal's Certificate of Adequacy (COA) for validity and to verify that the reception facility is approved for the NLS to be unloaded. The prewash surveyor should also obtain, from the appropriate personnel, any information which might affect the ability to conduct cargo discharge and/or prewash operations in accordance with the procedures specified in the ship's P&A Manual, e.g., terminal or reception facility pipeline temporarily out of service, etc.
- q. Arrival aboard the vessel: U.S. flag vessels. Upon boarding a U.S. flag vessel, the prewash surveyor should introduce him or herself to the master or chief officer and request the following documents:

(FIGURE E1-14 To Be Added Later In Electronic Version)

- (1) An endorsed COI to carry MARPOL Annex II NLS.
 - (2) Cargo Plan and Bill of Lading (shipping papers).
 - (3) P&A Manual.
 - (4) CRB.
- r. Arrival aboard the vessel: foreign flag vessels. Upon boarding a foreign flag vessel, the prewash surveyor should introduce him or herself to the master or chief officer and request the following documents:
- (1) The COC, COF (or NLS Certificate if vessel is not required to have a COF due to the cargoes authorized for carriage). Foreign flag ships calling at U.S. ports for the first time will not possess the endorsed COC. Prior to arrival, such ships must have submitted their COF to Commanding Officer, MSC and received acceptance and arranged with the OCMi for an examination for issuance of the COC.
 - (2) Cargo plan and Bill of Lading (shipping papers).
 - (3) P&A Manual.
 - (4) CRB.
 - (5) Using the above documents, the prewash surveyor should then confirm the following:
 - (a) The NLSs to be unloaded at the terminal, their categories, and cargo tank location (refer to the ship's cargo plan, Bill of Lading, P&A Manual and CRB).
 - (b) The cargo tanks from which Category A (X) NLSs will be unloaded (refer to the ship's cargo plan, Bill of Lading, P&A Manual).
 - (c) The prewash procedures to be used in each cargo tank (refer to the ship's P&A Manual).
 - (d) The required disposition of the prewash residue (refer to E.1-E.3 and E.5 of this Chapter).

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**s. Prewash operations.

- (1) Ships will normally be ready to begin prewash operations when the cargo tank(s) are empty and as soon as possible after stripping. However, prewash operations for Category X NLSs must not begin until the prewash surveyor is aboard the ship. They must also be conducted in accordance with the prewash procedures described in the ship's P&A Manual. In addition to providing a general description of the ship's tank cleaning system, the P&A Manual will describe how the tank cleaning must be conducted. This will include the following:
 - (2) Number and type of washing machines to be used.
 - (3) Machine location.
 - (4) Minimum washing pressure.
 - (5) Minimum number of washing machine cycles (or the minimum time required for each prewashing operation).
 - (6) Minimum water temperature (when applicable).
 - (7) Tank cleaning agents which may be used (when applicable).
- (8) In instances where the tank(s) cannot be washed with water, the tank cleaning agents or washing medium to be used, including an indication of when the actual prewash commences.
- (9) During prewash operations, the prewash surveyor should determine that the fluid pressure, temperature, etc. are as specified in the ship's P&A Manual.
 - (a) The appropriate gauges and thermometers will normally be found in the ship's cargo control room or pump room.
 - (b) Prewash surveyors should also determine that the washing machines are operating. This can be accomplished by listening as the washing machine washes the tank. During the washing operation, the washing machine will normally generate an audible sound as the fluid stream passes across the tank top. The sound is particularly noticeable for fixed in-place tank cleaning machines.
 - (c) For fixed in-place machines utilizing portable drives, prewash surveyors should also visually determine that the machines are washing the tank

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

throughout the washing cycle specified in the ship's P&A Manual. Portable drives are generally outfitted with indicators for this purpose.

- (10) Prewash surveyors should accomplish the above tasks on a spot check basis, standing upwind of the appropriate cargo tank(s) whenever possible.
- (11) For Category X cargoes, it may also be necessary to measure the concentration of the prewash residue to ensure that it is less than the maximum permitted by the regulations, i.e., 0.1 percent (by weight). See 46 CFR 153.1120(a). The ship's P&A Manual will identify which Category A cargoes require this measurement and it will list the equipment and procedures necessary to accomplish this procedure.
- (12) When enough prewash residue has been collected in the tank bottom for the pump to gain suction, the cargo or stripping pump must be started and the prewash residue pumped out. When a measurement of the prewash concentration of a Category A (X) NLS is required, this is to be accomplished and/or arranged for by the ship. The prewash surveyor should witness the chemical analysis and ensure that the discharge concentration meets the criteria for the specific Category A (X) NLS.
- t. CRB Entries for prewash operations. The prewash surveyor must make the appropriate entries in section J of the ship's CRB at the completion of any mandatory prewash operation. The ship's officer is required to complete section D, items 12-14, of the CRB.

F. MARPOL 73/78 ANNEX V GUIDANCE AND PROCEDURES

1. Applicability

- a. The U.S. regulations to implement MARPOL Annex V apply to all inspected or uninspected marine craft, regardless of flag, on the navigable waters and within the 200 mile Exclusive Economic Zone (EEZ) of the United States, and to U.S. ships wherever they are located.
- b. Vessels exempt from MARPOL Annex V include foreign flag warships, naval auxiliaries, or other ships owned and operated by a country when engaged in non-commercial service.
- c. Ships subject to MARPOL Annex V are prohibited from discharging plastics into the sea and are limited in discharging floating dunnage, lining and packing

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

materials, paper, rags, glass, metal, bottles, crockery and similar refuse, and food waste.

- d. MARPOL Annex V requires Party nations to ensure that ports and terminals provide adequate reception facilities to receive ship-generated garbage. For general enforcement guidance, see the Marine Safety Manual, Volume I.

2. Placards, Waste Management Plans, and Recordkeeping for Ships

- a. Placards. All U.S. vessels 26 feet (8 meters) or more in length and floating platforms in transit must display MARPOL Annex V placards in prominent locations and in sufficient numbers so that they can be read by the crew and passengers. The placards must inform the reader of MARPOL Annex V discharge restrictions. Specific requirements for the placards can be found in 33 CFR 151.59.
 - (1) Foreign flag vessels 12 meters or more in length must display placards which notify the crew and passengers of the disposal requirements in Annex V. Specific requirements for the placards can be found in Annex V, Regulation 9.
- b. Waste management plans. All oceangoing U.S. vessels of 12 m (40 ft) or more in length and all fixed or floating platforms are required to maintain a written waste management plan on board meeting the requirements in 33 CFR 151.57.
 - (1) Foreign flagged vessels: Every ship 400 GT and above, and every ship which is certified to carry 15 persons or more, must carry a garbage management plan meeting the requirements of Annex V, Regulation 9.
 - (2) Although the applicability for garbage (waste management) plans differs slightly between U.S. and MARPOL regulations, the plan content requirements are basically the same:
 - (3) Provide for the discharge of garbage by means that meet MARPOL Annex V requirements;
 - (4) Describe the procedures for collecting, processing, storing, and discharging garbage; and
 - (5) Designate the person who is in charge of carrying out the plan.
- c. Recordkeeping. Recordkeeping requirements are contained in 33 CFR 151.55 and Annex V Regulation 9.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

3. Discharge Restrictions

- a. No person on board any ship may discharge garbage into the navigable waters of the United States.
- b. Further restrictions based on garbage type:

Garbage Type	Disposal
Plastics - includes synthetic ropes, fishing nets, plastic bags and biodegradable plastics	Prohibited in all areas
Floating dunnage, lining and packing materials	Prohibited less than 40 kilometers (25 miles) from nearest land
Food waste or paper, rags, glass, metal, bottles, crockery and similar refuse	Prohibited less than 19.2 kilometers (12 miles) from nearest land
Comminuted or ground food wastes, paper, rags, glass, etc.	Prohibited less than 4.8 kilometers (3 miles) from nearest landents

4. Incinerated Plastic

- a. The IMO's Guidelines for the Implementation of Annex V states that plastic garbage must be retained on board ship unless it is reduced to ash by incineration.
- b. Clinkers or any hard residue that remains from the incineration of plastic are still considered plastic under MARPOL Annex V and cannot be discharged at sea. If plastic has been incinerated so that only ash remains, the ash may be discharged overboard provided it is not toxic or containing heavy metals. High intensity incinerators are the most effective way to reduce plastic to ash.
- c. During exams, PSCOs should ensure vessel crews are educated on this issue and advised to retain receipts from shore disposal of plastic clinkers.

5. Operational Requirements for Ships

- a. There are several ways to discharge ship-generated garbage in accordance with MARPOL Annex V.
- b. If plastics are separated from other garbage on board ship, the remaining garbage may be incinerated, retained on board for later shore disposal, or discharged at sea where allowed.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- c. Mixtures of garbage having different discharge requirements must be retained on board for disposal ashore or discharged in accordance with the most stringent disposal requirements.
- d. If a ship has plastics on board which require disposal and the master, operator, or person in charge of the ship cannot show compliance with the regulations, these factors may be used as evidence that Annex V of MARPOL 73/78 has been violated.
- e. 33 CFR 151.63 contains a listing of some means by which a ship's master could show that the ship is in compliance with the regulations and Annex V, such as accurately completed record book, bags of garbage being held for shore disposal and/or reception facility receipts.

6. Operational Requirements for Fixed or Floating Platforms and Associated Vessels

- a. MARPOL Annex V and 33 CFR 151.73 places discharge restrictions on offshore platforms, rigs, and associated vessels. Discharge of all types of garbage less than 12 nm from land is prohibited.
 - b. Food waste which has been comminuted or ground so that it passes through a screen with openings no greater than 25 mm (one inch), may be discharged from fixed or floating platforms or from a ship within 500 meters of a platform, if the platform is located more than 12 nautical miles from land.
 - c. Since the MARPOL Annex V implementing regulations go beyond the requirements of the NPDES permitting system, an oil rig or platform operator could be in compliance with a valid EPA National Pollution Discharge Elimination System (NPDES) permit issued pursuant to regulations authorized under the Clean Water Act and not be in compliance with Annex V.
 - d. The EPA's NPDES permits issued to oil rigs and platforms prohibit the discharge of floating solid wastes and garbage, but allow sinkable wastes to be discharged unless specifically prohibited. MARPOL Annex V is more restrictive and only allows the discharge of food wastes beyond 12 miles (see above).
 - e. As of 2011, the EPA does not plan on revising their permits to align with MARPOL Annex V so the disparity between the NPDES process and Annex V requirements will remain for the foreseeable future.
-

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS****7. APHIS Vessel Monitoring Program**

- a. The Animal and Plant Health Inspection Service (APHIS) of the U.S. Department of Agriculture (USDA) is a primary source of possible Annex V violation information for all arriving in the United States from foreign ports.
- b. The goal of APHIS is to inspect all vessels that have called at foreign ports to verify compliance with certain requirements which are intended to prevent the introduction of bacteria and insects which could be harmful to plants or animals into the United States. (In some regions, APHIS does not have the resources to board 100 percent of foreign arrivals.)
- c. USDA regulations prohibit vessels that have called at foreign ports (except Canada) from bringing ashore food, food wastes, or wastes which has been in contact with food for disposal unless certain requirements are met. If vessels wish to dispose of this type of waste while in port, they are required to employ special handling and incineration or sterilization by APHIS approved disposal companies are required.
- d. During the course of their normal boardings, APHIS inspectors will determine compliance with MARPOL Annex V requirements and report any suspected violation to the local COTP on PPQ Form 288, Figure E1-15.
- e. If resources permit, vessels suspected of violations by APHIS officers should be examined by Coast Guard personnel to verify that the vessel is not in compliance with MARPOL Annex V requirements and collect additional evidence.
- f. Even if the Coast Guard is unable to board a vessel suspected by APHIS of a MARPOL Annex V violation, the report may still provide sufficient evidence for a civil penalty case or referral to the vessel's flag state if U.S. jurisdiction cannot be proven.

FIGURE E1-16: MARPOL ANNEX V BOARDING CHECKLIST

NOTE: Intended as review only.

For further guidance, refer to the MSM Volume II, Material Inspection, COMDTINST M16000.6 (series), Section F and Chapter E1.

For general enforcement guidance, see the MSM Volume I, Administration and Management, COMDTINST M16000.6 (series), Chapter 4.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- (1) Review APHIS Boarding Report, if available, and determine whether it indicates a MARPOL V violation. Verify vessel name, flag, registration number, and call sign.
- (2) Review shipboard garbage handling practices.
 - (a) Is the crew familiar with the requirements of MARPOL Annex V?
 - (b) How is ship-generated garbage disposed of?
 - (c) Are plastics used on board? Is there plastic in the ship's stores?
 - (d) Are plastics segregated from other garbage for disposal ashore?
 - (e) Is there garbage/plastic to be disposed of ashore?
 - (f) Are there shipboard spaces used for collecting and storing shipboard garbage?
 - (g) Is there a functioning incinerator on board? Is it used for incinerating plastics and other garbage? Are the residual plastic clinkers retained for disposal ashore?
 - (h) Is there a grinder or comminuter on board used for discharge of garbage between 3 and 12 nm (5.4 and 21.6 kilometers)?
 - (i) Are there receipts available from garbage discharges at port reception facilities?
 - (j) Are there log entries indicating garbage disposal at sea?
 - (k) Although not yet required, does the vessel keep a garbage discharge log indicating dates, locations, amounts, types and methods of garbage discharge?
 - (l) Are there ongoing educational programs to train shipboard personnel in garbage handling procedures?
 - (m) Although not required for foreign vessels, is there a written shipboard waste management plan and are garbage disposal placards displayed?
- (3) Check for MARPOL Annex V Placards and Waste Management Plans.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- (a) For U.S. vessels 12 m (40 ft) and greater in length, is there a waste management plan on board? Is there a designated crew member responsible for carrying out the plan?
 - (b) Foreign Flagged vessels: Every ship 400 GT and above, and every ship which is certified to carry 15 persons or more, is there a garbage management plan on board. Is there a designated crew member responsible for carrying out the plan?
 - (c) For vessels 7.92 m (26 ft) and greater in length, are there Annex V placards placed in prominent locations on board?
-

8. General Exam/Boarding Guidance

- a. At sea. As virtually every vessel is subject to MARPOL Annex V, Coast Guard units are not expected to conduct exams/boardings exclusively for MARPOL Annex V compliance checks. MARPOL Annex V compliance checks should be conducted as resources permit and in conjunction with other routine activities, such as fisheries patrols, pollution investigations, marine casualty investigations or other law enforcement activities.
 - (1) Since there are no special equipment requirements, MARPOL Annex V compliance is verified by a review of the crew's garbage handling and disposal practices for ship-generated waste and recordkeeping.
 - (2) The checklist provided in Figure E1-16 may be used during Annex V compliance checks.
- b. In port. Although the Coast Guard is not required to conduct any special or exclusive exams to monitor compliance with MARPOL Annex V, compliance checks should be completed as part of other vessel compliance activities.
 - (1) To verify that a vessel has undergone an APHIS inspection, the CG vessel examiner (marine inspector, PSCO) can review a copy of the vessel's PPQ FORM 288. The vessel examiner must still conduct a follow-up Coast Guard check for compliance with MARPOL Annex V.
 - (2) If a vessel has not undergone APHIS inspection, the vessel examiner should pay particular attention to shipboard garbage handling practices, use of plastics, and any evidence of possible illegal discharges.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- (3) The checklist provided in Figure E1-16 may be used during Annex V compliance checks.
- (4) APHIS inspectors do not normally board non-oceangoing vessels or U.S. flag vessels that are solely engaged in coastwise trade. Therefore, vessel examiners should determine compliance with the requirements of MARPOL Annex V when on board these vessels.
 - (a) If plastics are observed on board, there should be clear evidence of the crew's degree of compliance with Annex V provisions. This could be; e.g., use of an on board incinerator, accumulated plastic waste being retained for disposal ashore, or receipts from shore disposal.
 - (b) The vessel examiner should review the ship's garbage-handling practices, educate the crew on discharge restrictions, and note any evidence of noncompliance on the applicable Coast Guard exam report.
 - (c) The vessel's waste management plan should also be reviewed.
- (5) When conducting foreign vessel and ocean-going U.S. vessel compliance verifications the following procedure should be used:
 - (a) Verify that an APHIS boarding has been conducted for this port call by inspecting the APHIS form for name and flag of the ship, date of inspection, PPQ officer's signature and any comments concerning Annex V discrepancies. This form is required to be left on board with the master or chief steward after an APHIS inspection.
 - (b) In cases where there has not been an APHIS boarding, determine how the vessel is complying with the Annex V discharge restrictions, particularly how and where it is disposing of its plastic waste. Some of the factors to be considered and documented by the vessel examiner in evaluating compliance are:
 - i. Records, including receipts, of garbage discharges at port reception facilities;
 - ii. Log entries indicating discharge of garbage;
 - iii. The presence and operability of equipment to treat ship-generated garbage, including, but not limited to, incinerators, grinders, or comminuters;

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

- iv. The presence of and adherence to a written shipboard waste management plan;
- v. The amount or absence of plastics in ship stores;
- vi. Ongoing educational programs to train shipboard personnel of garbage handling procedures; and
- vii. The presence of shipboard spaces used for collecting, processing, storing, and discharging ship-generated garbage.
- viii. The most difficult aspect in establishing Annex V violations is proving U.S. jurisdiction. Even if a vessel master admits that all garbage, including plastics, was discharged at sea, it is sometimes impossible to prove that the discharge occurred within U.S. waters.
 - aa. If jurisdiction can be established by witnesses' statements or by log entries of garbage discharge and ship position, enforcement actions should be taken in accordance with the MSM Volume I, Administration and Management, COMDTINST M16000.6 (series), Chapter 4, and the case processed for civil penalty.
 - bb. Since 1992, the Coast Guard has been taking enforcement action under U.S. law, including referrals to the Department Justice. Coverage was expanded out to the EEZ because flag states were not taking adequate action in the cases forwarded by the U.S. Countries often failed to acknowledge receipt of the cases and many took little if any legal action against suspected vessels.
- c. Building a case under MARPOL 73/78 Annex V. If circumstances discovered during a exam or boarding indicate a possible MARPOL Annex V violation or if an incriminating report is received from another agency, vessel passenger, or vessel crew member, the following information should be collected to establish a civil penalty case: (Figure E1-17)

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

Information Class	Information to Collect
Vessel Data	Vessel type; length of ship; last port of call/date; next port of call/date, distance of voyage; number of crew members.
Discharge Data	Type of suspected discharge (oil, chemical, garbage/plastics); date/time of discharge; quantity of discharge; cause of discharge; description of discharge.
Location Data	Location of ship when discharge occurred (Lat/Long, if known); body of water; miles from shore, if known.
Evidence	Ship master's explanation, statement from witnesses, crew members or passengers; photographs or video tapes; discharge samples taken.
Observer Data	Name/address of observer; phone; date/time of report; location of observer at time of observation.

- (1) While it is ideal to collect the information listed above, such details are often not available, especially during a Coast Guard or APHIS boarding. In most of these cases, there will be only prima facie evidence. However, these cases should be developed to the fullest, and, when jurisdiction can be established, forwarded for prosecution. A prima facie case that plastics have been discharged in violation of MARPOL Annex V may be established if:
 - (2) There are no plastics on board for disposal ashore;
 - (3) It is evident from inspection that plastic materials are used on the vessel;
 - (4) There is no functional incinerator on board or other reasonable explanation as to lawful disposal practices; and
 - (5) There is no evidence of disposal to a reception facility since the vessel's arrival in port.
- (6) An APHIS PPQ Form 288 (Figure E1-15) containing certain information can be the basis for a strong prima facie MARPOL Annex V case.
 - (a) If the APHIS PPQ Form 288 indicates that the crew of a vessel uses plastic materials, but that the vessel has arrived in port after several days at sea with plastic trash on board, and if the vessel has no incinerator or receipts from shore disposal, there may be sufficient evidence to prove that the violation occurred in water subject to the jurisdiction of the United States.
 - (b) To build such a case successfully, the COTP must consider several factors, including the location of the vessel's last port of call, the length of the

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

vessel's voyage, the number of crew members, and the estimated amount of time the vessel traveled in water subject to the jurisdiction of the United States before entering port.

- i. It can be assumed that waste, including plastic, is generated during each shipboard meal. If a vessel has traveled the last leg of a journey in U.S. waters (often a distance of 200 nm (360 km) or more, over a time period of 12 hours or more) and arrives in port with no trash at all, it is likely that trash generated during that time period was discharged in water subject to the jurisdiction of the United States prior to entering port.
 - ii. To strengthen the case, the COTP should contact the vessel's previous and subsequent ports of call to determine and document whether the vessel off loaded waste in either port.
 - iii. This determination of U.S. jurisdiction cannot be made when an area's EEZ does not extend out to 200 nm (360 km), such as around Miami.
- (c) If U.S. jurisdiction cannot be established, whether it be an APHIS-generated case or any case of suspected noncompliance with MARPOL, it is important that the case be forwarded to the vessel's flag state for enforcement action.
- i. In these cases, the evidence should be documented in MISLE and the evidence (APHIS PPQ Form 288, Coast Guard boarding form, photos, etc.) forwarded to Commandant (CG-INV) for transmittal to the flag state.
 - ii. These cases should be sent to Commandant (CG-INV) within 2 weeks of the exam/boarding or receipt from APHIS in order to forward the information to the flag state in a timely manner. Each unit should maintain copies of the case files forwarded for flag state enforcement.

9. Class D Felony Cases/ Referral to Department of Justice

- a. Cases in which MARPOL 73/78 Annex V is proven to have been "knowingly" violated are considered class D felony cases punishable by imprisonment of not more than 6 years (18 U.S.C. 3581(b)(4)) and a fine of not more than \$250,000 for an individual (18 U.S.C. 3571(b)(3)) or not more than \$500,000 for an organization (18 U.S.C. 3571(c)(3)).
 - b. Class D felony MARPOL cases must be developed for referral to the U.S. Attorney.
-

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS****10. Reports from Private Citizens**

- a. All Coast Guard units should be prepared to receive reports of violation from the public, interested parties, environmental groups, state and local agencies, and other Federal agencies. Coast Guard personnel are directed to be responsive to callers and immediately record any such violation reports.
 - b. Sectors, MSUs, MSDs and small boat stations may use the Observer Marine Pollution Sighting Report (Figure E1-17) to record as much useful information as the caller can provide. Stations must send reports of MARPOL violations to the nearest COTP for action. COTPs must send a letter acknowledging all citizen reports received and provide the reporting party with an explanation of the steps being taken to process the case.
-

11. Violations and MISLE Entries

- a. Investigations into possible MARPOL Annex V violations must be entered into MISLE as Incident Investigation Activities (IIA's). These IIA's must be entered in accordance with the guidance provided in the IIA/Enforcement Process Guide and the IIA/Enforcement User Manual.
-

G. MARPOL 73/78 REPORTING REQUIREMENTS AND INSTRUCTIONS

- a. Open, clear and timely communication both within the Coast Guard and among Parties to MARPOL 73/78 and the IMO is paramount to the effective and consistent implementation of MARPOL 73/78.
 - b. As a Party, the United States is required to cooperate in the detection of violations and the enforcement of MARPOL 73/78, to use all appropriate and practical measures for detection and environmental monitoring, and to institute adequate procedures for reporting and accumulating evidence (MARPOL Article 6). To comply with this provision of MARPOL 73/78, it is necessary for the Coast Guard to submit annual reports concerning alleged violations, spill response activities, enforcement actions and programmatic information to the IMO and to other Parties.
-

1. Notification

- a. COTPs must notify CG-INV in writing of all MARPOL cases being processed against foreign flag vessels (both for flag state referral and U.S. penalty action).

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

Under the Law of the Sea convention, the United States is required to notify flag state administrations of all MARPOL violations against foreign vessels.

- (1) For MARPOL cases in which U.S. jurisdiction cannot be established, COTPs must continue to send Commandant (CG-INV) all case evidence to be forwarded for flag state enforcement.
- (2) For MARPOL cases in which the Coast Guard can prove U.S. jurisdiction and intends to process for penalty, COTPs need only send basic information (vessel name, vessel identification number and MISLE case number) to notify Commandant (CG-INV) that a case has been initiated. Commandant (CG-INV) will then notify the flag state administration of the pending case.

2. Offshore Sighting Reports

- a. Commanding officers of oceangoing surface units and aircraft commanders must report sightings of discharges (Oil, NLS or garbage) as follows:
- b. Units must report by PRIORITY message addressed to the Coast Guard's National Response Center, Commandant (CG-MER-3) with the following sighting information:

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS**

P (Date Time Group)

FROM: (Name of unit)

TO: COGARD NATIONAL RESPONSE CENTER WASHINGTON DC

INFO: COMDT COGARD WASHINGTON DC//CG-INV/CG-CVC//

Parent Area

Parent District

Districts in which patrol was conducted

Other addresses as appropriate

BT

UNCLAS //16450//

SUBJ: MARPOL ENFORCEMENT REPORT

1. Discharge Sighting Information:
 - A. Discharge Sighting #1
 1. Location of discharge
 2. Date and time of sighting
 3. Name and flag or home port of suspect ship
 4. Ship's position at time of sighting
 5. Ship's last port of call
 6. Ship's next port of call
 7. Discharge size and amount
 8. Name(s) of person(s) making report

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 1: MARPOL 73/78 VESSEL REQUIREMENTS

9. Additional information

B. Discharge Sighting #2, #3, etc...(Provide same information as above)

3. Vessel Lookouts

- a. The Coast Guard will board suspected U.S. or foreign ships in ports under U.S. jurisdiction to investigate alleged MARPOL 73/78 violations. Upon receipt of a report of violation, Commandant (CG-CVC-2) will enter a Vessel Lookout in MISLE with specific compliance verification guidance to field units. In some cases, Commandant (CG-CVC-2) may designate the vessel as Priority 1.

4. Observer Marine Pollution Sighting Report

- a. Personnel observing discharges offshore or noting evidence of illegal discharge during an inspection may complete an Observer Marine Pollution Sighting Report (Figure E1-17) to document their observations. It should be included in a COTP investigation. This format may be used for reports from anyone for any type of discharge.

H. MARPOL ANNEX VI

Refer to Commandant (CG-CVC) Policy Letter 09-01.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**A. GENERAL PROCEDURES**

1. Vessels to Which SOLAS is Applicable

The International Convention for the Safety of Life at Sea (SOLAS) is a convention of the International Maritime Organization (IMO), an agency of the United Nations. SOLAS applies to all mechanically propelled cargo and tank vessels of 500 or more Gross Tons (GT) and to all mechanically propelled passenger vessels that engage in international voyages and carry more than 12 passengers. By the IMO's definition, an international voyage means a voyage from a country to which SOLAS applies to a port outside of that country, or vice versa. A vessel's "administration" is defined as the government of a country the flag of which the vessel is eligible to sail under. In this context, vessels operating under the flag of the United States are those documented or numbered under the laws of the United States, including Guam, the Commonwealth of the Northern Mariana Islands, American Samoa, the District of Columbia, the U.S. Virgin Islands, and Puerto Rico. When in possession of a valid SOLAS certificate and in compliance with its terms, a U.S. flag vessel is entitled to all of the privileges described in the SOLAS Convention.

NOTE: On 22 May 1982, the Intergovernmental Maritime Consultative Organization, or IMCO, changed its name to the International Maritime Organization (IMO). For simplicity, all IMCO resolutions passed prior to this change that remain effective are referred to below as IMO resolutions.

2. SOLAS 74/78

The requirements of the 1974 Convention (SOLAS 74) became effective on 25 May 1980. The 1978 Protocol, which modifies the original Convention, became effective on 1 June 1981. Together, they are referred to as SOLAS 74/78. Under the requirements of SOLAS 74/78, a new vessel is one for which the keel was laid on or after these effective dates. An existing vessel is one for which the keel was laid prior to these dates.

3. SOLAS Amendments

Amendments to the Convention should be expected. The first set of amendments were adopted in November 1981, as Maritime Safety Committee (MSC) Resolution MSC.1(XLV). These amendments deal primarily with Chapters II-1

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

and II-2, although minor changes to Chapters III, IV, V, and VI are included. These changes came into effect on 1 September 1984. A second set of amendments was adopted in June 1983. These primarily affect Chapters III and VII, with minor changes to Chapters II-1, II-2, and IV. These amendments became effective on 1 July 1986.

4. U.S. Application of SOLAS 74/78

- a. General. By ratifying SOLAS 74/78, the United States has agreed to promulgate statutes, regulations, and other measures to implement the Convention. The 1978 Protocol required administrations (the government of a vessel's flag state) to institute arrangements for inspection or establish a mandatory annual survey requirement. The United States has chosen the mandatory annual survey method, to be carried out through inspection for certification program which includes periodic and annual inspections. (described later in this chapter). These measures will ensure that U.S. vessels are fit for service in terms of safety of life.
 - b. Authority. U.S. laws are used to enforce the terms of the Convention; no special authority is necessary. Vessel inspection regulations in Title 46, Code of Federal Regulations (CFR) generally align with the inspection requirements of SOLAS 74/78 (the only exceptions are requirements for radio equipment, which are administered by the Federal Communications Commission (FCC)). Inspection personnel generally need not refer to the Convention during inspections for certification. However, they must be thoroughly familiar with SOLAS requirements, which may be considered when inspection decisions are made (particularly when normal inspection requirements are altered).
 - c. Application to small passenger vessels under 100 GT (T-boats). The regulations in 46 CFR Subchapter T for small passenger vessels (under 100 GT) do not reflect the requirements of SOLAS 74/78, except by reference to the Convention. T-boats operating on international routes must apply SOLAS 74/78 requirements or hold SOLAS Exemption Certificates. Officers in Charge, Marine Inspection (OCMIs) certificating T-boats that will operate on international voyages through other inspection zones should contact the OCMI's of those zones to determine if additional requirements must be met for certification.
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5. Previous SOLAS Conventions

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

The initial SOLAS Convention that entered into effect in 1929 was superseded in 1948, 1960, and again in 1974. SOLAS 74/78 incorporates by reference the 1929, 1948, and 1960 provisions applicable to existing vessels. Certificates granted under the 1929 and 1948 Conventions are no longer recognized by the Coast Guard. U.S. vessels with valid SOLAS 60 certificates may retain them until their expiration. All U.S. SOLAS certificates issued after 25 May 1980 must be in accordance with SOLAS 74. Certificates issued after 1 June 1981 must be in accordance with SOLAS 74/78. The Coast Guard will continue to accept valid SOLAS 60 certificates held by vessels whose administrations are parties to SOLAS 60 but have not ratified SOLAS 74, or that issued such certificates prior to 25 May 1980.

B. REFERENCES

1. International Conventions and Conferences on Marine Safety

The International Conventions and Conferences on Marine Safety publication contains the texts of the 1948 SOLAS Convention (including a summary of committee reports and background information) and the 1960 Convention. Each marine safety unit must maintain International Conventions and Conferences on Marine Safety, COMDTINST M16707.1, as required by the Directives, Publications and Reports Index, Commandant Notice (COMDTNOTE) 5600.

2. SOLAS 74/78 Protocols with Amendments

The SOLAS 74/78 Protocols with Amendments publication contains the text of International Convention for the Safety of Life At Sea (SOLAS) 74 and the 1978 Protocol and Amendments. It may be purchased through local sources.

3. Implementing Regulations

SOLAS 74/78 requirements generally are incorporated in Title 46, CFR without specific mention of the Convention. Among the regulations that do make specific mention of SOLAS 74 and its application are:

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

TYPE	CFR CITATION
All Vessels	46 CFR 2.01-25
Tank Vessels	46 CFR Table 30.01-5(d) footnote 6, 30.01-5(e)(1), & 31.40
Passenger Vessels	46 CFR Table 70.05-1(a) footnote 6, 70.05-3(b)(1), 70.05-10, and 71.75
Cargo and Miscellaneous Vessels	46 CFR 90.05-1(a)(1), Table 90.05-1(a) footnote 6, 90.05-10, and 91.60
Small Passenger Vessels	46 CFR 175.05-1, Table 175.05-1(a) footnote 6, 175.05-1(c), and 176.35
Oceanographic Research Vessels	46 CFR Table 188.05-1(a) footnote 6, 188.05-10, 188.10-35, and 189.60

C. CERTIFICATES ISSUED UNDER SOLAS 74/78

See MSM Volume II, Material Inspections, COMDTINST M16000.7A (series), Section A, Chapter 3.

D. APPLICATION FOR CONVENTION CERTIFICATES**1. Application to the OCMi**

To apply for a SOLAS Passenger Ship Safety Certificate (PSSC), Cargo Ship Safety Equipment (SEC) and/or a Cargo Ship Safety Construction Certificate (SAFCON), or Exemption Certificate, the master, owner, or agent of a vessel must submit an Application for Inspection of U.S. Vessel, Form CG-3752. The application must indicate all certificates desired. If the request is for a SAFCON, it must also state whether the Coast Guard or a Coast Guard Authorized Classification Society (ACS) will issue it.

2. OCMi's Acknowledgement of Application

- a. Passenger vessels. To acknowledge the application for SOLAS certificates, the OCMi must use the Notice of Completion of Examination for Safety Certificate, Form CG-969. A vessel may show this document to explain the lack of a valid Passenger Ship Safety Certificate if the vessel does not receive the certificate before sailing.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS

- b. Cargo, tank, and miscellaneous vessels. Notice of Completion of Examination for Safety Certificate, Form CG-969 is not applicable to applications for SECs. A SEC must be issued by the OCMI before the vessel sails.

3. Application to the FCC

To apply for a Safety Radiotelephony/Radiotelegraphy Certificate or Exemption Certificate, the master, owner, or agent of a vessel should forward a written application to the local FCC office.

E. COORDINATION OF SOLAS BY THE FCC

1. Passenger Vessels

- a. General. The Coast Guard and FCC jointly conduct the inspection of a passenger vessel for issuance of a Passenger Ship Safety Certificate.
 - (1) The certificate will only be issued after the Commandant receives inspection reports from the OCMI and the FCC. The FCC has agreed to coordinate its radio equipment inspections (including those of portable lifeboat radio apparatus) with inspections conducted by the Coast Guard.
 - (2) Refer to 47 CFR 80.59 for FCC compulsory vessel inspection requirements.
 - (3) Administration. After receiving an application for a COI renewal or Passenger Ship Safety Certificate, the OCMI must notify the local FCC office of the Coast Guard's anticipated inspection completion date.
 - (a) If the Coast Guard inspection will be completed at that port, the FCC inspection will normally be carried out on the date indicated by the OCMI.
 - (b) If the Coast Guard inspection will not be completed and the vessel's COI not renewed prior to the vessel's non-international voyage on the high seas, the FCC should conduct their inspection at least one business day before the sailing date.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

- (4) Issuance of Exemption Certificate. Once the FCC has completed their inspection, they will forward a copy of a Certificate of Compliance, Form 806 or a Letter of Exemption to the OCMI. The OCMI must forward the FCC document, Notification of Approval for Passenger Ship Safety Certificate, Form CG-969A, and a copy of the vessel's current COI to Commandant (CG-CVC). A SOLAS Exemption Certificate modifying the part of the Passenger Ship Safety Certificate covering radio equipment will only be issued upon FCC request.

2. Cargo, Tank, and Miscellaneous Vessels

The FCC conducts annual SOLAS inspections of radio equipment (including portable lifeboat radio equipment) aboard cargo, tank and miscellaneous vessels. These normally occur in conjunction with the Coast Guard inspection for certification or the mandatory annual survey.

F. ISSUANCE OF CONVENTION CERTIFICATES

1. Passenger Vessels

Once a vessel has satisfactorily completed the SOLAS inspection, the OCMI completes, Notification of Approval for Passenger Ship Safety Certificate, Form CG-969A. When the master, owner, or agent of a vessel submits a written request for exemptions from SOLAS inspection requirements, the OCMI must list any recommended exemptions on the reverse side of Notification of Approval for Passenger Ship Safety Certificate, Form CG-969A and verify that the vessel has a valid Load Line Certificate. Copies of FCC a Certificate of Compliance, Form 806 (or the Exemption Letter) and the vessel's COI are forwarded to Commandant (CG-CVC) with Notification of Approval for Passenger Ship Safety Certificate, Form CG-969A

2. Cargo, Tank, and Miscellaneous Vessels

- a. Cargo Ship Safety Equipment Certificates (SEC). Once a vessel has satisfactorily completed the SOLAS inspection, the OCMI or ACS issues the vessel a SEC and its Attachment. If the vessel is a tanker, it will also

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS

be issued a Supplement. The vessel must have the certificate aboard prior to sailing on an international voyage. This certificate is valid for 5 years.

- b. Cargo Ship Safety Construction Certificates (SAFCON). Once a vessel has satisfactorily completed a SOLAS inspection requested by a vessel owner/operator, the OCMi or ACS issues a SAFCON and Attachment.
 - (1) If the vessel is a tanker a certificate Supplement must also be issued.
 - (2) As with the SEC, this document must be aboard the vessel prior to its sailing on an international voyage. It is valid for 5 years.
 - (3) Tankers over 10 years of age must undergo an intermediate survey, including drydocking, at the midpoint of this certificate's validity. Drydock requirements should be maintained in accordance with the regulations.
- c. Exemption requests. When a vessel requests exemptions from the provisions of SOLAS requirements, the OCMi must forward the request with a recommendation to Commandant (CG-543). SOLAS certificates must not be issued until either the Commandant has issued an Exemption Certificate or the vessel has attained compliance with the SOLAS requirements.

3. Special Requirements for Ships Carrying Dangerous Goods

- a. COI endorsement in lieu of separate SOLAS documentation. SOLAS Regulation II-2/19.4 requires the flag administration to provide a vessel with appropriate documentation as evidence of compliance with the construction and equipment requirements for ship types and cargo spaces carrying dangerous goods. Currently, U.S. ships complying with SOLAS Regulation 19 do not receive documentation other than the COI. Therefore, the following guidance is provided.

NOTE: The 1981 Amendments to SOLAS extended the applicability of Regulation 19 to cargo ships of less than 500 GT constructed on or after 01 February 1992 (See Reg. 54.1.1).

- (1) SOLAS applicability for existing ships depends upon the date of a vessel's keel laying. The 1981 amendments, which included the revised text of SOLAS II-2, Regulation 19, went into effect on September 1,

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

1984. Vessels built before that date do not need to comply with the amendments unless they undergo repairs, alterations, or modifications of a major character as defined in SOLAS, Chapter II-2, Regulation 3.

- (2) SOLAS amendments would be applied by the flag administration to existing vessels without SOLAS documents on a case-by-case basis insofar as is practicable. A COI endorsement is appropriate to serve as evidence of compliance with SOLAS Regulation 19.

- (3) The COI endorsement should read as follows:

"Construction and equipment meet the special requirements of SOLAS 1974, as amended, Regulation II-2/19 for carrying dangerous goods (packaged hazardous materials) as set forth below:

Cargo hold numbers #, #, #, and #: Dangerous goods of IMO hazard classes X, X, X.*

Weather decks: Dangerous goods of International Maritime Organization (IMO) hazard classes X through X, X and X.*

*The carriage of all dangerous goods, including those of IMO hazard class 7 which is not covered by SOLAS II-2/19, must be in accordance with the provisions and limitations of the current edition of the International Maritime Dangerous Goods (IMDG) Code for the specific dangerous goods."

- (4) For the COI endorsement, the OCMI will determine which hazard classes the vessel is found suitable to carry in its cargo holds based on determination of compliance with Regulation 54.

G. EXTENSION OF SOLAS CERTIFICATES BY CONSULAR OFFICERS

SOLAS 74/78, Regulation 14, Chapter I, provides for extensions of Convention certificates by a vessel's Administration if the vessel is not in a port of that country when the certificate expires. The purpose of this extension is to permit, when reasonable, a vessel to transit to another port where SOLAS inspections may be conducted. If the Safety Construction Certificate was issued for a 5-year period, no extension is permitted. The procedure for extending U.S. vessel SOLAS certificates is in the Department of State's Foreign Affairs Manual, Volume 7 (Special Consular Services), as follows:

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

"524.6-3. Extension or Reissue of Certificates. When an international certificate issued under the terms of the International Convention for the Safety of Life at Sea to a vessel of the United States expires before or at the time the vessel reaches a foreign port or will expire before the vessel reaches a port of the United States, it may be extended by the consular officer, or a new certificate may be issued by authorities of a foreign government which is a party to the Convention, according to the preference of the master. The request must come from the master. A request of preference expressed by the agent of a United States vessel should not be honored unless the agent is acting at the master's specific request."

H. SOLAS ANNUAL SURVEY REQUIREMENTS

At a minimum, the scope of periodic or annual inspections must satisfy all SOLAS survey requirements. The following summary of SOLAS survey requirements is adapted from the IMO Assembly Resolution containing the Guidelines under the Harmonized System of Survey and Certification (HSSC).

1. Requirements

The 1978 SOLAS Protocol, Chapter 1, Regulation 6(b), requires annual surveys of all cargo and tank vessels issued SAFCONs and SECs. There are additional requirements for tank vessels over 10 years old.

2. Purpose

Mandatory surveys as prescribed in SOLAS 74/78 Chapter 1 Part B, ensure that a ship and its equipment are satisfactorily maintained in accordance Chapter 1, Regulation 11. Periodic and annual inspections enable the Coast Guard to verify the condition of vessels and their equipment. The below inspection provisions are not necessarily applicable to all types and sizes of ships.

3. When Required

A periodic or annual inspection should be held within 3 months before or after the anniversary dates of the SAFCON Certificate.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

4. Scope

The exact scope of each inspection depends on the condition of the ship and its equipment.

- a. The inspection should generally consist of a certificate examination, a visual examination to confirm that no unapproved modifications have been made to the vessel and its equipment, and examination and testing of vessel equipment to confirm that it is being properly maintained.

- b. The inspection should include examination of the following:

• Certificate and logbook	• Firefighting equipment
• Hull and watertight integrity	• Navigational equipment
• Machinery and electrical	• Cargo equipment
• Lifesaving equipment	• Tanker operational requirements

- c. Further examination and testing should be conducted if there is any doubt as to the condition of the vessel or its equipment maintenance.
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5. Certificate and Logbook Examination

The certificate and logbook examination is required to ensure that certificates are valid and required entries are being made in logbooks.

- a. Certificates to be checked are--

- (1) All required SOLAS safety certificates;
- (2) International Load Line Certificate; and
- (3) Certificates issued by a classification society on behalf of the Coast Guard.

- b. Lifesaving equipment records and logbook entries should be examined to--
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USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

- (1) Confirm that any new equipment has been properly approved before installation, and that no changes have been made that would affect the validity of the SEC;
 - (2) Check that all instructions and/or notices, including the emergency station muster list, are properly posted and printed in a language understood by all personnel on board; and
 - (3) Check whether any fire necessitating the operation of the fixed fire extinguishing systems or the portable fire extinguishers has occurred on board since the last inspection.
- c. Hull machinery and equipment certificates and records should be checked for the required examinations of--
- (1) Automatic and remote control systems, such as main propulsion automatic systems; and
 - (2) Inert Gas Systems (IGS).
- d. Logbook entries should be checked for required entries. These include the following:
- (1) Entries required by SOLAS 74/78, Chapter III, Regulation 19 and 20, such as--
 - (a) The date of the last full muster of crew for boat and fire drill;
 - (b) The records indicating that lifeboat equipment was examined and found to be complete; and
 - (c) The last occasion the lifeboats were swung out, and which ones were lowered into the water.
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SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS****6. Hull**

A general examination of the hull and its closing appliances is required at annual inspections. This includes the following:

- a. All closing appliances, scuppers and sanitary discharges, and means for protection of the crew according to the requirements of the 1966 Load Line Convention.
- b. Examination of anchoring and mooring equipment, as far as practicable.
- c. Examination and testing (locally and remotely) of all watertight doors in watertight bulkheads, as far as practicable.
- d. Examination of watertight bulkhead penetrations, as far as practicable.
- e. Confirmation that no significant changes have been made to the arrangement of structural fire protection.
- f. Confirmation of the operation of manual and/or automatic fire doors, where fitted.

7. Machinery and Electrical

A general examination of machinery and boiler spaces, particularly the propulsion system, auxiliary machinery, and the fire and explosion hazards, is required at annual inspections. This includes the following:

- a. Confirmation that escape routes are not blocked.
- b. Examination and operational testing of all main and auxiliary steering arrangements, including their associated equipment and systems.
- c. Testing of all the means of communication between the navigating bridge and the machinery control positions, as well as between the bridge and the alternative steering position, if fitted.
- d. Examination, as far as practicable, of the bilge pumping systems and bilge wells including operation of pumps, remote reach rods and level alarms, where fitted.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

- e. External examination of boilers, pressure vessels, and their appurtenances, including safety devices, foundations, controls, relieving gear, high pressure and steam escape piping, insulation, and gauges.
 - f. Visual and operational examination, as far as feasible, of electrical machinery, emergency sources of power, switchgear, and other electrical equipment.
 - g. Confirmation, as far as practicable, of the operation of all emergency sources of power normally and also in the automatic mode, if they are automatic.
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8. Lifesaving Equipment

Inspection of the lifesaving gear and equipment should include:

- a. Examination of all lifeboats, davits, embarkation arrangements, and launching gear. If practicable, one of the lifeboats should be lowered to the water.
- b. Testing to confirm that the engine of each motor lifeboat starts satisfactorily, in both ahead and astern operation (as permitted by cargo handling conditions).
- c. Checking that the inflatable liferafts have been serviced during the past 12 months, unless it is determined that the servicing has not been possible.
- d. Checking that stowage of the inflatable liferafts will facilitate proper release and that launching instructions are posted.
- e. Examination of the embarkation arrangement of inflatable liferafts and, when provided, the launching arrangement of davit launched liferafts.
- f. Checking that lifeboats are in good condition, that the required number are fitted with self-igniting lights and self-activating smoke signals, and that all are properly stationed.
- g. Checking that the rescue boat (if required) is in good condition and that stowage will facilitate rapid launching.
- h. Checking for proper stowage of life jackets and random examination of their condition.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

- i. Checking that ship and lifeboat distress signals and the line-throwing rockets are not out of date.
 - j. Testing of the emergency lighting and general alarm system.
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9. Firefighting Equipment

Inspections of firefighting equipment should include the following:

- a. Confirmation that fire control plans are properly posted.
 - b. Examination and testing, as feasible, of the fire and/or smoke detection system(s).
 - c. Examination of the fire main system and confirmation that each fire pump, including the emergency fire pump, can be operated so that the two required powerful jets of water can be produced simultaneously from different hydrants.
 - d. Confirmation that fire hoses, nozzles, applicators and spanners are in good working condition and stowed in their correct locations.
 - e. Examination of fixed firefighting system controls, piping, instructions and marking, checking for evidence of proper maintenance and servicing, including date of last systems tests.
 - f. Confirmation that all semi-portable and portable fire extinguishers are in their stowed positions, checking for evidence of proper maintenance and servicing, conducting random check for evidence of discharged containers;
 - g. Confirmation, as far as practicable, that the remote controls for stopping fans and machinery and shutting off fuel supplies in machinery spaces are in working order;
 - h. Examination of the closing arrangements of ventilators, funnel annular spaces, skylights, doorways and tunnels, where applicable; and
 - i. Confirmation that the firemen's outfits are complete and in good condition.
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10. Navigational Equipment

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

Inspections of navigational equipment should include verification of the following:

- a. Navigation lights, shapes, and sound signaling equipment are in order.
- b. The compass deviation record book is properly maintained and that the daylight signaling lamp is in order.
- c. The radars, echo depth-sounding device, automatic radar plotting aid (ARPA), and gyro-compass are in working order.
- d. Pilot ladder/hoists are in good condition and operational.
- e. Nautical charts and publications necessary for the intended voyage are available and updated.

11. Tankers

Tankers are subject to additional inspection requirements. For tankers, the following areas and equipment should be examined:

- a. Weather deck and equipment examinations should include examination of the following:
 - (1) Cargo tank openings, such as gaskets, covers, coamings, and screens.
 - (2) Pressure/vacuum valves and flame screens on cargo tanks.
 - (3) Flame screens on vents to all bunker, oily ballast and oily slop tanks and void spaces, as far as practicable.
 - (4) Cargo, crude oil washing, bunker, ballast and vent piping systems, including vent masts and headers.
 - (5) Inspection should confirm that all electrical equipment in dangerous zones is in good condition and has been properly maintained.
- b. Cargo pumproom inspections should include the following:
 - (1) Confirmation that potential sources of ignition in or near the cargo pumproom, such as loose gear, excessive product in bilges, excessive

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

vapors, combustible materials, etc., are eliminated, and that access ladders are in good condition.

- (2) Confirmation that all electrical equipment is in good condition and has been properly maintained.
 - (3) Examination of all pumproom bulkheads for signs of oil leakage or fractures and, in particular, the sealing arrangements of all penetrations of pumproom bulkheads.
 - (4) Examination of the condition of all piping systems.
 - (5) Examination, as far as practicable, of cargo, bilge, ballast, and stripping pumps for excessive gland seal leakage; verification of proper operation of electrical and mechanical remote operating and shutdown devices, and pumproom bilge system, and that pump foundations are intact.
 - (6) Confirmation that the pumproom ventilation system is operational, ducting intact, dampers operational, and screens clean.
 - (7) Verification that installed pressure gauges on cargo discharge lines and level indicator systems are operational.
- c. IGS inspections should include the following:
- (1) External examination of the condition of all piping and components for signs of corrosion or gas/effluent leakage.
 - (2) Confirmation of the proper operation of both inert gas blowers.
 - (3) Observation of the operation of the scrubber room ventilation system.
 - (4) Checking of deck water seal for automatic filling and draining, presence of water carry-over, and condition of the non-return valve.
 - (5) Examination of the operation of all remotely operated or automatically controlled valves and, in particular, the flue gas isolating valve(s).
 - (6) Observation of a test of the interlocking feature of soot blowers.
 - (7) Observation that the gas pressure regulating valve automatically closes when the inert gas blowers are secured.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS

- (8) Checking, as far as practicable and using simulated conditions when necessary, the following alarms and safety devices of the IGS:
 - (a) High oxygen content of gas in the inert gas main.
 - (b) Low gas pressure in the inert gas main.
 - (c) Low pressure in the supply to the deck water seal.
 - (d) High temperature of gas in the inert gas main.
 - (e) Low water pressure to the scrubber.
 - (f) Accuracy of portable and fixed oxygen measuring equipment by means of calibration gas.
- d. Inspection should also involve the following:
 - (1) External examination of piping and cutout valves of cargo tank and cargo pumproom fixed firefighting system.
 - (2) Confirmation that the deck foam system and deck sprinkler system are in proper operating condition.

12. Requirements for Tankers Over 10 Years Old

- a. General. SOLAS 74/78, Chapter 1, Regulation 10(a)(ii), contains additional inspection requirements for tankers over 10 years old. "A tanker of ten years of age and over shall undergo a minimum of one intermediate survey during the period of validity of its SAFCON. In cases where only one such intermediate survey is carried out in any one certificate validity period, it shall be held not before 6 months prior to, nor later than 6 months after, the halfway date of the certificate's period of validity."
- b. Scope. For tankers over 10 years of age, the intermediate survey should be sufficiently extensive to ensure that the ship can be operated safely and is in compliance with and should continue to possess its SAFECON certificate. The intermediate survey of hull, machinery, and equipment should consist of all the relevant items for all vessels and, at a minimum, the following additional items:

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS****(1) Hull.**

- (a) Examination of the shell, including bottom and bow plating, keel, stem, stern frame, and rudder.
- (b) Rudder bearing clearance measurements.
- (c) Examination of the propeller and shaft seals, as far as practicable.
- (d) Propeller shaft(s) bearing clearance measurements.
- (e) Examination of the sea connections and overboard discharge valves and their connections to the hull.
- (f) Examination of anchoring and mooring equipment as far as practicable. The anchors should be partially lowered and raised using the windlass.
- (g) Internal examination of at least two cargo tanks.
- (h) Examination of cargo, crude oil washing, bunker, ballast, steam, and vent piping, as well as vent masts and headers. If there is any doubt as to the condition of the piping, it may be required to be pressure tested, gauged, or both. Particular attention should be paid to any repairs, such as welded doublers.

(2) Machinery and electrical.

- (a) General examination of machinery and boiler spaces, including tank tops, bilges, cofferdams, sea suctions, and overboards, with particular attention to the propulsion system and fire and explosion hazards. Examination should confirm that emergency escape routes are not blocked.
- (b) Ascertain that the annual examinations of boilers and other pressure vessels have been carried out as required, and that safety devices, such as for boilers, have been tested.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

- (c) General examination of the electrical equipment and cables in dangerous zones, such as cargo pump rooms and areas adjacent to cargo tanks, for defective explosion proof lights and fixtures, improperly installed wiring, non-approved lighting and fixtures and dead ended wiring, and testing the insulation resistance of the circuits. Except in cases where a proper record of testing is maintained, consideration should be given to accepting recent readings by the crew. If any of the readings are marginal, or if the condition of the cables, fixtures, or equipment, appears defective in any way, verification measurements may be required. These measurements should not be attempted until the ship is in a gas-free or inerted condition and should be carried out within an acceptable time period.
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13. Completion of SOLAS Annual Inspection

- a. After a vessel has satisfactorily completed its survey, the OCMI or his or her authorized representative should complete the SAFCON and/or SEC endorsement (see MSM Volume II, Materials Inspection, COMDTINST M16000.7A (series), Chapter A3). For ACS issued certificates, the ACS should provide any necessary supplements and endorsements.
 - b. If a vessel's survey shows that its condition or its equipment is unsatisfactory, the OCMI should be guided by the requirements of the SOLAS 74/78 Chapter 1, Regulation 6(d).
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I. SMALL PASSENGER VESSELS SUBJECT TO SOLAS 74/78

1. Drydockings

T and K boats (small passenger vessels under 100 GT) holding SOLAS certificates must have a drydock examination at least once every 12 months.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS****2. Lifeboats**

SOLAS 74/78, Chapter III, requires passenger vessels to have lifeboats for 100% of persons onboard. However, an administration may permit exemptions according to the vessel's route and service. T-boats operating on International Ocean or coastwise routes may be exempted from this requirement if they are equipped with inflatable liferafts sufficient for all persons aboard. T-boats operating on lesser routes may use lifefloats or buoyant apparatus capable of accommodating all persons aboard. All T-boats must have a suitable rescue boat unless the OCMI deems this unnecessary.

3. Number of Passengers

- a. 150 passengers or fewer. T-boats that comply with the requirements for a COI and carry 150 passengers or fewer will generally be considered satisfactory for international voyages, provided the routes of operation are limited so as to permit exemption under SOLAS 74/78, Chapter II-1, Regulation 1(c), Chapter II-2, 1(e), and Chapter III, 3(a).
 - b. More than 150 passengers. 46 CFR Subchapter K passenger vessels on international voyages must comply with the provisions of SOLAS 74/78, Chapter II-2. Accordingly, such vessels should not be granted major exemptions that would reduce the overall safety afforded new vessels constructed under SOLAS.
 - c. T-boats with overnight accommodations for 50 or more passengers. Such vessels must reasonably comply, in the OCMI's judgment, with the structural fire protection requirements of SOLAS 74/78 before an exemption will be granted. When exemptions are requested for such vessels, due consideration must be given to vessel size, route, condition, etc.
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USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**4. Certificates**a. General.

- (1) COIs must be issued for 1 year to correspond with the Passenger Ship Safety Certificate.
- (2) A vessel's initial Passenger Ship Safety Certificate (and Exemption Certificate, when appropriate) will be issued by Commandant (CG-CVC) upon receipt of Notification of Approval for Passenger Ship Safety Certificate, Form CG-969, a copy of FCC Certificate of Compliance, Form CG-806 (or Exemption Certificate), and a copy of the vessel's current COI (See F above).
- (3) A vessel will not be issued an Exemption Certificate unless it has passed a Coast Guard safety certificate inspection.
- (4) T-boats may not operate on international voyages without the required SOLAS safety and exemption certificates. COIs should be withdrawn if necessary to obtain compliance with SOLAS requirements.

- b. Specification of route. The routes specified on a vessel's COI and Passenger Ship Safety Certificate (and Exemption Certificate, if issued) must match. If the owner requests a route specification on the FCC certificate that differs from the route indicated on the COI, Commandant (CG-CVC) will hold the safety and exemption certificates until the matter is resolved.

J. SPECIAL CONSIDERATIONS

1. Introduction

SOLAS 74/78, Chapter I, Regulation 5 provides for the substitution of equivalent fittings, appliances, or arrangements when the vessel's administration is satisfied that the substitute is as effective as the item specified in the Convention.

Unless otherwise provided, SOLAS 74/78, Chapters II-1, II-2, and III apply to new vessels.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

Existing vessels are generally expected to meet requirements for construction, lifesaving appliances, etc., that are considered reasonable and practicable by the vessel's administration.

2. Equivalents Filed with IMO

- a. Cargo vessels of 500-1600 GT, except tankers. SOLAS 74/78, Chapter III, Regulation 35 requires cargo vessels, with certain exceptions, to carry lifeboats on each side of the ship sufficient to accommodate all persons aboard and liferafts, on each side sufficient to accommodate half the number of all persons aboard. The United States has accepted an equivalent arrangement under the provisions of SOLAS 74/78, Chapter I, Regulation 5. Cargo vessels of 500-1,600 GT, except tankers, may be equipped with the following:
 - (1) On each side of the vessel, one or more davit-launched inflatable liferafts sufficient to accommodate all persons aboard.
 - (2) A minimum of one launching device on each side of the vessel. The device's operation must not require anyone to remain aboard.
 - (3) Sufficient float-free inflatable liferafts to accommodate not less than one-half of all persons aboard.
 - (4) A motor-propelled rescue boat suitable for ocean service, with a davit or other suitable launching gear capable of launch by no more than three persons.
 - (5) A vessel aboard which it is not necessary for persons to board inflatable liferafts in the water or descend more than 3 m (9 ft) to the liferafts may employ a substitution. Such a vessel may have float-free inflatable liferafts on each side of the vessel sufficient to accommodate all persons aboard instead of davit-launched rafts and launching equipment.
- b. T-Boats operating on routes between Florida and the Bahamas. Under SOLAS Chapter I, Regulation 5 the United States has accepted the provisions of 46 CFR, Subchapter T as equivalent to SOLAS provisions for small passenger vessels operating not more than 30 nm from land on routes between the east coast of Florida and the Bahamas, provided that they are--

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

- (1) Of less than 100 GT;
- (2) Carrying less than 50 passengers;
- (3) Certificated by the Coast Guard for a 100-nm (180 km) ocean route;
- (4) Equipped with inflatable liferafts for all persons aboard;
- (5) Equipped with a LORAN C set and a fathometer; and
- (6) Equipped with two fixed bilge pumps, which may be combination bilge/fire pumps.

NOTE: In accepting these provisions, the U.S. has taken into account the proven reliability of vessels constructed according to the requirements of Subchapter T, the sheltered nature of the area, and available search and rescue resources.

K. INSPECTION FOR MANNING REQUIREMENT EXEMPTION FOR VESSELS WITH GMDSS

In 1988, the international maritime community agreed to replace the radiotelegraph as the required installation with the Global Distress & Safety System (GMDSS), an automated ship shore distress and safety radio communications system that relies on satellites and advanced terrestrial systems.

Accordingly, the FCC adopted rules implementing the international GMDSS requirements in 47 CFR 80 for U.S. vessels in 1992.

Section 206 of the Telecommunications Act of 1996 eliminated the radiotelegraph carriage requirements for each GMDSS-equipped vessel. This includes removing the Radio Officer requirement from a vessel's manning, so long as the Coast Guard determines that the vessel has GMDSS equipment installed and in good working condition.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**1. Definitions**

- a. Cargo Ship Safety Radio Certificate: a certificate issued after inspection confirms that a cargo ship's radio communications equipment that complies with applicable Safety Convention radio requirements.
- b. Cargo ship: any ship that is not a passenger ship.
- c. Global Maritime Distress and Safety System (GMDSS): a worldwide IMO maritime distress system designed to provide the rapid transfer of messages from vessels in distress to units best suited for giving or coordinating assistance. The system includes standardized equipment and operational procedures, unique identifiers for each station, and the integrated use of frequency bands and radio systems to ensure the transmission and reception of distress and safety calls and messages at short, medium and long ranges.
- d. Maritime sea areas: for the purposes of GMDSS requirements, a ship's area of operations is defined as follows:
 - (1) Sea area A1: an area in the radiotelephone coverage of at least one Very High Frequency (VHF) coast station in which continuous Digital Select Calling (DSC) alerting, as defined by the IMO, is available.
 - (2) Sea area A2: an area, excluding sea area A1, in the radiotelephone coverage of at least one Medium Frequency (MF) coast station in which continuous DSC alerting, as defined by IMO, is available.
 - (3) Sea area A3: an area, excluding sea areas A1 and A2, in the coverage of a geo-stationary International Maritime Satellite (INMARSAT) in which continuous alerting is available.
 - (4) Sea area A4: an area outside sea areas A1, A2, and A3.
 - (5) Maritime sea areas are delineated in the IMO Publication, GMDSS Master Plan of Shore-Based Facilities (GMDSS Circ.7).
 - (6) Passenger Ship: any ship that carries or is licensed or certificated to carry more than twelve passengers.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS

- (7) Passenger Ship Safety Certificate: a certificate issued by the Commandant of the Coast Guard after inspection verifies that a passenger ship complies with the requirements of SOLAS 74/78, including radio communications equipment.

2. Applicability

The below policy applies to U.S. cargo ships of 1,600 GT and more, and all U.S. passenger ships.

3. GMDSS Compliance Determination

To determine whether a vessel has the required GMDSS equipment installed and in good working condition, the OCMI must ensure that it meets the following requirements:

- a. Cargo Ship Safety Radio Certificate. A vessel must carry a valid Cargo Ship Safety Radio Certificate or Passenger Ship Safety Certificate. The Certificate must be posted in a prominent and accessible place on the ship.
 - b. GMDSS radio operators. A GMDSS equipped vessel must carry at least two persons with GMDSS Radio Operator's Certificates for distress and safety radio communications purposes, one of whom has to be designated as the primary operator during an emergency. (As specified in 47 CFR 13.2.)
 - c. Maintenance requirements. Required GMDSS radio equipment must be maintained to the requirements and performance standards specified in 47 CFR Part 80. The ship's maintenance program should make explicit reference to GMDSS equipment to ensure that on-board or shoreside capabilities are taken into account.
- (1) On ships engaged on voyages in sea areas A1 and A2, the availability of functioning GMDSS equipment must be ensured by—
- (a) Duplication of equipment;
 - (b) Shore-based maintenance; or
 - (c) At-sea electronic maintenance capability; or

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

- (d) Any combination of these.
- (2) On ships engaged on voyages in sea areas A3 and A4, the availability of functioning equipment must be ensured by using a combination of at least two of the following methods:
 - (a) Duplication of equipment.
 - (b) Shore-based maintenance.
 - (c) At-sea electronic maintenance capability.
- (3) Maintenance methods. To determine the adequacy of the maintenance methods specified above, the OCMI must check the following:
 - (a) Duplication of equipment. If the vessel uses duplication of equipment, it must meet the requirements in 47 CFR 80.1105(g).
 - (b) Shore-based maintenance. Demonstration of shore-based maintenance should be provided in the form of a contract or other agreement between the vessel and a shore-based electronics maintenance company. The ship's master is responsible for providing sufficient information to satisfy the OCMI. Means for enforcing this requirement are still being developed and are subject to change.
 - (c) At-sea electronic maintenance capability. A vessel using this method must carry at least one qualified GMDSS Radio Maintainer. GMDSS Radio Maintainer must hold one of the following licenses:
 - i. FCC GMDSS Radio Maintainer's License.
 - ii. Merchant Mariner's Certificate (MMC).
 - iii. Appropriately endorsed STCW certificate.
 - iv. Scope of inspection. The FCC will determine that a vessel has GMDSS equipment installed and in good working condition.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS

- aa. The Coast Guard inspection conducted to determine if a vessel meets the exemption requirements will include, at a minimum, the documentation check specified above in Paragraphs F.3.a through F.3.c.
- bb. The OCMI may also check entries in the Radiotelephone Log to ensure that GMDSS equipment has been tested to demonstrate it is capable of meeting all distress and safety functions prior to the ship departing each port, as required by 47 CFR 80.1105(e) and 80.409(e). The OCMI may ask the master how these tests are performed.
- cc. The OCMI may also ask the GMDSS operator to demonstrate an ability to communicate over at least two GMDSS systems, show that the Navigational Telex (NAVTEX) and INMARSAT SafetyNET receivers are working, or show the EPIRB built-in test works.
- dd. If the OCMI has any doubts or concerns about the technical adequacy of the GMDSS equipment installation, the suitability of electrical wiring connecting components of the equipment, or the proper maintenance and efficient operation of the GMDSS equipment, they should consult with the local FCC representative before taking further action.

4. Documentation

Once the OCMI has checked the vessel for compliance with the requirements specified above and made the determination that a vessel's GMDSS equipment is installed and in good working condition, the Radio Officer requirement should be removed from the vessel's manning and its COI endorsed with the following:

"This vessel is equipped with GMDSS and shall be provided with a minimum of two persons who possess certificates issued to them from the Federal Communications Commission attesting to their qualification in the operation of GMDSS, and if the at-sea maintenance method is chosen, at least one person possessing a certificate issued to them from the Federal Communications Commission attesting to their qualification for maintaining the GMDSS."

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS****L. EXEMPTION REQUESTS FROM RADIO DIRECTION-FINDING (RDF) CARRIAGE REQUIREMENTS**

SOLAS 74/78 requires all vessels 1,600 GT or greater, engaged on international voyages, to be fitted with a Radio Direction-Finding (RDF) equipment.

The OCMI/COTP may grant an exemption from this requirement to U.S. ships that fully comply with the GMDSS requirements contained in 47 CFR Part 80, Subpart W, and have an operable Global Positioning System (GPS) receiver installed.

1. Review for Exemption

Upon receipt of a request for an exemption from the RDF carriage requirements in SOLAS 74/78, the OCMI will check to ensure that the ship in question fully complies with the following requirements:

- a. Compliance with GMDSS. The ship must be in full compliance with GMDSS requirements. A ship is considered in compliance with GMDSS requirements if it meets the criteria found in K of this Chapter.
- b. GPS carriage. The ship must have an operable GPS receiver installed.

2. Issuance of Exemption

If the OCMI/COTP finds that a ship meets the requirements, an Exemption Certificate will be issued to grant the exemption. Once issued, the Exemption Certificate must be attached to the applicable Safety Certificate (either the Cargo Ship Safety Equipment Certificate or Passenger Ship Safety Certificate). Figures E2-L1 and L2 provide an example of a completed Exemption Certificate. The Exemption Certificate will include the following information:

- a. The authority for this exemption is Regulation V/12(p).
- b. The requirement that the ship is exempted from is Regulation V/12(p).
- c. The condition on which the Exemption Certificate is granted is: "This ship must comply with the GMDSS requirements found in Title 47, Code of Federal Regulations, Subpart W."

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS**CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS**

- d. The Exemption Certificate will be valid until the Safety Certificate to which it is attached expires.

NOTE: More information on sea areas and GMDSS, including the FCC rules, may be obtained from the Office of Communications Systems, Spectrum Management Division (G-SCT-2) at (202) 267-2860, email: cgsoms@comdt.uscg.mil, or on the internet at <http://www.navcen.uscg.mil/marcomms/gmdss/gmdss.htm>

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS

Figure E2.L.-1: SOLAS Exemption Certificate for GMDSS (front page)

OMB APPROVAL 2-15 (09)

EXEMPTION CERTIFICATE

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, as amended

under the authority of the Government of

THE UNITED STATES OF AMERICA

by the UNITED STATES COAST GUARD

Particulars of Ship

Name of Ship	Distinctive Number or Letters	Port of Registry

Gross Tonnage	IMO Number (Note 1)

THIS IS TO CERTIFY:

That this ship is, under the authority conferred by regulation _____

of the Convention, exempted from the requirements of: _____

_____ of the Convention.

Note

1. In accordance with resolution A.600(15) IMO Ship Identification Number Scheme, this information may be included voluntarily.

The Coast Guard estimates that the average burden for this report is 5 minutes. You may submit any comments concerning the accuracy of this burden estimate or any suggestions for reducing the burden to: Commandant (3-MVL), U.S. Coast Guard, Washington, DC 20593-0001 or Office of Management and Budget, Paperwork Reduction Project (2115-GC36), Washington DC 20503.

DEPT. OF TRANSP., USCG, CG-667 (Rev. 6-93)

Page 1 of 2

PREVIOUS EDITIONS ARE OBSOLETE

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 2: INSPECTIONS RELATIVE TO SOLAS REQUIREMENTS

Figure 9.L.-1: SOLAS Exemption Certificate for GMDSS (back page)

EXEMPTION CERTIFICATE	
Conditions, if any, on which the Exemption Certificate is granted: <u>This ship must comply with the GMDSS requirements found in Title 47, Code of Federal Regulations, Subpart W.</u>	
Voyages, if any, for which the Exemption Certificate is granted: _____	
This certificate is valid until <u>31 DEC 00</u> subject to the <u>Cargo Ship Safety Equipment Certificate,</u> to which this certificate is attached, remaining valid.	
Issued at : <u>Marine Safety Office, Meadow Creek, West Virginia</u> Place of Issue of Certificate	
<u>01 JAN 97</u> Date of Issue	<u>D. Pettry, CAPT, USCG</u> Officer in Charge, Marine Inspection, U.S. Coast Guard

DEPT. OF TRANSP. USCG CG-967 Rev. 8-90 Page 2 of 2

Figure 9.L.-2: GMDSS Exemption Evaluation Checklist

E2 - 32

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

A. INTRODUCTION

On October 19, 1996, the President signed into law the U.S. Coast Guard Authorization Act (**CGAA**) of 1996 (Public Law 104-324). Section 600 of this **CGAA** added Chapter 32 to Title 46 of the U.S. Code, entitled "Management of Vessels."

The Secretary of Homeland Security delegated to the Commandant of the Coast Guard authority to carry out the functions and responsibilities and exercise the authorities in the CGAA of 1996. See Section II.1. of DHS Delegation 0170.1 dated June 20, 2003.

Pursuant to this delegation of authority, the Coast Guard developed regulations in 33 C.F.R. Part 96 to implement the provisions contained in 46 U.S.C. Chapter 32.

Pursuant to 33 C.F.R. § 96.210, the requirements for Safety Management Systems (SMS) are mandatory for all vessels engaged on a foreign voyage that call in U.S. ports or for all U.S. vessels engaged on a foreign voyage, and which--

- a. Carry more than 12 passengers; or
- b. Are 500 GT **ITC (GRT if GT ITC not assigned)** or more; and are:
 - (1) Oil tankers;
 - (2) Chemical tankers;
 - (3) Gas carriers;
 - (4) Bulk freight vessels;
 - (5) Other freight vessels **(including Offshore Supply Vessels, Towing Vessels, Oceanographic Research Vessels);**
 - (6) High speed craft; or
 - (7) Self-propelled mobile offshore drilling units (MODUs).

All U.S. requirements are consistent with the International **Safety Management (ISM)** Code and Chapter IX (**Management for the Safe Operation of Ships**) of the **International Convention for the Safety of Life at Sea, 1974, (SOLAS)**. Vessels that **are** on U.S. domestic routes or are engaged on foreign voyages but do not meet the above

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

applicability may elect to receive voluntary ISM Code certification under this program (see Paragraph C.4 of this Chapter).

1. References

- a. **International Convention for the Safety of Life at Sea, 1974, (SOLAS) as amended; Chapter IX – Management for the Safe Operations of Ships**
- b. **International Maritime Organization (IMO) Resolution A.741(18), as amended by MSC.104(73), MSC.179(79), MSC.195(80), MSC.273(85), and MSC.353(92) - The International Safety Management Code.**
- c. **International Maritime Organization (IMO) Resolution A.1071(28), Revised Guidelines on the Implementation of the International Safety Management (ISM) Code by Administrations.**
- d. **NVIC 04-05, Port State Control Guidelines for the Enforcement of Management for the Safe Operation of Ships (ISM Code).**
- e. **46 U.S.C. Chapter 32.**
- f. **33 C.F.R. Part 96, Rules for the Safe Operation of Vessels and Safety Management Systems.**
- g. **46 C.F.R. Parts 2, 8, 31, 71, 91, 107, 115, 126, 175, 176, and 189.**
- h. **U.S. Coast Guard Safety Management System(SMS) Student Guide.**
- i. **U.S. Coast Guard International Safety Management Code Job Aid for Small Passengers Vessels.**
- j. **International Association of Classification Societies (IACS), Procedural Requirements for ISM Code Certification (PR9).**
- k. **International Association of Classification Societies (IACS), Procedure for the Selection, Training, Qualification and Authorization of Marine Management System Auditors (PR10)**

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- l. **International Association of Classification Societies (IACS), Reporting by Surveyors of Deficiencies relating to Possible Safety Management System Failures (PR17).**
- m. **International Maritime Organization (IMO) MSC/Circ. 1059 – MEPC/Circ.401, Procedures Concerning Observed ISM Code Major Non-Conformities.**
- n. **Marine Safety Information Bulletin 003-14.**

2. What is the International Safety Management (ISM) Code?

On November 4, 1993, the IMO adopted resolution A.741(18), International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management (ISM) Code).

To make compliance with the ISM Code mandatory, the IMO amended the Convention for the Safety of Life at Sea (SOLAS), 1974, by adopting Chapter IX, Management for the safe operation of ships.

The IMO provided guidance on implementation of the requirements of SOLAS Chapter IX in Resolution **A.1071(28), Revised** Guidelines on the Implementation of the International Safety Management (ISM) Code by Administrations.

46 U.S.C. **Chapter** 32 required the development of U.S. regulations for U.S. vessel compliance consistent with the ISM Code.

3. Applicability

- a. Compliance with the ISM Code, **Chapter IX of SOLAS**, and 33 C.F.R. Part 96 is mandatory for the following U.S. and foreign vessels engaged on foreign voyages:
 - (1) Vessels carrying more than 12 passengers, including passenger high speed craft.
 - (2) Oil tankers, chemical tankers, gas carriers, bulk carriers, and freight high speed craft of 500 GT **ITC (GRT if GT ITC not assigned)** or more.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- (3) Freight vessels and self-propelled MODUs of 500 GT **ITC (GRT if GT ITC not assigned)** or more **(including Offshore Supply Vessels, Towing Vessels, and Oceanographic Research Vessels)**;
- b. The requirements of the ISM Code are not mandatory for--
- (1) Public vessels used for non-commercial purposes;
 - (2) Barges;
 - (3) Recreational vessels not engaged in commercial service;
 - (4) Fishing vessels; or
 - (5) Vessels operating on the Great Lakes or its **tributaries** and connecting waters.

NOTE: For U.S. vessels, the public vessel exemption is defined in 46 U.S.C. § 2101 and § 2109, and in 33 C.F.R. § 96.210(b)(5).

- c. Any U.S. vessel not required to meet 33 C.F.R. Part 96 may voluntarily have its SMS certificated **and have a Safety Management Certificate (SMC) and Document of Compliance (DOC) issued** if it meets the **ISM Code**.

4. U.S. Law vs. International Convention Definitions

The terms used to describe ship types in **Title 46 U.S. Code and Title 33 of the CFR** differ from the **terms** used in SOLAS Chapter IX and the ISM Code. The difference is relevant only in terms of terminology use; it does not affect the types of ships that must comply.

Table 1 provides a cross reference between ship types **described** in U.S. law and those **described** in SOLAS Chapter IX.

Table 1: Terms Used in U.S. Law/Regulation and Their SOLAS Equivalents for the ISM Code	
Term used in U.S. law/regulations	Term used in SOLAS Chapter IX
Vessel transporting more than 12 passengers	Passenger ship
Tanker	Oil tanker, chemical tanker and gas

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

	carrier
Bulk freight vessel	Bulk carrier
Freight vessel	Cargo ship
Offshore Supply Vessels, Towing Vessels, Oceanographic Research Vessel	Other Cargo Ship

- a. Bulk carrier definition. **At the** November 1997, SOLAS Conference on the Safety of Bulk Carriers a clarification of the SOLAS Chapter IX, Regulation 1.6 definition of "bulk carriers" was established **as follows:**

“Only those ships which meet any of the following three definitions will be considered a "bulk carrier" for purposes of compliance with the ISM Code. Other vessels, which carry bulk cargos, but do not meet one of the three definitions, are not considered bulk carriers for the purpose of ISM.”

- b. Typical cross sections of the types of ships listed below are provided in Figure 1.

- (1) A general bulk carrier is a ship that is--

- (a) Constructed with a single deck;
- (b) Constructed with top-side tanks and hopper side tanks in cargo spaces; and,
- (c) Intended primarily to carry dry cargo in bulk.

- (2) An ore carrier is a ship that is--

- (a) A single deck ship;
- (b) Constructed with two longitudinal bulkheads;
- (c) Constructed with a double bottom throughout the cargo region; and
- (d) Intended for the carriage of ore cargoes.

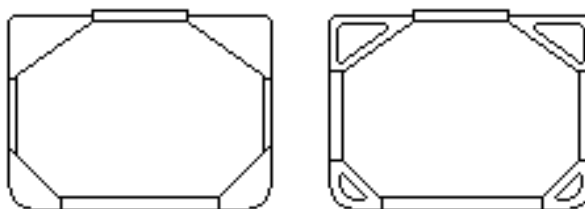
- (3) A combination carrier is a ship that is a tanker designed to carry oil or alternatively solid cargoes in bulk (SOLAS 74, Chapter II-2, Regulation 3.14).

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

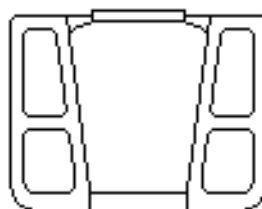
CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

FIGURE 1: TYPICAL CROSS SECTIONS FOR THE THREE TYPES OF BULK CARRIERS UNDER THE ISM CODE

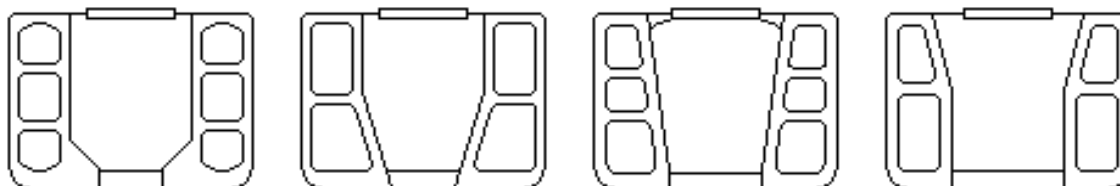
General Bulk Carrier



Ore Carrier



Combination Carrier



B. DISCUSSION

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

1. Objectives

The objectives of the ISM Code, **contained in SOLAS Chapter IX**, and 33 C.F.R. Part 96 are to ensure safety at sea, prevent the occurrence of human injury or loss of life, and avoid environmental and property damage. **The ISM Code requirements outline processes of communication, training, and actions to continuously maintain the ship in a state of compliance with safety and environmental protection regulations. Specifically, the ISM Code seeks to support and encourage a “safety culture” intended to address issues of human error and human omissions while continually improving compliance with the applicable regulations. To accomplish its objectives, the ISM Code requires owners of ships, or other organizations such as the managers, or bareboat charterers, who have assumed responsibility for ship operations, to implement and maintain Safety Management Systems (SMS) for their companies and ships.**

2. Key Elements

The implementation of a SMS requires a company to document its management procedures and policies. This ensures that conditions, activities, and tasks affecting safety and environmental protection, both ashore and on board vessels, are planned, organized, executed, and checked in accordance with regulatory and company requirements. For many companies, this means formalizing long-established processes and placing the associated documents under a greater degree of control. For others, establishing an effective SMS is a more comprehensive process.

The SMS should be used as a tool to ensure that **applicable federal law and regulatory** requirements are incorporated and understood by personnel responsible for complying with them. For instance, if Federal pollution prevention or vessel safety requirements change, the SMS can be used to provide management direction to the vessel officers and crew to ensure **timely implementation of the new requirements across a company’s fleet of vessels. Similarly, to compel systemic accountability and to reap the benefits of lessons learned from externally documented deficiencies (such as those identified by Vessel/Facility Inspection Requirements, Form CG-835s, conditions of class, or port state control deficiencies), a vessel’s SMS should include a provision for documenting noted deficiencies and the corresponding corrective action.**

Consistent with 33 C.F.R. § 96.240 and ISM Code Part A/1.4, key elements of the SMS include documented company procedures establishing the following:

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- a. A company safety and environmental protection policy.
- b. Instructions and procedures to ensure that vessels are operated in accordance with relevant flag State and international regulations.
- c. Defined levels of authority and lines of communication between and among shore and vessel personnel.
- d. Procedures for reporting accidents and non-conformities with the provisions of the ISM Code.
- e. Procedures for preparing for and responding to emergencies.
- f. Procedures for internal audits and management reviews.
- g. **Procedures and processes for management review of company internal audit reports and correction of non-conformities that are reported by these or other reports (Required under 33 CFR 96.240(g)).**

3. SMS Documents

The documents used to describe and implement the SMS may be referred to as the safety management manual. Companies are not required to keep the documentation in a manual form but may choose to maintain the documentation in the form they consider most effective (**e.g., electronically**). Whatever form they choose to keep their SMS, the information in it must be readily available to all the persons who are required to understand and apply that system in the course of their normal duties both ashore and afloat **in accordance with 33 C.F.R. § 96.250. Under ISM Code Part A/11, companies are to** establish and maintain procedures for the control of their SMS documentation. These controls must ensure that--

- a. Valid documents are available at all relevant locations (including all vessels);
- b. Changes to documents are reviewed and approved by authorized personnel; and
- c. Obsolete documents are promptly removed.

4. SMS Certification Process

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

Certification of a SMS for a vessel requires the vessel's flag administration to make two determinations: first, that the company responsible for the vessel has implemented a SMS that complies with the requirements of the ISM Code (33 C.F.R. Part 96 for U.S. vessels) and, second, that the vessel is being operated in accordance with the approved SMS.

Simply put, an effective SMS can be reduced to this simple philosophy: "say what you do, do what you have said and be able to prove it!" A goal of the ISM Code is to define a process of continuous communication, training, and actions that constantly maintain the vessel in a state of full compliance with safety and environmental protection regulations.

The ISM Code does not prescribe the manner in which this must be done, rather it allows companies to define their own way of reaching that goal **taking into account the prescribed functional requirements for a SMS**. There is no one right way to do this because each successful SMS must be built to fit the individual company culture, organization, service and work environment. What may work for one company may not work for another.

Inspectors and auditors must, therefore, be vigilant to ensure that companies have an SMS that meets the objectives of the ISM Code and is one that the company and its employees can effectively use. A SMS that only exists to satisfy what the company sees as just another regulation, for yet another manual that will sit on the shelf, **does not meet the spirit or intent** of the ISM Code.

To this end, a company's success at fulfilling its SMS is proportional to the organization's commitment to achieving those goals amidst all the other priorities competing for its attention, and hence the importance of clear commitment to those safety objectives starting at senior management level. Regular review of safety performance and performance against the safety objectives at management level reinforces the importance of safety to the organization's success. While management is required to demonstrate commitment through their actions and involvement, all employees and crewmembers need to be involved for the system to be fully functional, integrated, and operationalized. Accordingly, all employees and crewmembers should be aware of the influence that their action or inaction may have on the effectiveness of the SMS with a view of continuous improvement.¹

5. SMS Audit Process

Every initial ISM Code certification audit will be in two parts.

¹ Adapted and modified from Safe Work Australia – Guide for Major Hazard Facilities: Safety Management Systems

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

First, an auditor from a **recognized organization authorized by** the flag administration will perform an **initial verification (i.e., external audit)** of the company's SMS and onshore operations. The company **management** audit comes first because the overall use of the system defines the SMS for the company's personnel, whether they are shoreside or vessel employees.

Once the company has successfully completed the **initial verification**, the company, or any person that has assumed or agreed to assume responsibility for operation of the vessel from the company, will be issued a Document of Compliance (DOC) certificate. The company must receive a DOC before auditors can proceed to the second part of the audit.

For the second part of an initial ISM Code certification audit, the company's vessel(s) will be audited on their use of the SMS. Each individual vessel that comes under the company DOC and is found to be operating in accordance with a shipboard SMS that meets the required elements of the ISM Code, will be issued a Safety Management Certificate (SMC). A vessel's compliance with the ISM Code, is always dependent on it being operated by a company holding a valid DOC. For this reason, a copy of the company's DOC and the original of the vessel's SMC must be maintained onboard the vessel for viewing by flag-state inspectors or port state control officers. IMO Resolution **A.1071(28)** provides guidance on the requirements for the issuance of these certificates, including specific guidelines for the issuance of interim certificates.

6. Document of Compliance (DOC) Certificates and Safety Management Certificates (SMCs)

- a. Document of Compliance (DOC) certificates. A company is issued a DOC following a satisfactory **initial verification (i.e., external audit)** of a company's SMS. The SMS must be in effect for a minimum of 3 months prior to the issuance of the initial **(full-term) DOC (see paragraph B.7.a. of this Chapter for discussion on the Interim DOC Certificate)**.
 - (1) The external audit determines whether the SMS complies with the requirements of the ISM Code and/or 33 CFR Part 96, and is effectively implemented and used by the company's personnel.
 - (2) The DOC is valid for the types of vessels on which the company's initial verification audit is based. **Consistent with ISM Code Part B/13.2, the DOC should be issued for no more than 5 years (60 months). The DOC is subject to annual verification audits within 3 months before or after the**

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

certificate's anniversary date. (See ISM Code Part A/1.1.11 for the definition of "anniversary date.")

- (3) Many U.S. vessels are owned by non-maritime interests such as a bank or a large parent corporation. Typically, these institutions do not take a direct hand in the operation of the vessel; their interest is confined to finance. Because of this limited involvement with the vessel's day-to-day operation, these companies may not want to be part of the SMS. Section 3.1 of the ISM Code requires a company to designate, in writing, the person or company that will act for the company for the purpose of the SMS (this is **typically** the vessel's operating company).
- (4) Delegation is allowed by the ISM Code and 33 C.F.R. Part 96, provided a letter of designation has been issued by the company of record to the flag administration designating the company for the SMS. For U.S. vessel(s), **this company designation letter is maintained by the National Vessel Documentation Center (NVDC) CSR-Desk in accordance with MSIB 003-14**, with a copy to the designated company.
- (5) Inspectors should note that the company listed on the Certificate of Inspection (COI) might not always be the company listed on the DOC **or SMC**.
- (6) For companies that do take a direct and continuing hand in the day-to-day operation of a vessel, delegation of SMS responsibility to another party would not be appropriate.
- (7) **Occasionally, the Coast Guard receives requests from U.S. ship owners to designate ship management companies that are based outside of the U.S. as the "company" for the purpose of the ISM Code. Generally, there is no objection to a U.S. company having a satellite or subordinate office that is physically located outside of the United States, provided that the satellite office and its personnel are still essentially part of the operations of the US based company. However, it is not permitted for U.S. owners to delegate the DOC to unassociated foreign ship management companies that are located outside of the U.S., and that effectively result in foreign entities becoming the operators of a U.S. ship. Additionally, when the U.S. owner is a subsidiary of a global company the headquarters of which is located outside of the U.S. it is not allowable for the U.S. owner/operator to then revert the DOC to the parent foreign company or its foreign components for operation. This sometimes occurs when foreign companies create a U.S. component simply to gain eligibility for contractual work that requires the vessel to be U.S. flagged.**

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

Responsibility for the operation of a U.S. ship must always be principally associated with a U.S. entity that is subject to U.S. law, even if the U.S. company's physical location is outside of the United States. The above withstanding, contact CG-CVC-1 for case-by-case determinations.

- (8) **Multiple DOCs issued to a single company, by various recognized organizations, for the same type of vessel are not permitted. The reason that a company should only have one DOC for the same type of vessel, is to avoid situations where, in the event a DOC has been revoked for cause, the company cannot then rely on another DOC issued for essentially the same SMS but by a different recognized organization. Possessing a "back-up" or auxiliary DOC does not meet the spirit or intent of the ISM Code. Multiple DOCs issued to a single company, by various recognized organizations, for different types of vessels are discouraged as systematic non-conformities can be indicative of a flawed or ineffective SMS regardless of vessel type or DOC registrar.**
- (9) **Regardless of MSC/Circ.762 - MEPC/Circ.312, a DOC issued under the authority of the United States of America only covers vessel types that are flying the U.S. flag. Initial audits are required for the addition of other vessel types under U.S. flag. There are unique U.S. requirements (under 33 C.F.R. Part 96) that need to be addressed in the SMS and therefore an initial audit is required to verify that these elements have been included in the Company SMS.**
- b. Safety Management Certificates (SMCs). A vessel is issued an SMC following an initial audit that verified its SMS is in compliance with the requirements of the ISM Code and/or 33 C.F.R. Part 96.
 - (1) **The SMC cannot be issued unless the DOC for the company responsible for the operation of the vessel is valid, the SMS is applicable to a vessel type listed on the DOC, and if the DOC has been issued by a different recognized organization than the organization that issues the SMC, then the recognized organization that issues the SMC must be authorized by the vessel's flag administration. If the DOC was issued by a different recognized organization, the Continuous Synopsis Record (CSR) should be updated accordingly (if applicable).**
 - (2) **Consistent with ISM Code Part B/14.4.3 and 33 C.F.R. § 96.360)b)(6), the external audit must also show that the SMS has been effectively implemented by the vessel's personnel for a minimum of 3 months prior to the initial audit.**

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- (3) **Consistent with ISM Code Part B/13.8 and 33 C.F.R. § 96.340(e)(2), the SMC is valid for 5 years and requires an intermediate external audit and endorsement on the back of the certificate between the second and third anniversary date of the issuance of the SMC.**

7. Interim Certificates

- a. Interim DOC Certificate. **Consistent with ISM Code Part B/14.1 and 33 C.F.R. § 96.350,** an interim DOC is valid for a period of no more than 12 months. The period of validity cannot be extended. An interim DOC cannot be reissued after a 12 month period.
- (1) During the 12 month period of the validity of the interim certificate, the responsible person should ensure that the necessary audits are completed so that the company can be issued a final DOC.
 - (2) An interim DOC may only be issued to facilitate implementation of the ISM Code when a company is newly established or when vessel types are added to an existing SMS and DOC. The purpose of an interim DOC is to allow the company time to completely integrate its operations as a new company or to incorporate a new vessel or vessel type into its SMS capabilities.
 - (3) The interim DOC certificate should be issued only after the company has demonstrated that it has an SMS that meets the objectives of Section 1.2.3 of the ISM Code. The company's SMS is expected to meet the full requirements of the ISM Code within the period of validity of the interim DOC certificate.
- b. Interim Safety Management Certificate (SMC). **Consistent with ISM Code Part B/14.2 and 33 C.F.R. § 96.360,** an interim SMC is valid for a period of no more than 6 months and may only be issued to new vessels on delivery or when a company takes responsibility for an existing vessel that is new to the company. **Consistent with ISM Code Part B/14.4 and 33 C.F.R. § 96.360(b),** an interim SMC should only be issued when the vessel's flag administration, or **a recognized organization authorized by and** acting on the flag administration's behalf, has verified the following:
- (1) The responsible company's DOC or interim DOC is relevant to that type of vessel;

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- (2) The SMS includes key elements of the ISM Code and has either been assessed during the responsible company's external DOC audit or demonstrated during the company's evaluation for an interim DOC;
 - (3) The Master and relevant senior officers are familiar with the SMS and the plans for its implementation;
 - (4) Essential instructions or procedures **on the SMS** are provided to the vessel crew prior to sailing;
 - (5) The responsible company has confirmed an audit date for the vessel within 3 months; and,
 - (6) The information **contained in** the SMS is in a working language or languages understood by the vessel's crew.
- c. An interim SMC can be extended up to an additional 6 months from the date of expiration in exceptional circumstances (**ISM Code Part B/14.3**). **Extension of the interim SMC** is contingent upon specific flag administration approval. For U.S. vessels, this must be approved by Commandant (CG-CVC).

8. Extension of Certificates and Audits

Extension of any ISM certificate should not be encouraged as owners/operators have sufficient and timely notice in which to complete the functional requirements of their SMS. The ISM code allows for the extension of the validity of an Interim SMC for a period of 6 months. This should only be done in exceptional circumstances as discussed in paragraph B.7.c of this Chapter.

No extensions are permitted to full term certificates. In extenuating circumstances Commandant (CG-CVC-1) may consider approving a short-term certificate.

9. Short-term Certificates

- a. **Non-Conformities.** If during an audit (DOC or SMC) it is found that the company/ship does not merit the issuance of a full term certificate due to the number of non-conformities, a short term certificate valid for 3 months is to be issued so that another audit can be carried out prior to the issuance of a

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

full term certificate. This is to be done in consultation with Commandant (CG-CVC).

- b. **Major Non-Conformities.** If during an audit (DOC or SMC) it is found that the company/ship does not merit the issuance of a full term certificate due major non-conformity(ies), a short term certificate valid for 3 months is to be issued so that another audit can be carried out prior to the issuance of a full term certificate. This is to be done in consultation with Commandant (CG-CVC), following the procedures in MSC/Circ.1059 and MEPC/Circ.401 on the Procedures Concerning Observed ISM Code Major Non-Conformities as amended below;

- (1) A major non-conformity may be downgraded to a non-conformity if the Administration or authorized organization is satisfied that effective corrective action is being taken. A major non-conformity found on a ship should be downgraded before the ship sails. Where a major non-conformity against the DOC is downgraded to a non-conformity, the impact of the safety management system failure should be taken into due consideration for any associated ships (see NOTE). A time period, not exceeding three months, should be allowed for the completion of the necessary corrective actions. Where the Administration allows a major non-conformity to be downgraded, at least one additional external audit should be carried out within the time frame indicated in the agreed-upon corrective action plan to verify that effective actions are taken.

NOTE: Following the downgrading of a major non-conformity, the associated SMCs continue to remain in place without any additional verification provided that no other major non-conformity remains unresolved. However, additional shipboard audits may also be carried out if deemed necessary by Commandant (CG-CVC).

- (a) In the event that a major non-conformity is downgraded to a non-conformity, a Short-Term SMC or DOC, as appropriate, should be issued to coincide with the additional audit as mentioned in paragraph (1), not to exceed three months.
- (b) In special circumstances, Commandant (CG-CVC) may, after verifying substantial progress toward full implementation of the corrective action through fulfillment of milestones established in the corrective action plan pertaining to the specified requirement, allow issuance of a subsequent Short-Term SMC or DOC, as appropriate, not to exceed three months. At least one additional audit should be

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

carried out within the time frame indicated to verify that effective actions are taken.

- (c) A third, consecutive, Short-Term SMC may not be issued, unless;
 - i. the Safety Management Certificate is subject to an additional verification, to the extent and scope of an initial verification; and,
 - ii. the Document of Compliance is subject to an additional verification, to the extent and scope of an initial verification.
- (d) A third, consecutive, Short-Term Document of Compliance may not be issued, unless;
 - i. the Document of Compliance is subject to an additional verification, to the extent and scope of an initial verification;
 - ii. a verification to the scope of an initial verification has been carried out on board a representative sample of ships. At least one ship of each type operated by the company should be verified; and,
 - iii. effective fulfillment of the milestones established in the corrective action plan and substantial progress toward full implementation of corrective action has been verified through means of objective evidence.

C. COAST GUARD ENFORCEMENT

The Coast Guard's ISM Code enforcement policy is divided into two major areas of responsibility. The first area is ensuring compliance of U.S. flag vessels with the ISM Code. The Coast Guard is the flag administration's agency for U.S. vessels' **compliance with** the ISM Code. The Coast Guard administers this responsibility through a delegation to recognized and authorized organizations. The second area of responsibility is verification of ISM Code compliance on foreign vessels entering U.S. ports. For detailed guidelines for the enforcement of the ISM Code on foreign vessels subject to the U.S. Port State Control program, see NVIC 04-05. A thorough review of this Chapter, NVIC 04-05, and 33 C.F.R. Part 96 is recommended for all enforcement personnel. The remainder of this Chapter will address the U.S. vessel program only.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

1. Jurisdiction - Flag State

Applicability of the ISM Code to U.S. vessels by service and route is specified in the applicable subchapter of Title 46 CFR. If a vessel is required to have ISM certification, specific certification must be in accordance with the provisions of 33 C.F.R. Part 96 and Chapter IX of SOLAS. On U.S. vessels, ISM Code audits and issuance of ISM Code certificates are performed exclusively by organizations recognized and authorized by Commandant, in writing, to act on behalf of the United States. These organizations must meet specific requirements as specified in 46 C.F.R. Part 8 and 33 C.F.R. Part 96, Subpart D. Officers in Charge, Marine Inspection (OCMIs) do not perform ISM Code audits or issue ISM Code certificates.

2. General Guidelines for Enforcement on U.S. Vessels

- a. To obtain ISM certification, as defined in 33 C.F.R. Part 96, a company must select one of the organizations authorized by the Commandant to issue certificates. The company may obtain a list of such organizations from the OCMI. Commandant (CG-ENG) maintains an up to date list and can answer questions that arise regarding the authorization of an organization by the Coast Guard.
- b. To apply for **an** SMS certification waiver or extension or **to** request approval for an equivalency to satisfy compliance with 33 C.F.R. Part 96 (the ISM Code), a company should route their request through the authorized ISM Code-certification organization **that** they have contracted. The organization will provide **its** recommendation for approval or denial and forward the **recommendation** to Commandant (CG-CVC) for final approval or denial.
- c. Commandant (CG-CVC) and Commandant (CG-5P-TI) oversee authorized organizations. They work with OCMI's to ensure that ISM Code audits and certifications are carried out in accordance with the provisions of law, regulation, international convention, and written agreement between the Coast Guard and the authorized organization.
- d. Several **recognized** organizations may be **authorized** to act on behalf of the Coast Guard for issuance of ISM Code certificates.
- e. **Although designed for Port State Control, NVIC 04-05 includes checklists and guidelines ("ISM Compliance Assessment Tool")** that can be a useful tool for marine inspectors checking for ISM Code safety management system compliance.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- f. The Coast Guard has developed a **Safety Management System (SMS) Student Guide** that provides Coast Guard personnel with general knowledge of the ISM Code requirements. This Student Guide is maintained by the Marine Inspection and Investigation School (T-MII) at **Training Center Yorktown** and **is available to Coast Guard personnel as part of the *Marine Inspector Student Notes*.**
- g. Vessels that do not have a Master. On a U.S.-certificated vessel manned by a Person-in-Charge (PIC) in the place of a Master (most likely a barge), the PIC is responsible for all of the duties and functions that the ISM Code and the vessel's SMS require of a Master.

3. Legal and Regulatory Authority for U.S. Vessels

Legal authority for enforcing the ISM Code on U.S. vessels is contained in 46 U.S.C. § 3203. Regulations for the applicability and implementation of the ISM Code are contained in 33 C.F.R. Part 96, Subparts A, B and C. Vessel-specific Subchapters in Title 46 C.F.R. include SMS requirements for specific vessel types.

4. Voluntary Compliance by the U.S. Domestic Fleet

U.S. vessels engaged on foreign voyages and subject to SOLAS **Chapter IX** must comply with the ISM Code. There is a group of U.S. vessels that are not subject to SOLAS **Chapter IX** and, therefore, **are** not required to comply with the ISM Code. This group of vessels includes those engaged only on domestic voyages and government-owned, non-commercial vessels operated by the U.S. Navy's Military Sealift Command (**MSC**) or the U.S. Maritime Administration's (**MARAD**) Ready Reserve Force (**RRF**). **However, it should be noted that compliance with the ISM Code is a requirement for participation in the Alternate Compliance Program (ACP) and that RRF vessels must comply with applicable requirements of the international conventions that have been adopted into U.S. laws and regulations (e.g., ISM Code is contained in 33 C.F.R. Part 96). Consult the USCG-MSC MOA as well as the USCG-MARAD MOU for additional information.**

The Coast Guard seeks to encourage these vessels to voluntarily comply, to the maximum extent possible, with the SMS requirements of the ISM Code. These vessels' companies are encouraged to seek voluntary ISM Code certification and follow the guidelines for mandatory compliance.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

The Coast Guard recommends that companies **that** voluntarily comply with the ISM Code use the services of the organizations recognized and authorized by the Coast Guard for mandatory certification. This will allow the Coast Guard to provide a focused oversight program that will benefit all customers of these authorized organizations.

ISM Code certificates on these vessels are called a Statement of Voluntary Compliance (SOVC). This term describes both the DOC issued to the parent organization and the SMC issued to the vessel(s). Issuance and revocation of the SOVC is administered in a manner identical to required ISM Code certificates, however, revocation of a SOVC will not restrict the operations of any voluntarily-certificated vessel.

It is not necessary for Military Sealift **Command** vessels **that are** in reduced operating status, or engaged in unique missions, to voluntarily comply with the ISM Code.

5. ISM Code Equivalence for Certain Small Passenger Vessels

Under 46 C.F.R. § 175.540, the Coast Guard has established an equivalency to ISM Code compliance for small passenger vessels (**T-boats**) certificated under 46 CFR Subchapter T, that **would otherwise be subject to** the ISM Code. These small passenger vessels, which carry more than 12 passengers on foreign voyages, must meet certain limited operation requirements to be eligible for this program. This applies only to U.S. flag vessels. The requirements are as follows:

- a. For a T-boat's company to apply for equivalency under 46 C.F.R. § 175.540, the small passenger vessel's operation must be Coast Guard-certificated to carry--
 - (1) No more than 150 total persons; or
 - (2) No more than 49 overnight passengers.
- b. The Coast Guard feels that full ISM Code certification, in accordance with 33 C.F.R. Part 96, is too extensive for these vessels **due to** limited company personnel, routes, and operations—therefore, an equivalent certification system was created for these vessels and companies.
- c. 46 C.F.R. § 175.540 **provides for** an equivalent SMS onboard these small passenger vessels in lieu of the normal ISM Code certification.
- d. The Coast Guard administers this equivalent **program** as part of the normal scheduled inspection for certification. These small passenger vessels and companies will not receive either a DOC or **an** SMC. Instead, the vessel's COI will

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

be endorsed with a statement of equivalence to the ISM Code for the specified route.

- e. **A “job aid” has been produced by Commandant (CG-CVC)** to guide small passenger vessel companies through the process of developing their SMS to ensure that the SMS will provide a level of safety equivalent to the ISM Code. These job aids are only a guideline **and can be found online at** <http://www.uscg.mil/pvs/SPV.asp>.
- f. **Prior to completing an inspection that examines a T-boat’s SMS equivalency,** the OCMI should ensure that **the** equivalent SMS **has** been customized to the vessel and company’s operations and procedures.
- g. To apply for an equivalency under **46 C.F.R. § 175.540**, a small passenger vessel company must **submit a written request** to the cognizant OCMI. The written request should communicate how the vessel’s operation meets the requirements for the equivalency and include a copy of their SMS documentation (manual).
- h. If the cognizant OCMI allows a small passenger vessel **to** participate in the SMS equivalency program and its SMS has been inspected and approved by the Coast Guard, the vessel’s COI **will** be endorsed in the vessel operating details with the following statement: “The company’s and vessel’s safety management system meets the requirements of Chapter IX of SOLAS through an equivalency program approved by the U.S. Coast Guard.”
- i. If a small passenger vessel’s company does not apply for equivalency under 46 C.F.R. Part 175, then the vessel’s company is expected to contract with an authorized organization acting on behalf of the United States to complete audits and certification of the company and vessel’s SMS. In these cases, Coast Guard inspectors must verify the issuance of the company’s DOC and SMC by the authorized organization during normal COI inspections. If a small passenger vessel does not have either **of** these international convention certificates or an endorsement of equivalency to Chapter IX of SOLAS, the vessel’s COI may only be endorsed for a route involving domestic operations.
- j. **While** Commandant (CG-CVC) monitors this equivalency program, **implementation of the equivalency program lies with the local OCMI. Small passenger vessel operations that are** eligible to apply for this program are limited to **the following five** OCMI zones: Portland, ME, San Juan, PR, Miami, FL, San Diego, CA, and Seattle, WA.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- k. If an **OCMI office**, other than **the** ones named above, receives an application from a **new vessel company or a vessel that is moving its operation into an OCMI zone that is not part of the equivalency program**, the **OCMI should contact Commandant (CG-CVC) for direction.**

D. DELEGATION OF ISM CODE CERTIFICATION BY THE COAST GUARD TO RECOGNIZED ORGANIZATIONS

1. Authority for Delegation

46 U.S.C. § 3103 provides the Coast Guard's authority to rely on reports, documents, and records of reliable persons as evidence of compliance with Subtitle II of 46 U.S.C., the subtitle which contains the ISM Code for SMS standards.

The December 24, 1997, ISM Code final rule delegated the function of ISM Code external audits and certifications **for** U.S. vessels to recognized/authorized **organizations (hereafter "authorized organizations.")**.

2. Application Process

Recognizing and authorizing organizations to carry out ISM Code certification on behalf of the Coast Guard is the responsibility of Commandant (CG-ENG), Office of Design and Engineering Standards. An organization can achieve recognition by applying in writing to Commandant (CG-ENG) according to the requirements for application provided in 46 C.F.R. 8. After being recognized by the Coast Guard, an organization may apply for authorization to complete ISM Code external audits and certification for U.S. vessels as outlined in 33 C.F.R. Part 96, Subpart D.

Once **an** organization is authorized to act on behalf of the Coast Guard it will be added to a list of **authorized organizations**. **The list of authorized organizations, authorized to carry out specified functions on behalf of the Coast Guard is available to owners and operators of U.S. vessels at <http://www.uscg.mil/hq/cg5/acp/>.** Commandant (CG-ENG) maintains the list of **authorized organizations**.

E. RECOGNITION, AUTHORIZATION, AND OVERSIGHT OF AUTHORIZED ORGANIZATIONS ACTING ON BEHALF OF THE U.S.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

1. Responsibilities of the Deputy Commandant Staffs

This section describes the functions of the Deputy Commandant staffs regarding the application and enforcement of the ISM Code to U.S. and foreign vessels.

- a. Commandant (CG-ENG), Office of Design and Engineering Standards, will:
 - (1) Specify and interpret the 46 C.F.R. Part 8 and 33 C.F.R. Part 96 requirements for organizations applying to the Coast Guard for recognition and authorization to complete ISM Code external auditing (**including initial and follow-on verifications**) and issuing of international certificates;
 - (2) When necessary, revoke recognition or authorization of an organization acting upon the behalf of the Coast Guard;
 - (3) **When** such an organization's recognition or authorization is revoked, **provide guidance** for the orderly transfer of company and vessel ISM Code certificates to another recognized and authorized organization;
 - (4) Maintain and publish a list of recognized organizations that are authorized to conduct ISM Code auditing and certification on behalf of the Coast Guard. **(This is available at <http://www.uscg.mil/hq/cg5/acp/>); and,**
 - (5) Draft and execute an agreement with each recognized and authorized organization. This agreement must specify the duties and responsibilities of the work an organization will **perform when acting pursuant to the authority delegated from the U.S. Coast Guard**. The agreement must specify the duties and responsibilities of both the Coast Guard and the recognized organization. **The agreement must include specific** reports that **the recognized organization must provide** to the Coast Guard, as well as **the** recognized organization's written assurance that the Coast Guard will have access to records and information **that are pertinent to the duties performed by the recognized organization on behalf of the Coast Guard and that Coast guard personnel may observe any aspect of the ISM Code audit or certification process.**
 - (a) Information access is critical to the Coast Guard's oversight of recognized and authorized organizations. **In the performance of its delegated responsibilities, recognized organizations should anticipate providing the U.S. Coast Guard the following information:**

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- i. ISM Code certificates issued, with the date of issuance and recipient's name;
 - ii. Names and training/qualifications records of persons performing audits;
 - iii. Names of companies and vessels undergoing ISM certification;
 - iv. External audit reports and results.
- (b) As the flag administration for all U.S. vessels, the Coast Guard must have on-site and electronic access to all **records and certifications pertaining to a U.S. flag vessel's** mandatory or voluntary ISM certification.
- b. Commandant (CG-CVC), Office of **Commercial Vessel Compliance**, will:
 - (1) Establish enforcement policies and procedures for implementation of the ISM Code;
 - (2) Establish and maintain policies and procedures for the effective oversight of organizations authorized to perform ISM Code audits and **certifications** under **a delegation of authority from the U.S. Coast Guard**. (see paragraph F of this Chapter). **This oversight includes monitoring all notifications for all major non-conformities as well as the status of notifications filed under IACS PR9 and PR17 and coordinating additional USCG oversight as necessary;**
 - (3) **Work with Commandant (CG-5P-TI) and FORCECOM to define qualifications and implement performance support interventions for Coast Guard personnel with regard to ISM Code compliance and enforcement for U.S. and Port State Control programs. Ensure that records are entered into appropriate Coast Guard systems;**
 - (4) Conduct oversight reviews of recognized organization's headquarters, regional, and port offices to **verify** compliance with the requirements of the written authorization agreement between the organization and the Coast Guard;
 - (5) Coordinate with Commandant (CG-5P-TI), District (p) officers, and OCMI's to ensure implementation of oversight, and provide feedback and corrective action to authorized organizations;

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- (6) Maintain a record of letters that show when **an owner/operator** of a U.S. vessel has designated another party as the company **or person that will act for the owner for the** purposes of ISM Code certification, SMS, and vessel management. **See paragraph B.6.a.(3) of this Chapter. These records are maintained by the National Vessel Documentation Center (NVDC) CSR-Desk in accordance with MSIB 003-14;**
 - (7) Coordinate with Commandant (CG-ENG) on the review of organizations' applications **to the Coast Guard for a delegation of authority** to perform ISM Code **certifications**;
 - (8) Advise Commandant (CG-ENG) when evidence exists that an authorized organization's **delegation of authority** should be revoked. Upon receiving and **verifying credible** information of major non-conformities or other failures to **comply with** Chapter IX of SOLAS or 33 C.F.R. Part 96, **coordinate** with the cognizant OCMI, the suspension or revocation of the vessel's SMC or its company's DOC; and,
 - (9) Act as final agency authority regarding the granting of equivalencies, appeals or other decisions regarding the certification of a U.S. vessel's or **U.S. company's** safety management system.
- c. Commandant (CG-5P-TI), **Traveling Inspectors**, will:
- (1) Oversee by observation mandatory ISM Code audits of the DOC and SMC performed on U.S. vessels by authorized organizations and companies;
 - (2) Perform ISM Code compliance oversight when conducting visits onboard U.S. vessels enrolled in the Alternate Compliance Program;
 - (3) Establish and maintain a system of evaluation for the performance of organizations authorized **to conduct** ISM Code **certifications**; and,
 - (4) Supervise and coordinate assignment of OCMI personnel to observe ISM Code audits.

2. Responsibilities of Authorized Organizations

Organizations authorized to act on behalf of the United States regarding the external ISM Code auditing and certification of U.S. vessels and their companies **will**:

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- a. **Conduct ISM Code certifications in accordance with the relevant provisions of U.S. regulation, international convention, the authorized organization's written agreement with the Coast Guard, and IMO Resolution A.1071(28), Revised Guidelines on the Implementation of the International Safety Management (ISM) Code by Administrations. In preparation for an external audit, vessel and company class/statutory records should be appropriately reviewed in advance. If the auditor does not have ready access to these records, then the company should make them available in advance of the audit. Authorized organizations should be duly guided by IACS procedural requirements (PR) 9 (ISM Code Certification), 10 (Procedure for the Selection, Training, Qualification and Authorization of Marine Management Systems Auditors), 17 (Reporting by Surveyors of Deficiencies relating to Possible Safety Management System Failures), and 18 (Transfer of Safety and Security Management Systems Certification) when performing functions related thereto;**
- b. Notify Commandant (CG-5P-TI) prior to the performance of any ISM Code-related external audit for the issuance **or verification** of a company's DOC or vessel's SMC. **This includes audits for an initial, renewal, intermediate, annual, or additional DOC or SMC. Notice of DOC audits should be made at least 14 days in advance. Notice of SMC audits should be made at least 7 days in advance. Notification can be made to USCGTravelers@uscg.mil;**
- c. **Allow** qualified Coast Guard **personnel to** observe **and** accompany an **authorized organization's** personnel during any part of the ISM Code certification and audit process. (Training, qualification and rules of conduct are addressed later in this Chapter);
- d. Notify **the cognizant OCMI and** Commandant (CG-CVC) of any major non-conformities **as well as any recommendations to suspend or revoke** any DOC or SMC issued **pursuant to a delegation of authority from the Coast Guard. Notification to Commandant (CG-CVC) can be made to loracs@uscg.mil;**
- e. Report any major non-conformity **as well as any recommendation to suspend or revoke an** SMC or DOC to:
 - (1) All authorized organizations that issue any statutory certificates to the vessel; and
 - (2) The Coast Guard, in accordance with the authorized organization's written Agreement (see paragraph E.2.d of this Chapter); and,

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- f. **Notify Commandant (CG-CVC) of any reports filed in accordance with IACS Procedural Requirements (PR) 9 and 17. Notification to Commandant (CG-CVC) can be made to loracs@uscg.mil.**

F. COAST GUARD'S ISM CODE OVERSIGHT ON U.S. VESSELS

ISM Code compliance is intertwined with nearly every other aspect of overall regulatory compliance. A basic tenet of any SMS is that the system must **adhere to the** safety and environmental protection requirements. **Vessel inspections** will provide a means of evaluating ISM Code compliance. **Verification of compliance can be achieved in several ways**, the most basic of which is verification that the vessel has a valid ISM Code SMC and **that the company has a valid DOC**.

The next level of ISM Code compliance **verification** is to identify links between any deficiencies **or casualties** noted during the course of routine inspections/**investigations** and the vessel's SMS. This requires marine inspectors to have a working knowledge of the ISM Code's **key** elements and of the duties and training of shipboard **personnel (see paragraphs F.1-3 of this Chapter)**.

The Marine Inspection and Investigation School at Training Center Yorktown has established a Safety Management System (SMS) Student Guide to help prepare marine inspectors to verify whether a vessel is in compliance with the ISM Code and/or 33 C.F.R. Part 96. The Student Guide is not a substitute for the policy described in this Chapter, 33 C.F.R. Part 96 or the ISM Code. It is intended to provide a shorthand guide to familiarize Coast Guard personnel with the ISM Code. The Student Guide also provides a breakdown of the ISM Code's key elements and the requirements for each element.

In addition to being familiar with the ISM policy provided **in this Chapter**, all Coast Guard marine inspectors and Port State Control Officers should read and become familiar with 33 C.F.R. Part 96, the ISM Code and NVIC 04-05.

1. When to Conduct ISM Code Oversight

The Coast Guard's ISM Code oversight occurs constantly, as a part of many routine activities. Examination of a vessel for any purpose is an opportunity to judge the effectiveness of its SMS. Although ISM oversight may not be the primary purpose of **an examination**, inspectors should **remain cognizant of the important role than an SMS**

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

has in preventing or mitigating deficiencies or casualties. To this end, when conducting an inspection for purposes other than verifying compliance with the ISM Code, any deficiencies that may be noted during the inspection should be scrutinized in the context of whether the deficiencies should have been discovered and managed through use of the SMS. Oversight may also arise from investigations into vessel casualties and reports by vessel crewmembers. Coast Guard investigators should actively check for causal factors stemming from SMS non-conformities while conducting marine casualty investigations. Any potential SMS deficiencies identified during a post-casualty investigation shall be immediately reported to the unit's Inspections Division for potential ISM follow-up actions. The Coast Guard will coordinate its oversight of ISM Code audits and ISM Code certification processes through the cognizant authorized organization.

A good measure of an SMS is for the inspector, at the outset of an inspection, to inquire about any open non-conformities in order to gain insight regarding the status of corrective action.

Multiple equipment or system failures could indicate safety management system (SMS) non-conformities. If the OCMI identifies major non-conformities with the vessel's SMS, such as a deviation from SMS requirements that poses a serious and direct threat to personnel or ship safety, or evidence that the ship is not taking corrective action for long-standing deficiencies per preventive maintenance processes contained in the SMS, or evidence the company has failed to address outstanding non-conformities reported by ship personnel, then an additional external audit of the vessel's SMS may be required by the OCMI. A detailed discussion on expanded examinations, as well as the grounds for expanded examinations, is provided in paragraph F.3 of this Chapter. Alternatively, the OCMI may consider an internal investigation coordinated through the authorized organization (i.e., IACS PR17). In either case, the OCMI must be able to articulate the objective evidence and the specific deficiencies of the failed SMS. If the OCMI suspects that problems exist at the company level, then the OCMI should recommend an external audit of the company to Commandant (CG-CVC). See paragraph F.4 of this Chapter for additional information.

a. Procedure.

- (1) As part of all inspection activities inspectors should check to verify compliance with SOLAS Chapter IX and the ISM Code. Inspectors should be alert for any indications that major non-conformities exist with the ship's SMS (i.e., the SMS is not implemented or not used by the ship's crew). The identification of a major non-conformity by the inspector is

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

sufficient grounds for the OCMI to take appropriate enforcement actions. See paragraph F.4 below.

NOTE: A major non-conformity can be a key indicator of an invalid SMS.

- (a) Substantial non compliance of a ship's SMS to the requirements of the ISM Code is indicative of a major non-conformity (ISM Code 1.1.10). By definition, a major non-conformity is a deviation from SMS requirements that poses a serious threat to personnel and ship safety, or a serious risk to the environment and requires immediate corrective action (ISM Code 1.1.10).
- (b) Also considered a major non-conformity is the lack of an effective and systematic implementation of a requirement in the ISM Code. It may take several interactions with the vessel over several months to identify a poor SMS. Accordingly, inspectors should review the ship's history in order to track repeated deficiencies aboard the vessel (i.e., deficiencies that remain uncorrected over a period of time). For example, an inoperable fire pump repaired prior to departure is not usually grounds to question effective implementation of the ship's SMS. However, the deficiency taken with other materiel deficiencies noted from this and previous inspections (incl. Coast Guard, Class, Port State Control), coupled with evidence that the ship and/or company is not meeting SMS requirements for reporting and correcting deficiencies may lead to a determination that a major non-conformity exists. The inspector should be able to distinguish between deficiencies that result from normal vessel operations (e.g., wear-and-tear, weather, operational environment) and those deficiencies that exist due to a systematic failure to implement the SMS (e.g., failure to implement a planned maintenance system). It is possible for wear-and-tear in the extreme that results in long-standing deficient conditions, or deficiencies in multiple systems, to be indicators of a failure of the SMS. Examples of such indicators are:
 - i. Evidence that the ship was not taking corrective action for long-standing deficiencies in accordance with the company's established preventive maintenance system, and
 - ii. Evidence that the company failed to address outstanding deficiencies reported by shipboard personnel to the company in accordance with the ship's SMS.

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

2. ISM Oversight of U.S. Vessels Enrolled in Alternate Compliance Program (ACP) and Maritime Security Program (MSP)-Select.

During routine ACP **and** MSP-Select oversight examinations and inspections associated with the issuance or endorsement of the COI, in addition to inspecting the overall physical condition of the vessel, marine inspectors should verify the vessel has a valid SMC and DOC, and that the crew is familiar with the vessel's SMS. If personnel from an authorized organization (e.g., ACP Surveyor) or marine inspector finds any significant **materiel** deficiency that might affect the validity of the vessel's SMC, they must notify the cognizant OCMI and the authorized organization that issued the vessel's SMC.

Commandant (CG-CVC-1) should be notified in the case of either a major non-conformity of the SMS and/or evidence supporting an additional audit.

3. Clear Grounds and the Expanded Examination.

- a. **Clear Grounds.** Significant **materiel** deficiencies, serious lack of vessel or equipment maintenance, or crew failure to follow safety procedures are key indicators the SMS may not be effectively implemented. Information to determine the effectiveness of an SMS may be collected through the following methods:
 - (1) Observing or interviewing the crew members responsible for the area in which the deficiency was noted. Crew members should be knowledgeable about the responsibilities **that** the SMS requires of them.
 - (2) Verifying that SMS procedures related to the area of deficiency are being carried out.
 - (3) Verifying, with the Master or responsible crewmember, what corrective action has been initiated under the SMS.
 - (a) Failures to submit corrective action reports should be reported to the cognizant OCMI.
 - (b) Depending upon the severity and frequency of such failures, a report should also be made with the vessel's SMC issuing organization.
 - (c) These reports should be made as soon as possible and no later than within 48 hours. They may be oral or written reports (which can include emails).

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- b. **Expanded Examination.** Inspectors should conduct an expanded examination when clear grounds indicate that the ship has not effectively implemented its SMS. Examples of conditions that result in clear grounds for an expanded exam include, but are not limited to:
- (1) Improperly endorsed or expired ISM certificates;
 - (2) Lack of SMS documentation;
 - (3) Crewmembers having insufficient knowledge of their required duties under the SMS; and/or
 - (4) Serious, longstanding materiel deficiencies or systematic lack of maintenance of critical equipment/systems as identified by the SMS.
- c. **Conducting an Expanded Examination of the SMS.** During the expanded SMS examination, the inspector verifies the basic components of the SMS related to the observed deficiencies. The inspector also confirms that the Master and crew have a basic understanding of the SMS and their responsibilities. The inspector should verify the following relevant items:
- (1) SMS documentation (may be in the form of a “Safety Management Manual”) is aboard the ship, is written in the working language of the ship and includes or identifies:
 - (a) Controlled documents with revision number and/or issue dates or other means of control (ISM Code 11.1);
 - (b) The safety and environmental protection policy (ISM Code 2);
 - (c) The responsibilities and authority of the Master (ISM Code 5);
 - (d) Essential or critical equipment (ISM Code 10.3);
 - (e) The name(s) or title(s) of the company’s designated person(s) (ISM Code 4); and
 - (f) Procedures for reporting and analyzing materiel deficiencies/non-conformities, accidents, and hazardous occurrences (ISM Code 9).
 - (2) The Master is familiar with the SMS (ISM Code 6.1.2)

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

Shipboard personnel involved with the SMS have an adequate understanding of the process (ISM Code 6.4). The ship's officers should:

- (a) Have knowledge of documented procedures to be followed;
 - (b) Be familiar with documented preventive procedures for essential equipment; and
 - (c) Have knowledge of reporting requirements for a non-conformity.
- (3) The company's training program is in place for all personnel, including newly assigned or transferred persons, to enable all personnel to be familiar with their duties (ISM Code 6.3; 6.5).
- (4) The Master and Chief Engineer are familiar with the company's internal audit procedures;
- (5) In consideration of ISM Code Part A/10, The ship has an established maintenance system in which:
- i. Procedures are documented in writing;
 - ii. Procedures are readily available, in a working language(s) understood by those that must use them; and
 - iii. Procedures are followed and records of maintenance are maintained.
- (6) The ship follows established procedures for shipboard operations covering the following areas as appropriate:
- iv. Preventive maintenance;
 - v. Navigation procedures;
 - vi. Bunkering operations;
 - vii. Emergency preparedness;
 - viii. Pollution prevention procedures;

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

ix. Technical systems operations; and

x. Communications procedures

(7) Audits are conducted as required by the ISM Code.

xi. Internal Audit. ISM Code Part A/12

xii. Verification (External Audit). ISM Code Part B/13

4. Coast Guard Actions for Non-Compliance with Safety Management System

- a. If it is **established** that any portion of a vessel's SMS is not being followed, Coast Guard personnel may issue a Vessel/Facility Inspection Requirements, Form CG-835 to the vessel's Master **requiring** the following:
- (1) Verification of compliance from the authorized organization that issued the vessel's SMC; and
 - (2) If the non-conformity is linked to shoreside operations, verification of compliance from the authorized organization that issued the company's DOC. **Additional verification of the DOC will be coordinated through Commandant (CG-CVC).**
 - (3) For uninspected vessels with ISM Certification, the OCMI should issue formal correspondence (i.e., letter) **requiring the same.**
- b. In such a situation, it is the Master's responsibility to notify the organization that issued the SMC or the DOC. **In either case, the findings or requirements should be appropriately documented in MISLE.**
- c. Depending on the severity of the deficiency, the OCMI may allow a reasonable period of time **in which** to satisfy the Vessel/Facility Inspection Requirements, **Form CG-835**. In cases where the deficient item would restrict the vessel from sailing, the **amount of** time the OCMI allows to satisfy the Vessel/Facility Inspection Requirements, Form CG-835 should be proportionally short. **Each deficiency should be documented in accordance with the Mission Management System (MMS) Work Instruction on Documenting Deficiencies in MISLE for U.S. Vessels.** Each deficiency should clearly indicate which

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

system/subsystem an SMS failure is related to. This will ensure better tracking and trend analysis in the future.

- d. In addition, Commandant (CG-CVC) may direct a verification of compliance based upon a port state control detention, IACS PR17, marine casualty, etc. In any such case, Commandant (CG-CVC) will coordinate USCG oversight with Commandant (CG-5P-TI) and the cognizant OCMI.

5. **Observation of ISM Code Audits by Coast Guard Personnel**

- a. For the purpose of oversight, and pursuant to the written agreement between authorized organizations and the Coast Guard (paragraph E.1.a.(5) of this Chapter), authorized organizations will allow Coast Guard personnel to observe any aspect of the ISM Code audit or certification process. During such observations, the assigned Coast Guard personnel must respect the authority of the lead auditor and not hamper the progress of the audit. Coast Guard personnel must respect the proprietary nature of any personal or business information encountered during observation of ISM Code certification audits and abide by the provisions of the Privacy Act with respect to that information. **Coast Guard personnel assigned to observe ISM audits should have completed either an ISO 9001 or ISM Code lead auditor training course and be an appropriately qualified inspector for the associated vessel type. For company audits, where the DOC specifies more than one vessel type, the Coast Guard observer should be an appropriately qualified inspector for at least one of the associated vessel types.**
- b. If any **materiel** deficiencies that affect a vessel's safety or operational capabilities are noted during the oversight observation, the authorized organization's lead auditor must provide a written or oral report to the Coast Guard. This report must be submitted no later than 48 hours after the audit is complete. Coast Guard **personnel assigned to** observer ISM Code review processes and external audits of SMS **shall** oversee and review the auditors' actions and ensure the proper completion of processes. The lead auditor is responsible for all actions **taken pursuant to the authorized organization's delegation of authority from the U.S. Coast Guard. In advance of the audit, Coast Guard personnel should review the relevant records (e.g., attendances, deficiencies, non-conformities, casualties, etc.) in the MISLE and classification society databases.**
- c. Coast Guard personnel assigned to observe an audit, should document each audit attended in MISLE. For both SMC and DOC audits, the attendance should be documented under the associated vessel profile using the "ISM

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

Oversight” activity sub type. At a minimum, the MISLE activity should include a description of the audit scope and results, including any recorded observations and findings of non-conformities or major non-conformities. The Coast Guard personnel who attended the audit are responsible for tracking corrective actions with the authorized organization.

G. REVOCATION OF ISM CERTIFICATES FOR U.S. VESSELS

Authorized organizations acting on behalf of the United States may provide the Coast Guard with information, reports, or recommendations regarding revocation of ISM certificates, however the Coast Guard holds exclusive authority to revoke them. This includes Interim certificates as well.

1. Authority and Grounds for Revocation of DOC

- a. Commandant (CG-CVC) has exclusive authority to revoke DOC certificates for U.S. vessels.
- b. Revocation of a DOC certificate must be based on the following:
 - (1) The finding that a company or responsible person has failed to continuously review and address corrective action reports from the company's or vessel's safety management system operation.
 - (2) The finding that a company or responsible person has failed to correct or address major non-conformity(ies); or
 - (3) A recommendation from the **authorized** organization acting on behalf of the United States **that the DOC be revoked due to the company's or responsible person's failure to correct or address a major non-conformity(ies) or due to documented, consistent failures of the safety management system.**
- c. It is not possible to list each individual case which will require revocation of a DOC. Each situation will be different as responsible persons or **company's** SMSs are customized to the needs of the specific operation of that company.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

- d. The revocation of a DOC certificate invalidates the SMCs for all vessels owned by the responsible person or operating under the company's SMS.
- e. **All** DOC revocation actions, **and the basis for revocation**, will be documented, in writing, by Commandant (CG-CVC) to the responsible person or company. Copies will be sent to the authorized organization **that** issued the DOC, all authorized organizations **that** issued SMCs under that DOC, and to **the** cognizant OCMI **in which the U.S. vessel is located or operated**.
- f. The cognizant OCMI(s) for these affected vessels will be required to amend the vessel's COI(s) for domestic routes only, and accept **the** return of any international convention certificates invalidated by restriction of the vessel's route **to domestic voyages**.

2. Authority and Grounds for Revocation of SMC

A U.S. vessel's SMC may be revoked on the authority of the cognizant OCMI or District Commander. Commandant (CG-CVC) should be informed of the impending revocation before any action is taken. This is to ensure that other OCMI's who are involved with U.S. vessels owned by the same responsible person are notified of such actions. These OCMI's may wish to review the SMSs of other vessels **that are owned or operated by** the same company to ensure that similar problems **do not exist** with these other vessels.

The revocation of **an** SMC does not **prohibit** a U.S. vessel from operating in domestic trade. When an SMC is revoked, the cognizant OCMI will ensure that the vessel's COI is amended for domestic routes only and that other international convention certificates are invalidated or returned.

3. Revocation for Failure to Allow Access to Personnel or Records

Commandant (CG-CVC) must be notified immediately of any instance when a company or its vessel personnel restrict, deny or otherwise impede access by **either** Coast Guard or **an** authorized **organization's** personnel during a scheduled audit or SMS verification **of a U.S. vessel**. When the obstruction by the company or its vessel personnel was deliberate, the company's DOC may be revoked immediately by Commandant (CG-CVC). If revoked, the company or vessel in question must reapply and undergo a complete recertification audit to regain its ISM Code certificates.

4. Appeal of Authorized Organizations Decisions Regarding ISM Code

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 3: SAFETY MANAGEMENT SYSTEMS (SMS)

Certification

33 C.F.R. § 96.495 **describes the process to** appeal any decision **made** by an authorized organization regarding the auditing and certification of a **company's** or **vessel's** SMS. The requirements of 46 C.F.R. § 1.03 may also be used to process **administrative** appeals to the Coast Guard.

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 4: INTERNATIONAL CONVENTION ON LOAD LINES, 66/88**A. INTRODUCTION**

This chapter is intended as an enhancement to the International Convention on Load Lines 66/88 as amended in 2003 (ICLL 66/88) and 46 CFR Subchapter E. These sources are the primary references for load lines.

B. LOAD LINE REQUIREMENTS FOR VESSELS TRANSITING BEYOND THE BOUNDARY LINE

In 1986 Pub.L. 99-509 dramatically revised the load line statutes in Title 46, United States Code, Chapter 51 (46 U.S.C. 51). Before this revision, the load line statutes were applicable to “merchant vessels” more than 150 gross tons that engaged in various voyages (i.e., foreign voyages, domestic voyages, coastwise voyages, inter-island voyages, etc). Due to new vessel types and operations not anticipated by the original statutes, it was appropriate to update the statute to bring some previously exempted vessels and operations under the seaworthiness regime of load lines.

The revision did away with “voyages” and relied on “movements” that cross the Boundary Line. This made virtually all U.S. vessels subject to load lines except those that are statutorily excluded by law or regulation. The previous exclusion for vessels on inland waters has been retained. However, the old loophole for vessels on “voyages to nowhere” is no longer applicable. As long as a vessel proceeds beyond the Boundary Line it is subject to load line requirements, even if it returns directly to the port of departure.

In general, a Boundary Line is a line following the trend of seaward, high water shorelines, separating inland waters from coastal and offshore waters. However, some special situations may apply to specific locations, so 46 CFR Part 7 must be consulted to determine the exact location of a Boundary Line. Although the regulations in Title 46 CFR 42.03-5(b)(v) have not yet been revised to reflect the 1986 changes to 46 USC 5102, the above policy guidance must be followed.

C. LOAD LINE CERTIFICATE EXTENSION AUTHORITY

Each international and domestic full term load line certificate is issued for 5 years. During that period, the vessel must undergo annual surveys by the assigning authority to verify that critical fittings and closing appliances are being maintained in working condition, and that the vessel has not been altered in any way that invalidates the freeboard calculations and assignment. The certificate is endorsed by the surveyor after each annual survey. By the end of the 5-year period, the vessel must undergo a renewal survey before the original certificate expires. Under certain circumstances the certificate may be extended in accordance with the provisions set forth below:

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 4: INTERNATIONAL CONVENTION ON LOAD LINES, 66/88

- a. Under 46 CFR 42.07-45, Commandant (CG-CVC) may grant load line extensions for up to 150 days from the last day of the 5-year period.
- b. Under 46 CFR 42.07-45, Commander, Ninth Coast Guard District may grant extensions of up to 365 days for Great Lakes load line certificates.
- c. Per MSM Volume IV, Technical, COMDTINST M16000.9 (series), Chapter 6.F.4.b, approved assignment authorities may issue extensions up to 150 days based on a satisfactory survey and approval by Commandant.
- d. Approved assignment authorities may grant extensions of up to, but not exceeding, 150 days for both international and Great Lakes load line certificates without receiving prior written approval from Commandant or the Commander, Ninth Coast Guard District, when the following are satisfactorily completed:
 - (1) An afloat survey of the vessel's condition that includes gaugings and internal examination, as necessary, to determine whether the vessel is fit to continue operating throughout the period of the certificate extension. This survey must confirm that there have been no alterations to the structure, equipment, arrangement, or scantlings which would affect the vessel in any way related to the certificate.
 - (2) Correction of any unsatisfactory items found during the afloat survey. These items must be corrected in accordance with 46 CFR 42.09-45 before the Provisional Load Line Certificate may be issued.
- e. The cognizant Officer in Charge, Marine Inspection (OCMI) for the examination port must be notified before the survey begins. The OCMI may assign a Coast Guard marine inspector to attend the examination.
- f. A load line certificate must not be extended if the certificate has already expired.
 - (1) Vessels with expired load line certificates must undergo an "initial load line survey" for issuance of a new certificate.
 - (2) Approved assigning authorities are to notify Commandant (CG-CVC) authority of any vessel that requests an extension after its load line certificate has expired.

NOTE: The above policy modifies policy previously set forth in the MSM Volume IV, Technical, COMDTINST M16000.9 (series), Ch. 6.F.4.b, and is included here, pending revision of MSM Volume IV, Technical, COMDTINST M16000.9 (series).

USCG Marine Safety Manual, Vol. II: Materiel Inspection

SECTION E: INTERNATIONAL CONVENTIONS, TREATIES, STANDARDS, AND REGULATIONS

CHAPTER 4: INTERNATIONAL CONVENTION ON LOAD LINES, 66/88**D. USE OF NON-EXCLUSIVE SURVEYORS TO ISSUE LOAD LINE CERTIFICATES**

There has been increasing concern about the diminished availability of local American Bureau of Shipping (ABS) surveyors for conducting load line surveys, and the cost to vessel owners of bringing in surveyors from distant locations. To help ease this burden, the Coast Guard allows ABS to use certain non-exclusive surveyors to conduct load line surveys on behalf of the Coast Guard. Since ABS' institution of their Quality Management System (QMS), it ensures the qualifications and training of all ABS personnel. ABS may use non-exclusive surveyors for the purpose of conducting the requisite load line surveys if the non-exclusive surveyor's competencies are in full compliance with ABS QSS Procedure SWZ-002-99-P04. For the purpose of issuing load line certificates to U.S. flag vessels on behalf of the Coast Guard, the non-exclusive surveyor's competencies must be in full compliance with ABS QSS Procedure SWZ-002-05-P04. This must be recorded in the training certification record. The actual load line certificate is to be issued by the ABS Principal Surveyor. The non-exclusive surveyor may sign for the annual endorsement or provide a provisional or short-term conditional load line certificate.

NOTE: Under this policy, it is ABS' responsibility to establish and validate a potential non-exclusive surveyor.

Other authorized assigning authorities have Memorandum of Agreements (MOA) with the Coast Guard that address surveyor qualification and employment requirements. In general, surveyors performing Load Line surveys must be "exclusive employees" who are defined as permanently employed by the assigning authority. Requests to use a non-exclusive surveyor should be forwarded to COMDT (CG-CVC) for approval.
