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NVIC 04-04

13 FEBRUARY 2004

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 04-04

Subj: ENVIRONMENTAL INSPECTION CHECKLIST; ADDENDUM TO FOREIGN PASSENGER VESSEL EXAMINATION BOOK, CG-840

- Ref: (a) General Accounting Office (GAO) Report of February 2000 on “MARINE POLLUTION - Progress Made to Reduce Marine Pollution by Cruise Ships, but Important Issues Remain.”
- (b) Title XIV “Certain Alaskan Cruise Ship Operations” contained in Section 1(a)(4) of Public Law 106-554 enacted on December 21, 2000
- (c) 33 CFR 159, Subpart E – Discharge of Effluents in certain Alaskan Waters by Cruise Vessel Operations
- (d) Memorandum of Understanding (MOU) dated March 14, 2000 entered between Florida Department of Environmental Protection (FDEP) and the Florida-Caribbean Cruise Association (FCCA), a representative of the cruise industry in Florida
- (e) International Council of Cruise Lines (ICCL) Industry Standard E-01-01, “Waste Management Practices and Procedures”

1. PURPOSE. As the result of a GAO report and Bluewater Network petition, the FCCA, FDEP, and the Coast Guard began discussing the means to improve and ensure the compliance of large passenger vessels with existing Federal and state environmental standards. These discussions have resulted in the checklist contained in Enclosure 1. This checklist is an extensive list of possible inspection items related to pollution prevention equipment, operation, plans and records. It is intended as a job aid to be used by Coast Guard personnel during certificate of compliance examinations onboard foreign-flagged passenger vessels. Additionally, this document does not change or establish new Coast Guard authorities, but is intended to provide

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B	*	1	1											1			1									1
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NON-STANDARD DISTRIBUTION: B:a G-MOC, G-MO-1, G-MSE (1)

a framework and focus on responsibilities currently possessed. This checklist will be incorporated into a future revision of the existing Foreign Passenger Vessel Examination Book, CG-840.

2. ACTION. Officers in Charge Marine Inspections (OCMIs) and their designated marine inspectors should:

- a. Bring this circular to the attention of appropriate individuals in the marine industry within their zones, especially those in the industry who are not members of ICCL. This circular is available on the world-wide web at: <http://www.uscg.mil/hq/g-m/nvic/index.htm>. Internet release authorized.
- b. Follow the guidance in this circular while conducting Certificate of Compliance examinations on foreign-flag passenger vessels, choosing one of the five waste streams to inspect.
- c. If any non-conformities are noted between the procedures listed in the vessel's Safety Management System (SMS) documentation and the actual procedures being followed on the ship, notify the Company immediately and follow the guidance contained in NVIC 4-98. If major non-conformities are identified, an OCMI should use risk-based decision-making and exercise discretion with regard to the level of control action utilized on the vessel.
- d. If deficiencies or discrepancies are noted in the execution of the hazardous waste management program, notify the applicable Environmental Protection Agency (EPA) office or the State Resource Conservation and Recovery Act (RCRA) program office immediately.

3. DIRECTIVES AFFECTED. The existing Foreign Passenger Vessel Examination Books CG-840, CV1, CV2 and CV3 will be revised to include the checklist contained in Enclosure (1), as soon as practicable.

4. BACKGROUND.

- a. From 1993 to 1998, nearly 2400 documented cases of pollution by foreign-flagged vessels were investigated, of which nearly four percent involved passenger vessels. As a result, Congress requested the GAO to examine the nature and extent of cruise ship involvement in these incidents; current and planned federal agency enforcement efforts; and cruise company actions to prevent future recurrences of pollution incidents. On February 1, 2000, the GAO completed a report to Congress, reference (a), recommending that the Coast Guard initiate discussions with the cruise ship industry, other federal and state agencies, and environmental groups as appropriate, on the need for improved water quality standards for gray water and black water discharged from cruise ships and other vessels. In addition, the report recommended an assessment of the need to periodically monitor the water quality of these discharges. This GAO report is available on the world-wide web for review at <http://frwebgate.access.gpo.gov/cgi-bin/useftp.cgi?IPaddress=162.140.64.21&filename=rc00048.pdf&directory=/diskb/wais/data/gao>.

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- b. At the time reference (a) became public, federal responsibilities were in place for various vessel waste stream control systems including effluent from the oily water separators, effluent from the sewage treatment plants, hazardous waste, and garbage. Subsequently, legislation was passed and regulations were promulgated (see references (b) and (c)) that expanded federal responsibilities to include requirements for gray water discharge and for monitoring and sampling of black water and gray water waste streams on cruise ships in Alaska¹.
 - c. On March 14, 2000, the Florida Caribbean Cruise Association (FCCA) signed a MOU with the Florida Department of Environmental Protection (FDEP), reference (d), that is available for review on the world-wide web at http://www.iccl.org/resources/fdep_mou.htm. Under this MOU, the FDEP recognized ICCL's Industry Standard E-01-01, "Waste Management Practices and Procedures," reference (e), as meeting or exceeding the standards set forth in Florida laws and applicable regulations. Though not a party to the MOU, the Coast Guard participated in discussions that resulted in the MOU. In the MOU, the FDEP recognized the Coast Guard as the primary federal agency with responsibility for examining passenger vessel waste streams. As a result, the Coast Guard worked in conjunction with FDEP and ICCL to develop a checklist related to monitoring of hazardous waste and disposal.
5. DISCUSSION. The enclosed checklist reflects the collective work of the USCG, FCCA and FDEP and has been tested for use by several Coast Guard Marine Safety Offices. The checklist is not a listing of all items to be inspected; rather the marine inspector should use it as a reminder of the various items that may be examined during a certificate of compliance examination of a foreign passenger vessel. As always, the marine inspector's experience, knowledge, and judgment will determine the depth and scope of each examination. However, each marine inspector should select at least one waste stream for a thorough and detailed inspection during every annual or periodic foreign passenger vessel examination. The stream selection will be based on the marine inspector's discretion, taking into account the inspector's impression about the condition of the various waste stream systems on board the vessel. The selection will also be based on the need to inspect all systems over a reasonable period of time, whether a particular waste stream is applicable for examination (e.g. there may be no requirement applicable to gray water at the port of examination or the vessel does not discharge/offload hazardous waste), and maintaining randomness so that the operator has no advance knowledge of the waste stream that may be selected. During the examination, the operator should be able to present to the marine inspector a clear description of the practices and procedures for handling each waste stream and also to produce such records, as the inspector might need to verify compliance with these guidelines. In performing pollution prevention examinations, inspectors should be especially familiar with the contents of the Marine Safety Manual (MSM), Volume II, Material Inspection, Section B, Chapter 6, "Pollution Prevention," and Section C, Chapter 2, Paragraph K, "Marine Sanitation Devices" and this NVIC. Marine inspectors should also be familiar with ICCL's Industry Standard E-01-01 "Waste Management Practices and Procedures", reference (e), and the vessel's Safety Management System (SMS) documentation, which should address all the elements discussed in

¹ Presently, there are no other federal requirements applicable to the control or filtering of gray water discharge from foreign-flagged passenger ships.

this standard. Note reference (e) is available at the ICCL website at http://www.iccl.org/resources/exhibit_a.pdf. If any elements are not addressed there should be a rationale for its omission. The different waste streams may be categorized as follows:

- a. Oil pollution prevention systems: include the oily water separator, the fuel/lubricating oil transfer, and sludge containment system. The marine inspector should verify that the oily water separator is operating within the desired range; that the alarms are working; that crew is knowledgeable and operating instructions are posted; and that maintenance is carried out at regular intervals. Actual piping may be verified against the approved piping diagram if the marine inspector notices modifications made to the system.
- b. Black water system: includes marine sanitation devices (MSDs) and other systems to treat, store, and discharge sewage. The checklist is designed to guide the marine inspector through some basic questions to ascertain whether the system is working as designed and that the crew is properly trained in its operation. For example, does the MSD appear to be properly installed? Is the MSD approved for use on this particular vessel (USCG Approved, IMO or Administration Approved to MARPOL Annex IV)? Is there adequate capacity or throughput for the number of persons on board? Are maintenance procedures being followed, including procedures outlined in the vessel's SMS? Are there records of expendables being ordered: filters, chemicals, et cetera? Are the units operating within the manufacturer's design specifications? Are there clear and simple operating instructions? Is the crew knowledgeable in the use of the equipment/system?
- c. Hazardous waste: includes dry cleaning (containing Perchloroethylene, or commonly-called "PERC") waste, used paints and thinners that contain hazardous substances, silver-bearing photo-processing waste, cleaning solutions and other items that contain hazardous substances. Each vessel may vary in both the type and volumes of hazardous waste generated depending on the technology and processes used aboard. This checklist is designed to evaluate onboard management of hazardous waste streams, to ensure that hazardous constituents are not released into the environment, and that accountability is demonstrated via adequate waste disposal records.
- d. Non-hazardous waste: includes shipboard garbage including plastics and synthetic material, medical waste, food wastes and recyclables such as glass, cardboard, aluminum and metal cans. Items to be checked should include: disposal and incineration records; waste sorted to prevent hazardous waste from entering the non-hazardous waste stream; no plastics or synthetics discharge overboard; separate and proper disposal of hazardous and non-hazardous incinerator ash; and proper disposal of cooking grease from grease traps.
- e. Gray water system: includes discharges from galley, sinks, washbasin drains, showers, and baths, excluding drains and sinks from medical spaces. These may be held in large tanks before being pumped overboard. The handling and discharge of gray water will vary from ship to ship and the inspector should ensure the procedures followed by the ship correspond to those described in its SMS documentation. If gray water is directed to MSD systems, the marine inspector shall ensure that combined gray water/black water throughput does not exceed the throughput of the MSD systems. Other waste streams such as hazardous waste

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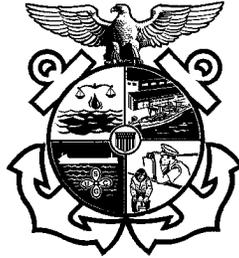
or medical waste must also not be mixed with gray water. Drains from hospitals, photo labs (if hazardous substances are used and stored therein), and slops, must be separate from the gray water system.



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Assistant Commandant for Marine Safety,
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Encl: (1) Foreign Passenger Vessel Pollution Survey Exam Book (CG-840 PSEB)

United States Coast Guard



**FOREIGN PASSENGER VESSEL
POLLUTION SURVEY EXAM BOOK**
(FOR ALL PASSENGER VESSELS)

Name of Vessel	Flag <input type="checkbox"/> No Change								
IMO Number	Case Number								
Date Completed									
Location									
<p>Senior Marine Inspectors / Port State Control Officers</p> <table> <tr> <td>1. _____</td> <td>5. _____</td> </tr> <tr> <td>2. _____</td> <td>6. _____</td> </tr> <tr> <td>3. _____</td> <td>7. _____</td> </tr> <tr> <td>4. _____</td> <td>8. _____</td> </tr> </table>		1. _____	5. _____	2. _____	6. _____	3. _____	7. _____	4. _____	8. _____
1. _____	5. _____								
2. _____	6. _____								
3. _____	7. _____								
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Use of Foreign Passenger Vessel Pollution Survey Exam Book

This Checklist is an extensive list of possible examination items related to pollution prevention equipment, operation, plans and records. It is intended as a job aid to be used by Coast Guard senior marine inspectors during boardings of foreign-flagged passenger vessels. It is not the Coast Guard's intention to inspect all the items listed in the checklist at every exam; rather the inspector should use it as a reminder of the various items that may be examined during a foreign passenger vessel certificate of compliance examination. As always, the inspector's experience, knowledge, and judgment will determine the depth and scope of each examination; however, the inspector should select at least one waste stream for a thorough and detailed inspection. The stream selection will be based on the marine inspector's discretion, taking into account the inspectors impression about the condition of the various waste stream systems on board the vessel, weighing the need to inspect all systems over a reasonable period of time, and maintaining randomness so that the operator has no advance knowledge of the waste stream that may be selected.

It is incumbent on the vessel operator to be familiar with this checklist. The individuals responsible for different segments of the various waste streams should be able to present to the inspector a clear description of the practices and procedures for handling each waste stream and also to produce such records, as the marine inspector might need, to verify compliance with these guidelines. Inspectors should obtain a clear picture about the selected waste stream(s) and associated environmental processes by observing onboard practices and through questioning of the individuals that perform these practices. Inspectors should avoid circumstances in which a shore-side representative is the sole company liaison during the environmental inspection.

As a port state responsibility, marine inspectors and port state control officers must verify that the vessels and their crews are in substantial compliance with international conventions and applicable U.S. laws. The marine inspectors and port state control officers, based on their observations, must determine the depth and scope of the examination.

This document does not establish or change Federal laws or regulations. References given are only general guides. Refer to IMO publications, United States Code, Code of Federal Regulations, the Port State Control Job Aid, NVIC's, and any locally produced guidance for specific regulatory references. Marine inspectors should be especially familiar with all equipment standards and the contents of the Marine Safety Manual (MSM), Volume II, Material Inspection, Section B, Chapter 6, "Pollution Prevention," Section C, Chapter 2, Paragraph K, "Marine Sanitation Devices," and Volume IV, Technical, Chapter 3, Section K, "Special Engineering Applications for Pollution Prevention".

NOTE: Guidance on how to examine foreign passenger vessels for compliance with pollution prevention equipment standards, can be found in NVIC ___-04.

Conducting the exam

- Complete Certificates/Equipment Data/Records information (Section A).
- Review SMS Environmental Procedures (Section B).
- Examine MSD, OWS, Garbage logs, Oil Record Book as per CG-840 Exam books.
- Determine if gray water requirements apply in the vessel's AOR and in inspection zone (If not, do not select C2)
- Make waste stream selection for a detailed exam (Section C)
Section
 - C1 Oil Pollution Handling Waste Stream (Bilge, Sludge, Fuel, Lube Oil etc)
 - C2 Gray Water Waste Stream
 - C3 Black Water/Sewage Waste Stream
 - C4 Hazardous Waste Stream
 - C5 Non-hazardous Waste Stream

NOTE: Many items listed are not mandatory requirements, but fall under the umbrella of "Management Policy". Marine inspectors should be familiar with ICCL's Industry Standard E-01-01 "Waste Management Practices and Procedures," and SMS documentation on all cruise ships should address all the elements discussed in this standard. If any elements are not addressed there should be a rationale for its omission. If the areas listed are corporate policy as set out in the company's SMS documentation, then the vessel should be held accountable for the actions as required in 33 CFR 96 and SOLAS Chapter IX. If state or local laws exist that are more stringent than U.S. or international law, then the local or state laws must be followed. These vessels are not exempt simply because they are a foreign-flagged vessel.

Pre-inspection Items

- Review MISLE records
- Deficiency History
- Critical Profile
- Review Court-ordered requirements and environmental audit reports, if applicable
- CG Activity History
- Print Center for Disease Control Green Sheet
<http://www2.cdc.gov/nceh/vsp/vspmain.asp>

Post-inspection Items

- Issue letters/certificates to vessel
- Issue Port State Control Report of Inspection-Form A
- Issue Port State Control Report of Inspection-Form B (if needed)
- Complete COC endorsement (include "Waste Stream" area inspected)
- MISLE activity case

Certificates / Reports (complete at annual exam or to update MISLE Certificate data)

Name of Certificate	Issuing Agency	ID #	Port Issued	Issued Date	Expiration Date	No Change	Endorsement Date
International Oil Pollution Prevention (leave blank if completed in the CVE 840 book)							
International Sewage Pollution Prevention Certificate (if issued)							
International Anti-Fouling System Certificate (if issued)							
State Certificates of Emission (only if applicable)							
State Certificates of Ballast Water (only if applicable)							

Equipment Data

Equipment Name	Capacity	US or MEPC Approval Nr	Authority/Agency	No Change	Date of approval/acceptance
Oily Water Separator	Throughput				
Oily Water Separator	Throughput				
Oily Water Separator	Throughput				
Waste Oil Holding Tank(s) Capacity(ies)					
Marine Sanitation Device Certificate of Type Test	Volume/day				
Marine Sanitation Device Certificate of Type Test	Volume/day				
Marine Sanitation Device Certificate of Type Test	Volume/day				
Black Water Tank Capacity					
Gray Water Tank Capacity					

Pollution Records

	Date	Location	Amount
Last time bunkers were taken on			
Next time bunkers will be taken on			
Last time sludge/oily bilge water pumped ashore			
Last operation of OWS or overboard discharge			
Garbage incinerated			
Garbage discharged overboard at sea			
Garbage discharged ashore			
Required U.S. Ballast Water Report			

SECTION A
 Certificates/Equipment Data/Records
 Information

Environmental Procedures can be found in the ship's Safety Management System (SMS) documentation or in company policies and maintenance manuals, inspection logs, oil record books, etc. Marine inspectors should question the ship staff on procedures and normal operations, and compare the answer to what is written in procedures and manuals. For each waste stream, persons with specific responsibilities should be questioned at each step in the waste handling process. Inspectors should require being shown specific process step by the person responsible for that step. Inspectors should ask extensive questions regarding availability of documents and supporting material relevant to the individual performing the specific activity in the waste handling process. Other questions should focus upon training provided and reporting procedures when problems with waste management processes are identified.

- | | |
|---|---|
| <input type="checkbox"/> Current pollution prevention records <ul style="list-style-type: none"> • Person-in-charge designated and qualified(certificated/licensed) • Transfer equipment tests and inspections • Declaration of Inspection (available and retained for at least one month) • Ship to provide PMS logs and required PMS activities for the selected waste stream for verification. • Verify SMS incorporates PMS activities and logs for all Waste Streams. • Court required logs to track oil usage in systems having oil to sea interfaces (if applicable) • Recent environmental audit reports when available | 33 CFR 155.700
33 CFR 156.150
33 CFR 156.170
ISM Code/SMS
33 CFR 96 |
| <input type="checkbox"/> Oil Record book (Part 1) (spot-check) <ul style="list-style-type: none"> • Each operation signed by person-in-charge • Each complete page signed by master • Book maintained for 3 years • Use of proper codes and version for vessel • Transfer receipts/manifest match oil record book entries • OWS rates not exceeding design criteria • Incinerator rates not exceeding design criteria • Consistent bilge water management patterns • Comparison of oil record book entries to vessel's daily tank sounding book | MARPOL Annex. I/20
33 CFR 151.25 |
| <input type="checkbox"/> Shipboard Oil Pollution Emergency Plan <ul style="list-style-type: none"> • Approved by Administration (class society) • Updated and current • In English and working language of crew • Correct contact numbers for National and Local Authorities (Port Authorities for ports visited not every COTP) • Immediate Actions List • Non Mandatory Provisions (if listed in SOPEP). Spill kits located and inspected | MARPOL Annex.
I/26.1
33 CFR 151.26 |
| <input type="checkbox"/> MARPOL Annex V <ul style="list-style-type: none"> • Placard posted • Record book • Garbage management plan | MARPOL Annex V/9 |
| <input type="checkbox"/> Non-Hazardous Waste Disposal Documentation (if applicable) <ul style="list-style-type: none"> • EPA Generator ID# _____ (if applicable) • Records • Non-Hazardous Waste Manifests | U.S. Local
Regulations as
applicable |
| <input type="checkbox"/> Recycling policy being followed (requires a detailed assessment)
<input type="checkbox"/> Hazardous Waste Disposal Documentation (if applicable) <ul style="list-style-type: none"> • EPA Generator ID# _____ (if applicable) • Records • Uniform Hazardous Waste Manifests • Land Disposal Restriction Notification Certification Forms (LDR) • Shipping Document for Regulated Medical Waste • Interview Person(s) responsible for landing of wastes • Specialized training for Responsible person(s) and related documentation • Evidence of disposal in other countries to bona fide receivers documented | Shipboard policy
SMS

40 CFR 262
Shipboard policy
SMS |

Oil pollution prevention systems include, but are not limited to, the oily water separator, other filtering or flocculation devices, bilge water management, fuel/lubricating/waste oil transfer, purifier and lantern space sludge collection, transfer and containment systems. Marine inspectors should verify that the oily water separator is operating within the required range; that the alarms are working and sound at appropriate levels; that crew is knowledgeable and operating instructions are posted; that maintenance is carried out at regular intervals and repairs are documented; and that system operation and maintenance are in accordance with the vessel's SMS. Marine inspectors should verify the actual pollution prevention system piping against vessel's approved piping diagrams, if modifications such as blanked off tees, connections points, hoses, or temporary piping segments associated with these systems are observed.

- | | | |
|--------------------------|---|--|
| <input type="checkbox"/> | Oily Water Separator (OWS) | MARPOL Annex I/16
33 CFR 155.360/370 |
| | <ul style="list-style-type: none"> • Verify bilge piping, no modifications & matches approved diagram (direct to OWS, to holding tank, etc.) • No blanked flanges, pipe caps, or dead-ended valves, or tees on inlet or outlet piping • Evidence of bolting/unbolting of associated piping segments • Recent paint on pipe segments • Observe general housekeeping and cleanliness • Witness operational test of OWS, evaluate operator competency. System operating in published ranges • Verify unit is processing contaminated source. Operate system for sufficient time (15 minute minimum) to identify reduction in contaminated source • Test 15 ppm Oil Content Meter and alarm • On units with multiple Oil Content Meters, compare readings • Ensure sample analyzed by Meter is OWS output (Trace sample line for presence of unacceptable clean water connection) • Verify no electrical bypasses, jumpers, extra switches on or within unit or Meter control panel • Verify system automatically re-circulates (3-way valve) or shuts down when >15ppm. Verify proper operation of valve • Verify proper operation of system backflush or oil purge cycle • Visually sample processed water for gross contamination (sheen or visible oil) • Compare ship's operational maintenance routine with actual Preventative Maintenance conducted. Request proof/documentation of maintenance completed (used consumables from OWS, receipts of service, technician reports, contractor disposal records) • Review meter calibration records • Review strip charts if fitted • Examine other machinery space overboard piping for unusual connections • Review records pertaining to system repairs | |
| <input type="checkbox"/> | Oil Pollution placard posted | 33 CFR 155.450 |
| <input type="checkbox"/> | Oil Transfer Procedures | 33 CFR 154.340
33 CFR 155.720
33 CFR 155.750
33 CFR 154.310 |
| | <ul style="list-style-type: none"> • Posted / available in crew's language • Person in Charge (PIC) fluent in English or language mutually agreed upon w/ shoreside PIC • Format in CFR order or cross reference index page • List/description of products carried by vessel • Description of transfer system including a line diagram of piping system (pumps, vents, valves, alarms, shutoffs, etc.) • Number of persons required on duty • Duties by title of each person • Means of communication (two-way voice) • Procedures to top off tanks and disconnect • Procedures to report oil discharges • Emergency response procedures (fire, spill, human exposure) | |
| <input type="checkbox"/> | Standard discharge connection | MARPOL Annex I/19
33 CFR 155.430 |
| <input type="checkbox"/> | Fuel/lube/sludge oil fill, vent & overflow discharge containment | 33 CFR 155.320 |
| | <ul style="list-style-type: none"> • Size (<1600GT ½ bbl, >1600GT 1 bbl) • Fixed (Built after 30Jun74) or Portable (before 30Jun74) • Drains • Scupper closures | |
| <input type="checkbox"/> | Prohibited oil spaces (no oil/hazardous substances carried fwd of collision bulkhead) | 33 CFR 155.470 |

- Lighting at each Transfer Operations Work Area 33 CFR 155.790
 - Adequate
 - Located/Shielded to not interfere with navigation
- Oil transfer hose (if vessel uses to transfer in U.S. waters) including Lifeboat/Tender Hoses 33 CFR 155.800/805
33 CFR 154.500
33 CFR 156.170
 - Condition
 - Markings (MAWP, Mfg. Date, Test date)
 - Hose assembly requirements (blanked off if not new, gas free or in use)
 - Tests and inspections
- Bilge Water Management MARPOL Annex I
 - Examine machinery space bilges (stem to stern)
 - Contamination / oily residues in bilges on bulkheads, piping, structures, within roseboxes
 - Leakage from systems and engines into machinery spaces (may not be seen during port ops)
 - Engine oil usage, quantities, where lost, consumed or in bilges
 - Evidence of recent cleaning of systems, equipment and components
 - Status of oily bilge water tanks, last cleaned, at capacity
 - Adequate capacity all tanks
 - Levels of tanks during inspection – high or low?
 - If tanks near full – what are the vessel's processing plans?
 - Evidence of detergent usage (Note- emulsions cannot separate in gravity separator and are likely to result in discharges over 15 PPM)
 - Other methods to discharge bilge water
 - Evidence of excess water ingress, pump glands, seals, valve glands
 - Portable (diaphragm /other) pumps present
 - Hoses, fittings, and connections in areas – usage unknown
 - Unlocked overboard valves on bilge, bilge & ballast, salt water service
 - Seal management program-used
 - Designated clean or exempted areas – oil free status
 - Lifeboat / Security / Tender vessel engineering systems leak free
 - Lifeboat / Security / Tender vessel bilges clean
 - Lifeboat / Security / Tender vessel- oily bilge handling when leakages present (when in use off vessel or once reloaded)
- Waste/Sludge oil incineration
 - Tests and inspections
 - Record keeping
 - Incinerator operates with sludge / waste oils
 - Clean / dirty furnace, evidence of use
 - Operators capable & prove operation
 - Purifier sludge tanks full / empty
 - Connections to bilge main or other areas
 - Transfer pump operable
 - Transfer pump to sludge system, ashore, incinerator settler only
 - Estimated quantities of sludge produced – normal or excessive (fuel sludge production can exceed 2% of total fuel used)
- Systems with Oil to Sea Interfaces
 - Oil lubricated stern tubes, bow and stern thruster seals, fin stabilizer seals, etc.
 - Exterior examination in way of systems for evidence of leaking seals
 - Presence of barrels, drums, hoses, pumps, and other equipment/supplies/arrangements necessary to refill systems at equipment.
 - Check consumption records if SMS or environmental compliance programs require such records.

Gray water system includes discharges from galley, sinks, washbasin drains, showers, and baths. These may be held in large tanks before being pumped overboard. The handling and discharge of gray water will vary from ship to ship and the marine inspector should ensure the procedures followed by the ship correspond to those described in its SMS documentation. If gray water is pumped through a/the Marine Sanitation Device(s) (MSD), ensure that the total volume does not exceed the MSD's capacity. Other waste streams such as hazardous waste or medical waste (RCRA biomedical wastes) must not be mixed with gray water. Drains from hospitals (U.S. restriction), photo labs (if commingled with hazardous wastes), slops, must be separate from the gray water system.

Sources

- Galley (ex. Dishwashers, floor drains, sinks)
- Showers/Baths & washbasin drains
- Laundry
- Deck drains throughout vessel

(Clean Water Act)
33 USC 1251 et seq.
33 CFR 159.300
Subpart E for (D17)
Local Regulations
ISM Code
33 CFR 96

- Prohibited Sources (hazardous materials, bilges, photo shop & print shop if hazardous wastes are commingled, hospital spaces (U.S. only), etc.)
- Evidence of other drained fluids into scuppers or other entry points (photo lab, hospital, specialty spaces)
- Drains from spaces containing machinery (fan rooms, hotel equipment, etc.) oil free or segregated
- Connections to the Black Water System (if permitted in MSD Operation Manual, if so, is MSD capacity sufficient?)
- Connections to Ballast Water System
- Number of tanks _____
- Total tank capacity _____ m3
- Volume Produced _____ (m3 per day)
- Maximum number of days in port without discharging. _____
- Current capacity sufficient for persons on board and time in port?
- Review vessel's gray water handling procedures (SMS).
- Ensure that Quality Assurance / Quality Control Plan is vessel specific.
- Is Gray water processed and discharged?
- What are Gray water disposal procedures: Shore and at Sea. (company policy)
- Does vessel have sampling procedures? (if so, review)
- Types of tests performed, equipment and useable testing supplies readily available?
- Sampling equipment/supplies useable and available?
- How often do they take samples? Review samples record book.
- What are the state, federal and local regulations for gray water discharge?
- Responsible crew interviewed
- Disposal and Records
 - Shore (receipts available)
 - At sea (logs maintained)
 - Sampling/Testing (logs maintained)
 - Note some gray water treatment employs advanced ultra-filtration systems, these systems claim to reduce gray water waste by 85% - 90%, or more.
 - Alaska - Effective July 2001, Operators of cruise vessels carrying 500 or more passengers & transiting applicable waters of Alaska are restricted in where they may discharge effluents & will be required to perform testing of sewage & gray water discharges. The Coast Guard will inspect, monitor, & oversee this process to ensure compliance with applicable water quality laws & regulations. (33 CFR 159)

Black water system includes MSDs and other systems to collect, treat, store, and discharge sewage. This checklist is designed to guide the marine inspector through some basic questions to ascertain whether the system is working as designed and that the crew is properly trained in its operation. For example, does the MSD appear to be properly installed? Is there adequate capacity for the number of persons on board? Are maintenance procedures, including SMS procedures, being followed? Are there records of expendables being ordered: filters, chemicals, et cetera? Are the units operating within the manufacturer's design specifications? Are there clear and simple operating instructions? Is the crew knowledgeable in the use of the equipment/system?

- | | | |
|--------------------------|--|---|
| <input type="checkbox"/> | Sources | |
| | <ul style="list-style-type: none"> • Toilets, Urinals, scuppers • All Drainage from Medical Premises (U.S. restriction) • System installed, maintained and operated in accordance with approved plans and manufacturers specifications. • Tank Capacity and Volume Produced • Current volume in tanks • Modifications documented | MARPOL Annex IV*
40 CFR 140.3 & .4
33 CFR 159.57
33 CFR 159.7
33 CFR 159.55
33 CFR 159.59
MARPOL Annex IV/9*
40 CFR 140.3
MARPOL Annex IV/11*
Resolution MEPC.2(VI)
33 CFR 159.65 |
| <input type="checkbox"/> | Operations and Treatment (new section) | |
| | <ul style="list-style-type: none"> • Chemical/Biological treatment & protective equipment • Chemical Treatment Level • Sufficient chemicals, additives, approved cleaning materials onboard. (enzymes, "Gamazyme", chlorine) • Compressors operating, inlet filters maintained • Vacuum system operable, if applicable • Flow indicators clear – indicating flow • Last system cleaning • Macerator operating maintenance • Methods to dilute discharge? • Operating instructions/SMS procedures | MARPOL Annex IV/11*
33 CFR 159.65
NVIC 9-82
ISM Code
33 CFR 96

33 CFR 159 |
| <input type="checkbox"/> | U.S. Marine Sanitation Device Requirements | |
| | <ul style="list-style-type: none"> • Type (II, III) • Nameplate (Should be designed to resist efforts of removal or efforts to alter the information) • Placard • Proper operation (macerators, treatment chemicals) and structural integrity, no leaks • Certificate of Type Test. <u>For Foreign Flag Vessels in U. S. Waters</u>
 A foreign flag vessel that has a "Certificate of Type Test" under MARPOL Annex IV indicating that its sewage treatment plant meets the test requirements of Resolution MEPC.2 (VI) of the International Maritime Organization (IMO) will be accepted by the Coast Guard as being in compliance with 33 CFR 159.7(b) or (c). The Certificate of Type Test must be issued by or on behalf of a government that is a party to the MARPOL convention. Such a plant will be considered as fully equivalent to a Coast Guard certified Type II MSD as long as the unit is in operable condition. However, the unit may not be labeled as USCG certified. U.S. registered vessels will continue to be required to have Coast Guard certified MSDs per 33 CFR 159. | MARPOL Annex IV/2*
MARPOL Annex IV/10*

MARPOL Annex IV*
33 CFR 159.7
40 CFR 140.4
40 CFR 136 |
| <input type="checkbox"/> | Standard Discharge Connection (NLT 27 Sep 03) | |
| | <ul style="list-style-type: none"> • New ships 200 gross tons and above • New ships less than 200 gross tons and carry more than 10 persons. • Existing ships 200 gross tons and above and exiting ship less than 200 gross tons and carry more than 10 persons after 27 Sep 13 (10 years after the date entry into force of Annex IV) | |
| <input type="checkbox"/> | Disposal | |
| | <ul style="list-style-type: none"> • Shore (last done, reasons?) • Overboard valves secured • MSD bypass piping noted? (Condition of valves, pipe tees and caps, evidence of frequent usage) • At sea (provide proof of discharge location) • Logged position, speed (if required by management) <ul style="list-style-type: none"> • When comminuted and disinfected greater than 3 miles. • Company policy followed? • When not comminuted or disinfected greater than 12 miles. • Both to be discharged while ship is underway at greater than 4 knots. • Locations of discharges compared to deck logs. • Not in EPA "No Discharge Zones" • Connections to the gray water system (effluent routed to gray water system to dilute effluent?) | MARPOL Annex IV*
33 CFR 159 |

- Alaskan Waters:
Effective July 2001, Operators of cruise vessels carrying 500 or more passengers and transiting applicable waters of Alaska are restricted in where they may discharge effluents and will be required to perform testing of sewage and gray water discharges. The Coast Guard will inspect, monitor, and oversee this process to ensure compliance with applicable water quality laws and regulations. (33 CFR 159).

Sampling/Testing

- Lab analysis of fecal coliform/total suspended solids in effluent (recorded on ISPP if issued)
- Results of residual chlorine content in effluent testing
- Calibration records for dosing pump/proportioner

* Although the United States is not signatory to MARPOL Annex IV, the requirements of Annex IV may be enforced for those vessels that have committed to comply with Annex IV requirements in addition to 33 CFR Part 159 requirements as part of the vessels' SMS. This commitment is typical for ICCL Member vessels and many other cruise ships.

Hazardous waste must be handled in accordance with the ship's SMS. If such waste is disposed of in U. S. waters, the SMS hazardous waste handling procedures must meet or exceed 40 CFR Part 262 requirements. Hazardous waste includes dry cleaning (PERC) waste, used paints and thinners that contain hazardous substances, silver-bearing photo-processing waste, cleaning solutions and other similar items. Each vessel may vary in both the type and volumes of hazardous waste generated depending on the technology and processes aboard ship. This checklist is designed to evaluate on-board management of hazardous waste streams and to ensure that hazardous constituents are not released into the environment, disposed of properly and that accountability is demonstrated via adequate waste disposal records.

Hazardous Waste

- | | |
|--|---|
| <ul style="list-style-type: none"> • Has the company conducted a waste determination? Through Process Knowledge or Waste Analysis (circle one)? If not, hazardous waste may <u>not</u> be landed. • Have responsible personnel received initial and refresher training? Has the training been documented? • Is there any evidence that hazardous wastes are being incinerated, diluted, neutralized, or evaporated as a means of disposal. • Is there any evidence (e.g. lack of disposal records) of hazardous material being discharged overboard? • Are hazardous wastes being properly stored, maintained, labeled, and placarded? Note any observations made of deficiencies, dates and nature of repairs. • Are proper storage devices available? • Waste not commingled • Quantities on board consistent with receipt/disposal documentation? • Does the crew have ready access to spill control and decontamination equipment? • Are records maintained and manifests completed for potential hazardous waste streams, for example: <ul style="list-style-type: none"> • Silver Bearing Photo Processing Waste (developers, wash water, Silver Recovery Units) • X-Ray equipment • Print Shop Waste (inks, dyes, cleaning solvents) • Used Solvents, Paints & Thinners • Fluorescent/Mercury Vapor Bulbs • Batteries (universal wastes): Nickel Cadmium (Nicad); Lead Acid; Lithium; Alkaline • Certain Pharmaceuticals/Narcotics • Dry Cleaning Waste (PERC, lint, sludge, filters, condensate water) • Aerosol Cans • Cleaning Solutions (de-scalers, acids, bases, other corrosives) • Expired pyrotechnics (from safety equipment and entertainment use) • Rags contaminated with hazardous wastes (also - in approved storage containers?) • Incinerator ash if contaminated with toxic/hazardous substances (plastics containing heavy metals) • Do records reflect reasonable accumulations of waste with respect to the capacity of the vessel, its age, technologies onboard, and amounts of repair/maintenance? • Used lead acid batteries not mixed and kept dry? | <p>40 CFR 262
49 CFR 173
RCRA
SARA Title III
42 USC 11002(a)(3)
40 CFR 355 App A / B
ISM Code
33 CFR 96</p> |
|--|---|

Records of hazardous consumables kept updated
Used and unused

Shipboard Records
ISM Code
33 CFR 96

The following excerpt from 40 CFR 262 regarding Resource Conservation and Recovery Act (RCRA) requirements is provided for background information only. The Federal or State RCRA program office must be consulted if any clarifications are needed for a particular situation.

HAZARDOUS WASTE HANDLING REQUIREMENTS

§ 262.11 Hazardous waste determination.

A person who generates a solid waste, as defined in 40 CFR 261.2, must determine if that waste is a hazardous waste using the following method:

- (a) Determine if the waste is listed as a hazardous waste in subpart D of 40 CFR part 261.
- (c) Or if not listed in subpart D of 40 CFR part 261, generator must determine if the waste is identified in subpart C of 40 CFR part 261 by either:
 - (1) Testing the waste according to the methods set forth in subpart C of 40 CFR part 261
 - (2) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

262.12 EPA identification numbers.

(a) A generator must not treat, store, dispose of, transport, or offer for transportation, hazardous waste without having received an EPA identification number from the Administrator.

262.20 General requirements.

- (a) A generator who transports, or offers for transportation, hazardous waste for offsite treatment, storage, or disposal must prepare a Manifest OMB control number 2050-0039 on EPA form 8700-22, and, if necessary, EPA form 8700-22A, according to the appendix to part 262.
- (b) Generator must designate on manifest one facility that is permitted to handle the waste described on the manifest.

262.23 Use of the manifest.

- (a) The generator must:
 - (1) Sign the manifest certification by hand; and
 - (2) Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest; and
 - (3) Retain one copy, in accordance with § 262.40(a) and give the transporter the remaining copies of the manifest.

262.30, .31, .32 & .33 Packaging, Labeling, Marking and Placarding.

Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must package, label, mark and placard the waste in accordance with the applicable Department of Transportation regulations on packaging under 49 CFR parts 172, 173, 178, and 179. Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must mark each container of 110 gallons or less used in such transportation with the following words and information displayed in accordance with the requirements of 49 CFR 172.304: **HAZARDOUS WASTE -- Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency. Generator's Name and Address -- -- -- -- . Manifest Document Number -- -- -- -- -- .**

262.34 Accumulation time.

A generator may accumulate hazardous waste on-site for 90 days or less for large quantity generator and 180 days or less for small quantity generator, without a permit or without having interim status.
The date upon which each period of accumulation begins must be clearly marked and visible for inspection on each container and while being accumulated on-site, each container and tank is labeled or marked clearly with the words, "Hazardous Waste."

§ 262.40 Recordkeeping.

- (a) A generator must keep a copy of each manifest signed in accordance with § 262.23(a) for three years or until he receives a signed copy from the designated facility which received the waste. This signed copy must be retained as a record for at least three years from the date the waste was accepted by the initial transporter.
- (b) A generator must keep a copy of each Biennial Report and Exception Report for a period of at least three years from the date of the report.
- (c) A generator must keep records of any test results, waste analyses, or other determinations made in accordance with § 262.11 for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal.

Non-hazardous wastes include shipboard garbage containing plastics and synthetic material, certain medical wastes, food wastes and recyclables such as glass, cardboard, aluminum and metal cans. Items to be checked should include waste sorted to prevent hazardous waste from entering the non-hazardous waste stream; no plastics or synthetics are to be discharged overboard, separate; proper disposal of hazardous (i.e. containing residual plastics or un-burnt food waste) and non-hazardous incinerator ash; and proper disposal of cooking grease from grease traps.

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|---|---|
| <p><input type="checkbox"/> Shipboard Garbage Management Plan</p> <ul style="list-style-type: none"> • Shipboard garbage properly handled in accordance with Garbage Management Plan • Garbage Record Book entries <ul style="list-style-type: none"> • Type, amount, location, date/time • Receipts • Each entry signed by Officer-in-Charge and each page by Master • Any reports of alleged inadequacy of port reception facilities for garbage on file • Person-in-Charge Designated • No plastics or synthetics discharged overboard • Waste sorted to prevent hazardous waste entering non-hazardous waste stream or incinerated. Separate defined storage areas for hazardous/non-hazardous – no commingled waste. • Signage in working language of crew and in English, French or Spanish • Incinerator ash if discharged overboard free of plastic residue (clinkers) or free of unburned food wastes if landed ashore. • Trash chutes clean, free from oil residue (No oil stains on decks, side of hull adjacent to trash chutes) • Foreign Food Wastes handled per APHIS regulations • Medical Wastes-incinerated or manifested as Bio-Hazardous Waste. • Discharged outside of special areas only (when special area restrictions are in effect) • Incinerator operation observed (if in operation) | <p>33 CFR 151.63
MARPOL Annex V
MARPOL Annex V/9
MARPOL Annex V/3
7 CFR 330.400</p> |
| <p><input type="checkbox"/> Garbage Pollution Placards posted</p> | <p>MARPOL Annex V/
33 CFR 151</p> |
| <p><input type="checkbox"/> Procedures to minimize amount of potential garbage</p> <ul style="list-style-type: none"> • Is vessel encouraging ship suppliers to consider alternate means of packing, use of other than plastics? Examine stores being loaded. • Is vessel using reusable packing? Examine stockpiles for use • Is waste generated while in port disposed to shore reception facility prior to sailing? Examine waste being offloaded. | |
| <p><input type="checkbox"/> Recycling</p> <ul style="list-style-type: none"> • Is ships crew following policy for recycling. Interview crewpersons in varied work areas, casino, galley, housekeeping, etc. with recycling responsibilities for procedures used. | |
| <p><input type="checkbox"/> Maintenance and repair conducted on equipment</p> <ul style="list-style-type: none"> • Incinerator • Grinders • Valves and flappers on chutes | |
| <p><input type="checkbox"/> Human factors</p> <ul style="list-style-type: none"> • Warning signs posted around equipment. • Master and crew familiar with essential shipboard garbage handling procedures. • Personal protective equipment available, functioning and in place (ILO 134). • Sanitation, from a health standpoint, being maintained (ILO 147). | |

AGENT

Vessel representative hired by the ship's owners. Ship's agent may be tasked with various jobs such as: ensuring proper vessel documentation and compliance.

AUTOMATIC STOPPING DEVICE

Is a control mechanism that ensures discharge of an oily water separator is stopped when the oil content of the effluent exceeds 15 parts per million (PPM). The automatic stopping device may be initiated by the operation of the oil content meter.

BALLAST

Used to improve the stability and control the draft of a ship. (In Ballast - having only ballast for a load)

BLACK OIL

A viscous and black or very dark brown colored oil. Depending on the quantity spilled, oil tends to quickly spread out over the water surface to a thickness of about one-millimeter.

BLACK WATER (sewage)

Examples - possible sources toilets, urinals and drainage from medical facilities (U.S. restriction).

COC

Certificate of Compliance, CG Form 3585.

COTP

Captain of the Port.

CWA

Clean Water Act.

CVE

Control Verification Examination is the examination of vessel for compliance with SOLAS requirements and applicable U. S. regulations. More properly referred to as the Passenger Vessel Certificate of Compliance Examination.

DISPERSION

The breaking up of an oil slick into small droplets which are mixed into the water column as a result of breaking waves and other sea surface turbulence.

EFFLUENT

To flow out. (Waste material, refuse, and sewage)

EMULSIFICATION

The formation of a water - in - oil mixture. In the environment, the tendency for emulsification to occur varies with different oils and is much more likely to occur under high-energy conditions (wind and waves). Emulsions may also be formed by surfactants, including detergents, which cause the oil and water to mix, or by mechanical means such as pressure washing or pump action.

EPA

Environmental Protection Agency

EQUIPMENT HAVING AN OIL TO SEA INTERFACE

Equipment that uses a seal to prevent leakage of oil into the sea. Examples, oil-lubricated stern tube seals, hydraulically-driven stabilizer fin seals, bow and stern thruster seals. An indicator that system seals are leaking to the sea may be evidence of frequent filling of system reservoirs, presence of barrels, drums, hoses, pumps, and other equipment/supplies/arrangements necessary to refill systems. Some ships' SMS or environmental compliance programs may require that records of refilling such systems are kept. If so, these records should be checked.

15 PPM ALARM

An alarm that activates when the effluent passing through oil-filtering equipment exceeds 15 parts per million (ppm) of oil.

GRAY WATER

Includes discharges from galley, sinks, washbasins, drains, showers and baths. These may be held in large tanks prior to being discharged overboard (State, Fed, regulation permitting).

HSSC

International Convention to Harmonized System of Survey and Certification.

ICCL

International Council of Cruise Lines, a cruise ship industry association which participates in industry standards and policy development process to promote all measures that foster a safe, secure, healthy cruise ship environment.

ICLL

International Convention for Load Lines.

IMO

International Maritime Organization; a specialized agency of the United Nations concerned solely with maritime affairs. IMO is responsible for international treaties, conventions, resolutions and codes to improve maritime safety.

ISM Code

International Safety Management Code. (Chapter IX of SOLAS)

MARPOL

The International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978.

MSC

Maritime Safety Committee. One of five technical committees of the IMO which deals with issues such as aids to navigation, vessel equipment and construction, manning requirements, handling dangerous cargoes, hydrostatic and marine casualty information.

MSD

Marine Sanitation Device.

OIL CONTENT METER

An instrument used to measure continuously the oil content of the effluent in the OWS output line, in parts per million, to ensure that the operation does not contravene the convention.

OIL FILTERING EQUIPMENT

Equipment that uses any combination of a separator, filter or coalescer, and also a single unit designed to produce an effluent with oil content less than 15 parts per million (ppm). (MARPOL Annex I, Reg 16)

OILY WATER SEPARATOR (OWS)

The basic principle of oil / water separation is their difference in specific gravity. The specific gravity of most oils is less than water; therefore, it will naturally float to the top of an oil and water solution. Small droplets of oil float to the top much slower than large droplets. This is due to the large surface area to mass ratio. To speed up the process of separation, OWS units form larger oil droplets out of smaller ones, thus decreasing the surface area to mass ratio. The increased mass of the oil droplet increases its buoyancy, thus causing it to rise more quickly. Gravitational-based systems are not effective processors of oil-water emulsions formed by detergents or mixtures containing high specific gravity oils.

PASSENGER SHIP

A ship which carries more than 12 passengers.

PMS

Preventative Maintenance System

QUALIFIED INDIVIDUAL (QI)

The person authorized by the responsible party to act on their behalf, authorize expenditures and obligate organization's resources.

RCRA

Resource Conservation and Recovery Act (RCRA), was enacted by the U.S. in 1976 to address the issue of how to safely manage and dispose of the huge volumes of municipal and industrial hazardous waste generated nationwide.

RECOVERABLE OIL

Oil that is in a thick enough layer on the water to be recovered by conventional techniques and equipment. Only black or dark brown oil, mousse, and heavy sheens (dull brown) are generally considered thick enough to be effectively recovered by skimmers.

SEPARATION EQUIPMENT

A device designed to remove enough oil from an oil-water mixture to provide a resulting mixture with an oil content of less than 100ppm, or 15ppm, such as an Oily Water Separator (OWS).

SLICK

Oil spilled on the water, which absorbs energy and dampens out the surface waves making the oil appear smoother or slicker than the surrounding water.

SHEEN

A sheen is a very thin layer of oil (less than 0.0001 inches or 0.003mm) floating on the water surface and is the most common form of oil seen in the later stages of a spill. According to their thickness, sheens vary in color ranging from dull brown for the thicker layers to rainbows, grays silvers and almost transparent for the thinnest layers.

SLUDGE TANKS

Tanks used to contain sludge formed by fuel and lube oil purifiers and from other sources or cleaning activities. Sludge is not readily processed by many oily water separators and frequently requires treatment ashore or incineration. Every ship of 400 GT or more must be provided with a tank or tanks of adequate capacity, in regard to type of machinery and length of voyage, to receive the oil residues (sludge) that cannot be dealt with otherwise in accordance with MARPOL Annex I.

SMS

Safety Management System (sometimes referred to as an SQM). Required by the ISM Code and Chapter IX of SOLAS.

SOLAS

Safety of Life at Sea. The International Convention for the Safety of Life at Sea.

SOPEP

Shipboard Oil Pollution Emergency Plan. (MARPOL Annex I, Reg. 26)

STCW

The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers.

TANKER

Is a self-propelled vessel constructed or adapted for the carriage of bulk liquid cargoes of oil or hazardous materials.

TRANSFER

Any movement of oil or hazardous material to, from or within a vessel by means of pumping, gravitation, or displacement.