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G-PCV Policy Letter
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From: M. B. Karr, CAPT
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To: Distribution

Subj: GUIDANCE FOR THE ENFORCEMENT OF MARPOL ANNEX I DURING PORT STATE CONTROL EXAMINATIONS

Ref: (a) Annex I to The International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978, relating thereto (MARPOL 73/78)
(b) Act to Prevent Pollution from Ships, (33 U.S.C. 1901-1911)
(c) Navigation and Vessel Inspection Circular No. 8-83, "Guidance for Compliance with Annex I, MARPOL 73/78"
(d) Navigation and Vessel Inspection Circular No.6-94, Change 1, "Guidance for Issuing International Oil Pollution Prevention (IOPP) Certificates Under Annex I of MARPOL 73/78"
(e) MOC Policy Letter 04-13, " Guidelines for the Inspection of Oily Water Monitor and Separator Systems"
(f) Procedures for Port State Control, 2000 Edition, IMO Sales Number IA650E
(g) Maritime Law Enforcement Manual, COMDTINST M16247.1D
(h) Marine Safety Manual, COMDTINST M16000 (Series), Vol. V

1. Purpose. The enclosure to this letter provides procedures for enforcing MARPOL Annex I. In particular, we intend for these inspection and testing procedures to result in a Coast Guard wide consistent application of the MARPOL Convention and MARPOL enforcement.

2. Action. Sector Commanders/OCMIs/COTPs should direct their staffs to use the guidance of enclosure (1) during Port State Control examinations to ensure compliance with the provisions of MARPOL Annex I. In addition, Port State Control Officers (PSCO) should use this guidance when they suspect a vessel of being in contravention of the applicable MARPOL Annex I regulations.

3. Directives affected. This policy will be incorporated into the next revision of the Marine Safety Manual, Volume II.

4. Background and Information. MARPOL 73/78 entered into force on October 2, 1983. The Coast Guard is authorized and required by the Act to Prevent Pollution from Ships, to implement the provisions of MARPOL Annex I. Intentional discharges of oil contaminated bilge water and sludge in direct contravention of MARPOL requirements remain a continuing and significant

threat to the marine environment. A review of data obtained during Port State Control examinations over the past several years indicate an increasing frequency of Coast Guard actions involving non-compliance with MARPOL Annex I requirements. Recent MARPOL Annex I violation investigations have demonstrated that related ship owners and vessel crews conceal accidental or deliberate discharges of oily waste and sludge, usually caused by malfunctioning equipment, poorly managed maintenance programs or as an effort to reduce operational costs.

5. Guidance. The enclosure includes guidance for:
   a. Documentation Review
   b. Vessel Examination and Operational Inspection of Equipment
   c. Procedures for Conducting an Expanded Exam
   d. Procedures for Detaining under MARPOL Annex I
   e. Initiating a MARPOL Annex I Investigation

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Enclosure: (1) MARPOL Annex I Port State Control Examination Guidance

Distribution: All Area/District (m) offices
All Sectors/Activities/MSUs/MSDs

1. Application. Annex I applies to all ships which MARPOL 73/78 applies. Oil tankers of 150 gross tonnage and above, and other ships of 400 gross tonnage and above, must comply with additional requirements contained in MARPOL Annex I.

2. MARPOL Annex I Port State Control Examination Guidance.

a. Documentation Review.

(1) IOPP Certificate – The IOPP Certificate details the ship's arrangements and equipment for meeting applicable Annex I requirements. The PSCO should check the IOPP Certificate for validity and verify ship name and registry, carefully noting any exemptions or equivalencies in pollution prevention arrangements. Additionally the PSCO should verify the vessel arrangements and equipment listed on the IOPP match the vessel and are in accordance with the requirements of reference (a).

(2) Oil Record Book (ORB).

(i) The ORB exists to record all shipboard oil transfer and discharge operations. The PSCO should 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. The PSCO should also review recent entries to ascertain whether these activities represent actual procedures followed by shipboard personnel. The PSCO should be aware that 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.

(ii) The PSCO should investigate any irregularities, which may include:

- if amounts processed exceed rated capacity of the pollution prevention equipment, compare system through-put to what is indicated on the IOPP. For 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;

- check entries for wrong codes, dates that are not in order and missing pages;

- repetitive entries that may indicate falsification of ORB activities;

- 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;

- 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.

(iii) The ORB must address the following, as appropriate:

- 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.

- 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.

(iv) Appendix III to MARPOL Annex I and reference (c) provides additional guidelines for ORB entries; the PSCO must be familiar with this guidance when conducting an expanded examination.

(3) Oil Discharge Monitor and Control System Record Review – Regulation 15 of Annex I requires oil tankers of 150 gross tonnage and above to carry cargo monitors that provide continuous recordings of oil discharges from slop tanks. The PSCO should review the IOPP Certificate and reference (a) to determine whether the ship needs an oil content/discharge monitor equipped with an automatic recording device. The PSCO should confirm that the cargo records for the previous year are onboard and the machinery bilge space records from the past three years are onboard. The PSCO should review the dates, times, and concentration of discharges from the most recent voyage by checking the ORB. 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 not working, the problem should be indicated in the ORB with corrective action indicated. Equipment should match what is listed on the IOPP certificate. 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. Recent examples of tampering include manually changing recorder entries such as vessel speed and dates.

(4) Shipboard Oil Pollution Emergency Plan (SOPEP) – Every oil tanker of 150 gross tonnage and above, and every ship other than an oil tanker of 400 gross tonnage and above, shall carry 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 state. The PSCO should spot check the pollution response equipment listed in the SOPEP and verify that 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.

b. Vessel Examination and Operational Inspection of Equipment. 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 consider 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 also evaluate the vessel's Safety Management System (SMS) procedures regarding the management of bilge and sludge type wastes routinely generated by various systems.

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. The PSCO should 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; the PSCO should check for improper tie-in with systems capable of discharging overboard. The PSCO should be alert to independent segments of piping and fittings stowed, but designed to fit in-between certain flanges of equipment capable of discharging overboard.

The discovery of conditions described above may not be evidence of improper activities, but must be considered with other factors discovered during the 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 the PSCO should carefully consider the totality of these observations when making an assessment.

During all PSC exams and other inspections when the PSCO needs to determine 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.

(1) Oily Water Separator – Prior to conducting an operational test of the OWS, the PSCO should 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 guidance contained in reference (e) should be followed. For equipment meeting older standards, guidance contained in this policy letter should be used to supplement guidance contained in references (c) and (d). In addition, the PSCO should require an operational test of the OWS using the following procedures. Great care should be exercised by the ship's crew to prevent overboard releases of oil, even if such efforts may require the separation of pipe or flanges after the discharge control devices;

(i) The PSCO should 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 with 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.

(ii) Consult the manufacturer's operations manual for operating the OWS and OCM and follow any relevant procedures provided.

(iii) 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 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, 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) After testing the proper operation of the OWS, test the OCM (if the vessel is equipped) following the procedures below.

Note: 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.

(2) Bilge Alarm/Oil Content Monitor/Meter – Ships of 10,000 gross tonnage and above, and ships carrying large quantities of fuel oil, are required by reference (a), Annex I, Regulation 16 to have a bilge alarm, commonly referred to as an OCM. PSCOs should witness an operational test of the unit (usually at the same time as the OWS) using the following procedures. 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 measure accurately 15 ppm. The PSCO may choose to examine ORB entries relating to maintenance done to the unit. During testing, ensure the crew uses great care to prevent discharging unlawful quantities of oil.

(i) The OWS effluent tested by 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 content exceeds 15 ppm. An oily water sample exceeding 15 ppm can easily be verified since oily water typically produces a sheen at concentrations greater than 80 ppm. Most OWS units have a sample valve located before the OCM where a sample can be drawn and visually checked.

(ii) Ensure the sample analyzed by the OCM is the OWS output. Do this by tracing the sample line to the OWS output. Verify that the system has no means to dilute the source sampling entering the OCM. Ensure that OCM fresh water flush valve, if provided, is closed when OCM is sampling.

(iii) Never test the OCM using sticks, tea, coffee, or similar unorthodox methods. Always refer to the manufacturer's specified procedure or the vessel's written procedures for proper testing methods.

(iv) When testing the OCM alarm, do not expect instantaneous performance. Note that some approved OCMs may activate with up to a 20 second delay after the detection of excessive oil content before sounding and activating the overboard discharge control devices.

Note: In accordance with MEPC.107(49), a bilge alarm must activate when clean water is used for cleaning or calibration of the unit.

(3) Sludge Tank (tank for oil residues) - 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. 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. In general, the quantity of fuel oil sludge produced should be equivalent to 1-2% 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. Confirm that the sludge tank level is consistent with entries in the ORB. Ask the ship's officer how the ship disposes of sludge, ashore or through incineration. Review ORB entries and verify for method of sludge disposal. PSCOs should be aware there may be several different tanks used to manage oily bilge water and sludge type wastes. Some sludge tanks are fitted with heating coils that evaporate excess water. Accordingly, these tanks may show less fluid during inspection than the ORB might indicate.

(4) Incinerator – A properly functioning incinerator is an integral part of disposing separated oil generated by a properly operating OWS and sludge extracted from fuel and lube oil purification, and other main engine sources. An operational test of the incinerator may be necessary when conducting an expanded exam. Prior to conducting an operational test of the incinerator, the PSCO should verify that the unit has been approved by the USCG or appropriate Administration. PSCOs should refer to MARPOL Annex VI, Regulation 16, for incinerators built before 1998 that do not have CG approvals. Examine the ORB for quantities of sludge incineration. No or infrequent entries in the ORB for shore-side discharge of sludge, may indicate that the incinerator is frequently used.

(i) Question the ship's crew on how much waste oil and sludge the incinerator burns. If the crew claims that all the waste oil is burned, verify and compare the capacity of the incinerator against the ship's daily production of sludge oil. As discovered in recent MARPOL investigations, ORB entries documenting the quantities and methods for handling sludge wastes are occasionally falsified and investigators have learned that, in such cases, wastes are sometimes discharged overboard. Examination of the vessel's engineering log, specifically daily fuel consumption entries, may indicate the accuracy of the quantities expressed in the ORB.

(ii) 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 are operating.

(b) Verify the content of the source tank as sludge. The PSCO should 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 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) The incinerator should go through its warm-up stage prior to the admission of sludge and pre-sludge burning furnace temperatures are reached.

(e) Once the proper warm-up temperatures are reached, the PSCO should 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.

(5) Standard Discharge Connection. Examine the standard discharge connection for evidence of use. The ORB should be reviewed for entries indicating shore-side discharge requiring use of 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. PSCOs should be aware that on occasions the discharge connection is used with disposable hoses, such as an old fire hose, to pump oily waste and sludges directly overboard. 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 revealed piping segments which extend the connection directly over the side of the vessel and have a special fitting on the outboard end to adapt a hose.

c. 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 inspection. 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 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 reference (f) contains comprehensive guidance that should be consulted before conducting an expanding 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. The OWS discharge pipe should be opened if illegal bypasses are suspected. In such an event, some light residue may be present in the discharge pipe; that is normal since light residues of oil may accumulate in the pipe over time. On the other hand, excessive quantities of oil or build-up of sludge may require further investigation. Bypasses do not always directly involve the OWS overboard skin valve, many creative means have been used to bypass inoperable equipment used in the waste stream, for example, a bilge water bypass to overboard discharge for another system. PSCOs should be vigilant for unauthorized bypasses when they discover malfunctioning OWS equipment.

(3) 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.).

(4) Review meter calibration records if available. STCW does not require members of the crew to be competent in calibrating OWS equipment. PSCO should note, MEPC.107(49) requires a seal on the bilge alarm, allowing the crew to only check instrument drift, repeatability and have the ability to re-zero the unit.

(5) Make note of any cleaning products in the engine room. Some cleaning products may emulsify the oil in the bilge water which may not be compatible with OWS equipment, rendering it ineffective. Consult the OWS manual for approved cleaning products.

(6) 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.

d. Procedures for Detaining under MARPOL Annex I. 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.

(1) Examples of MARPOL Annex I detainable deficiencies can be found in reference (f) 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 15

ppm alarm arrangements; remaining capacity of slop and/or sludge tank insufficient for the 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.

(2) PSCOs should follow the specific procedures for notifying and reporting detentions contained in NVIC 06-03. PSCOs are reminded that deficiencies reported on 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. Some MARPOL Annex I detentions coincide with civil penalty action and criminal investigations. A clearly articulated report reflects positively on the investigative process and subsequent enforcement measures.

(3) OCMIs and COTPs are reminded that criteria to detain or deny entry to a vessel that is not in substantial compliance with MARPOL 73/78 requirements are described in reference (f).

e. 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. References (g) and (h) contain guidance and procedures for Sector Commanders that if closely followed, will ensure all enforcement options are protected when conducting an investigation.

References to G-PCV Policy Letter 06-01:

(a) Annex I to The International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978, relating thereto (MARPOL 73/78)
(b) Act to Prevent Pollution from Ships, (33 U.S.C. 1901-1911)
(c) Navigation and Vessel Inspection Circular No. 8-83, "Guidance for Compliance with Annex I, MARPOL 73/78"
(d) Navigation and Vessel Inspection Circular No.6-94, Change 1, "Guidance for Issuing International Oil Pollution Prevention (IOPP) Certificates Under Annex I of MARPOL 73/78"
(e) MOC Policy Letter 04-13, " Guidelines for the Inspection of Oily Water Monitor and Separator Systems"
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