

**MARPOL ANNEX VI
FOREIGN FLAG SHIP EXAMINATION PROCEDURES**

1. **Background:** MARPOL 73/78, Annex VI entered into force for signatory countries on May 19, 2005. On October 8, 2008, the United States deposited an instrument of ratification with the International Maritime Organization for Annex VI. Under the terms of the convention, nations that are parties to Annex VI may require ships in their waters to comply with these international air pollution prevention regulations. Annex VI became effective for the United States on **January 8, 2009**. Starting on that date, foreign-flagged ships operating in the waters of the U.S. and U.S. flag ships became subject to demonstrating compliance with MARPOL Annex VI. Compliance verification should primarily focus on documentation, equipment certification/approval and cursory material tests/examination. In general, the USCG will perform port State control (PSC) examination of MARPOL Annex VI requirements in accordance with Annex 11 to Resolution MEPC.129.53, "*Guidelines for Port State Control under MARPOL Annex VI*".

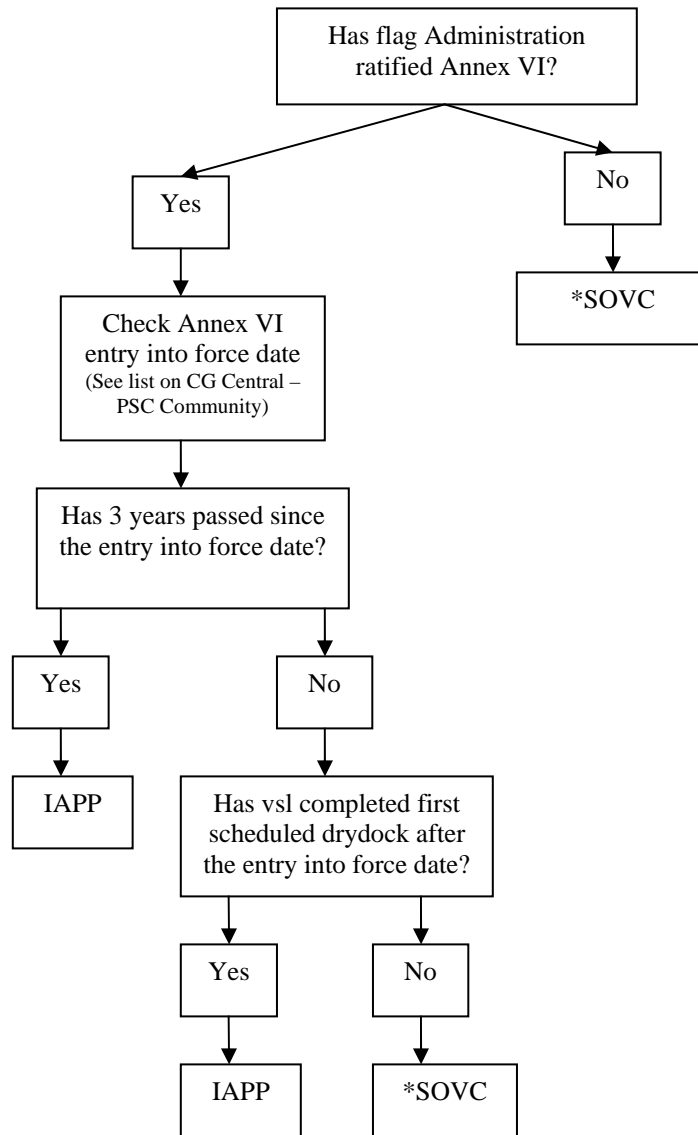
2. **General:** Beginning January 8, 2009, the USCG shall perform port State control of foreign vessels for compliance with the provisions of MARPOL Annex VI by incorporating checks of Annex VI compliance into targeted PI, PII and random PSC examinations, and Certificate of Compliance (COC) examinations. The USCG may initiate a separate MARPOL Annex VI examination for a foreign vessel in port when clear grounds exist that the vessel may not be in compliance with MARPOL Annex VI.
 - a. **Foreign Ships 400 Gross Tons (ITC) and over on International Voyages.** All ships 400 Gross Tons (ITC) and over that engage on international voyages must hold a valid International Air Pollution Prevention (IAPP) Certificate (and IAPP Supplement)¹. If the vessel does not have an IAPP, it may be acceptable in some situations for the vessel to have a Statement of Voluntary Compliance (SOVC) or an equivalent certificate that indicates the flag Administration has determined the vessel to be in compliance with MARPOL Annex VI. Determination of whether a ship may hold a SOVC or equivalent in lieu of an IAPP is determined by the flag Administration's MARPOL Annex VI entry into force date.
 - i. **Ship's Flag Administration Annex VI Entry into Force Date More than 3 Years Ago.** Ships registered with flag Administrations which have an Annex VI entry into force date which is more than three years from the date of the USCG PSC examination must hold a valid IAPP and supplement.



¹ A ship which has dual tonnage (National Tonnage and ITC) whose keel was laid before 18 July 1994 with the ship's national tonnage being less than 400 GT is not required to hold an International Air Pollution Prevention (IAPP) Certificate (and IAPP Supplement).

- ii. Ship's Flag Administration Annex VI Entry into Force Date Less than 3 Years Ago. Ships registered with flag Administrations which have an Annex VI entry into force date which is less than three years from the date of the USCG PSC examination may have an SOVC or equivalent rather than the IAPP if the vessel has not already completed its first scheduled drydock after the flag Administration's entry into force date.
- iii. Ship's Flag Administration has Not Ratified MARPOL Annex VI. PSCOs shall provide no more favorable treatment to vessels of 400 GT and above of flag Administrations that are not party to MARPOL Annex VI. These "non-convention" ships may have an SOVC or equivalent rather than the IAPP on board. Where no SOVC or other form of documentation of compliance with Annex VI is onboard, PSCOs should conduct a more detailed Annex VI examination. Lack of an IAPP is not a deficiency for these ships; however, failure to meet the requirements of Annex VI might be cause for a detention.

PSCOs should use the following flow chart in combination with the list of flag Administrations that have ratified Annex VI located in CG Central -> Foreign Vessel Inspections (Port State) Community -> General Information section to determine whether a vessel should have an IAPP or a SOVC onboard:



* If no SOVC or equivalent documents are onboard, PSCOs should conduct a more detailed exam to determine if vsl is in full compliance w/ Annex VI.

- b. Foreign Ships less than 400 Gross Tons (ITC). Many of MARPOL Annex VI regulations apply to vessels under 400 GT (ITC), however flag Administrations are not required to issue an IAPP to ships under 400 GT. With the exception of those vessels examined in accordance with the Caribbean Cargo Code, PSCOs are not required to conduct MARPOL Annex VI examinations on these vessels unless clear grounds exist to do so.

3. Examination Procedures:



a. Review the International Air Pollution Prevention (IAPP) Certificate. Review the IAPP as part of each PSC & COC examination to ensure the certificate is properly completed and signed, and that the flag Administration has completed the required surveys. (See flow chart on previous page to determine if an SOVC is appropriate vice an IAPP) [Annex VI/6]



b. Spot Check IAPP Supplement. Spot check the equipment listed on the IAPP Supplement to establish how the ship is equipped to prevent air pollution. Verify (spot check) the equipment is onboard and agrees with the details shown on the supplement. [Annex VI/6, App I]



c. Examine Engine International Air Pollution Prevention (EIAPP) Certificates: Except emergency diesel engines, each diesel engine over 130kW/175 horse power installed on ships of any GT constructed on or after **01 January 2000** or later or diesel engines over 130kW/175 horse power replaced or converted after this date must have an associated EIAPP certificate issued by the flag Administration^{2,3}. Spot check EIAPP, the EIAPP Supplement, and the Technical File⁴ to ensure these are complete and onboard for each applicable diesel engine. If the vessel has an SOVC vice an IAPP, the vessel could also have additional documentation in lieu of an EIAPP. For vessels not signatory to Annex VI, and vessels < 400GT, the SOVC or equivalent may indicate full compliance with Annex VI/13 and no additional documentation would be necessary. [Annex VI/13, NOx Tech Code]



d. Spot Check Record Book of Diesel Engine Parameters⁵: Spot check to ensure this record is onboard for each applicable diesel engine installation. For vessels not signatory to Annex VI, and vessels < 400GT, the SOVC or equivalent may indicate full compliance with Annex VI/13 and no additional documentation would be necessary. [Annex VI/13, NOx Tech Code]

² Engines need not comply with the NO_x requirements if the engine is fitted with an approved exhaust gas scrubbing system as described in Regulation 13 and approved by the flag Administration.

³ Engines used exclusively for emergency purposes (e.g., lifeboats, emergency diesel generators, etc) are exempt from the EIAPP Certificate requirement.

⁴ The Technical File is prepared by the engine manufacturer and approved by the flag Administration (or Recognized Organization on behalf of the flag Administration). Each engine that requires an EIAPP requires a Technical File which describes the engine settings which may affect the engine's NO_x emissions. A cursory review of the Technical File should be done to ensure that all elements are covered.

⁵ This record details parameters and components of the engine and is intended to document the original engine installation and all changes, including components and engine settings, which may influence NO_x emission of the engine. The entries in the Record Book of Engine Parameters should be compared to (and match) the current engine settings.



e. Spot Check Bunker Delivery Notes. Spot check bunker delivery notes for the past three years for general compliance with the requirements of Annex VI, Regulation 18. Confirm the fuel supply on board the vessel does not exceed 4.5% m/m sulfur content requirement in Annex VI, Regulation 14. When the U.S. establishes SO_x emission control areas (SECA), confirm fuel oil, residual fuel oil, and low sulfur fuel oil for SECAs⁶ for compliance with Annex VI, Regulation 14. Vessels shall maintain on board bunker delivery notes for at least three years after the fuel delivery date. [Annex VI/14, 18, App V]



f. Spot Check Fuel Samples: Verify (spot check) fuel samples provided for each fuel delivery and that they are associated with a bunker delivery note and kept on board for at least 12 months or until fuel is substantially consumed if longer than 12 months. [Annex VI/14, 18, App V]

g. Examine Documentation for Exhaust Gas Cleaning Systems: When the U.S. designates SO_x emission control areas (SECA) and if the vessel transits these areas, verify if the vessel engine exhausts are fitted with exhaust gas cleaning systems for the purpose of reducing SO_x emissions⁷. If they are, check that the flag Administration has approved this equipment. [Annex VI/14]



h. Spot Check Incinerator Certification: Verify flag Administration certification of incinerators installed on or after 1 January 2000, if fitted. Spot check condition of incinerators, if fitted, and witness operation of incinerators, if operating. [Annex VI/16, App IV]



i. Refrigeration Equipment: Review IAPP Supplement information regarding installed authorized refrigeration equipment. Spot check materiel condition and verify no leaks in the equipment. [Annex VI/12]

j. Volatile Organic Compounds (VOCs): When the U.S. designates ports or terminals at which VOC emissions from tankers are to be regulated, PSCOs shall verify via examination of the IAPP Supplement that the vessel is fitted with a vapour emission control system approved by the flag Administration when vessel is at a designated port or terminal. [Annex VI/15]



k. Review Reports on MARPOL Annex VI Fuel Delivery Non-Compliance: Review records, if applicable, for any reports of non-compliance with MARPOL Annex VI for bunker deliveries.



l. Conduct Walk-Through Examination. To support the examination of items a. through k. above, conduct a walk-through examination of the ship to form a general impression of the state of the engine room, machinery spaces and the physical conditions of systems, equipment and components.

⁶ Only check for low sulfur fuel for SECA operation if the vessel will operate in a SECA established in U.S. waters or within our EEZ. As of the publishing date for this policy letter, the U.S. does NOT have any designated SECAs.

⁷ When the vessel is fitted with cleaning systems required as an alternative to using fuel complying with Regulation 14 of Annex VI.

4. More Detailed Examination Procedures:



a. PSCOs may expand the examination to address only those areas for which clear grounds exist. “Clear Grounds” to conduct a more detailed examination include evidence, information, observations or reports that:

- i. certificates required by the Annex are missing or clearly invalid;⁸
- ii. documents required by the Annex are missing or clearly invalid;⁸
- iii. principal equipment or arrangements specified in the certificates or documents are absent;
- iv. equipment or arrangements exist which are not specified in the certificates or documents;
- v. serious deficiencies exist in the equipment or arrangements specified in the certificates or documents;
- vi. the master or crew are not familiar with essential shipboard operations relating to the prevention of air pollution, or that such operations have not been carried out;
- vii. the quality of fuel oil, delivered to and used on board the ship appears to be substandard; or
- viii. other indications (such as reliable tips or other reports) that the ship may be substandard with respect to Annex VI.
- ix. evidence that the ship has emitted any of the substances covered by Annex VI.



b. The PSCO should take the following requirements and information into consideration when conducting a more detailed examination of the areas for which clear grounds exist:

- i. Verify whether the equipment (e.g., refrigeration or air conditioning systems) containing ozone-depleting substances is maintained appropriately and confirm whether any deliberate emissions of ozone-depleting substances including refrigerant leaks have been released. New installations containing ozone-depleting substances are prohibited after May 19, 2005 except hydrochlorofluorocarbons (HCFCs) which are permitted until January 1, 2020. Existing equipment using ozone depleting substances are permitted; however, deliberate emissions (caused by disposal, repair, maintenance, etc.) are prohibited. When disposed, ozone-depleting substances must be delivered to an appropriate reception facility.
- ii. Confirm that each diesel engine with a power input of more than 130 kW was tested for type approval by the flag Administration in accordance with the NOx Technical Code, and properly maintained. For each engine required to comply with the NOx requirements after May 19, 2005, verify that each engine meeting the certification criteria above maintains a Technical File aboard the vessel. A Technical File contains details of parameters and settings, which may effect the engine’s NOx emissions. A cursory review of Technical File should suffice to

⁸ Non-convention vessels may have statements of compliance and supporting documentation that the PSCO may determine to be equivalent to convention certificates.

generally assure that all of the elements are represented. Specifically a Technical File should include:

- (1) Identification of components, settings and operating values of the engine impacting NO_x emissions;
 - (2) Identification of the full range of allowable adjustments for the engine;
 - (3) A full record of the engine's performance, including rated speed and power;
 - (4) An onboard system of NO_x verification procedures;
 - (5) A copy of the emission test report used to certify the engine;
 - (6) If applicable, the designation and any restrictions for the engine;
 - (7) A spare part component specification sheet to ensure continued compliance if parts are replaced; and
 - (8) The Engine International Air Pollution Prevention Certificate (EIAPP).
- iii. Examine the **record book of engine parameters**. For each engine required to comply with the NO_x requirements after May 19, 2005, verify the Record Book of Engine Parameters is properly maintained for each engine required to meet the NO_x emissions standards of MARPOL Annex VI regulation 13. **The Record Book of Engine Parameters is used to record engine adjustments, parameter changes, and component changes and settings which could influence NO_x emissions.** The Record Book of Engine Parameters should be compared to (and match) the current engine settings.
- iv. **Examine each EIAPP certificate** issued by the flag Administration. Engines installed (or modified) before January 1, 2000 need not comply with the Nitrogen Oxide (NO_x) requirements of Annex VI, Regulation 13. Engines used exclusively for emergency purposes (e.g., lifeboats, emergency diesel generators, etc.) also need not comply with Regulation 13 regardless of the installation date.
- v. **Examine the vessel's bunker delivery notes to ensure that the fuel's sulfur content does not exceed 4.5% m/m. Vessels are required to maintain bunker delivery notes on board the vessel for at least three years after the fuel delivery date. The bunker delivery note should contain the following information:**
- (1) Name and IMO number of receiving ship;
 - (2) Port;
 - (3) Date of commencement of delivery;
 - (4) Name, address, and telephone number of marine fuel oil supplier;
 - (5) Product name(s);
 - (6) Quantity (metric tons);
 - (7) Density at 15°C (kg/m³) and tested in accordance with ISO 3675;
 - (8) Sulphur content (% m/m) and tested in accordance with ISO 8754;
 - (9) A declaration signed and certified by the fuel oil supplier's representative that the fuel oil supplied is in conformity with regulation 14 (1) or (4)(a) and regulation 18(1) of Annex VI.

- vi. **Examine the accompanying bunker sample.** A bunker sample of no less than 400 ml must be on board for each bunker delivery note. Annex VI, Regulation 18 (6) requires that the sample be “sealed and signed by the supplier’s representative and the master or officer in charge of the bunker operation on completion of bunkering operations and retained *under the ship’s control* until the field oil is substantially consumed, but in any case **for a period of not less than 12 months from the time of delivery.**” Ensure that a sample custodian is designated and the sample is:
- (1) Sealed;
 - (2) Uniquely marked with identification;
 - (3) Signed by fuel supplier’s representation and Master/officer in charge of bunkering operations;
 - (4) The sample is reasonably secure from pilfering or tampering (preferably lock and key);
 - (5) The sample is not stored in an accommodation space and is stored at cool and ambient temperature and is not stored in direct sunlight;
 - (6) Marked with:
 - (a) Method sample was drawn;
 - (b) Delivery date;
 - (c) Name and location of bunker facility;
 - (d) Vessels name and IMO number; and
 - (e) Bunker grade.
- vii. **When the U.S. establishes SECAs,** verify whether the vessel traveled in a SECA in U.S. waters. If a foreign vessel transited through a SECA in the U.S., the sulfur content for the fuel used to transit the area must not exceed 1.5%. Alternatively, a vessel traveling through a SECA may have either an exhaust gas cleaning system, approved by the IMO, on board that reduces the total emission of sulphur oxides to 6.0 g SO_x/kW h or less calculated as the total weight of sulphur dioxide emission. The vessels may also carry separate tanks of 4.5% and 1.5% fuel. Ships must keep a record of the date, time, and position of ship when fuel-changeover operation is completed. See the Guidelines for the Sampling of Fuel Oil for Determination of Compliance with Annex VI of MARPOL 73/78 (resolution MEPC.96 (47)) for more information.
- viii. **When the U.S. designates ports or terminals at which VOC emissions from tankers are to be regulated,** confirm that the ship controls the emission of any VOCs on board using an approved Vapor Recovery System that complies with requirements set forth in MSC Circular 585. Gas Carriers are only required to store non-methane VOCs on board when the type of loading and containment systems allow for their safe retention, or their safe return ashore.

ix. Examine the incinerator (if installed on board). 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 but the standard is listed in IMO resolution MEPC. 59(33) according to 46 CFR 63.25-9. Installations completed before March 26, 1998 need not be approved. PSCOs should verify that the crew can safely operate the installed incinerator per the manufacturer's instruction operations manual and that batch-loaded incinerators reach a combustion temperature of 600° within 5 minutes after start-up. PSCOs should conduct a cursory review of any incinerator logs to ensure that the following prohibited materials have not been incinerated regardless of the installation date:

- (1) MARPOL Annex I, II, and III cargo residues;
- (2) Polychlorinated biphenyls (PCBs);
- (3) Garbage as define by MARPOL Annex V containing more than traces of heavy metals;
- (4) Refined petroleum products containing halogen compounds; and
- (5) Polyvinyl chlorides (PVC) (unless the incinerator is specifically type approved by the Coast Guard/International Maritime Organization for that use).

5. **Detainable Deficiencies:** The COTP should strive to take appropriate action when the PSCO finds deficiencies. The COTP should always give a vessel the opportunity to correct minor deficiencies (i.e. deficiencies that do not make the vessel substandard) without undue delay to the vessel. Conversely, the COTP should detain a vessel when it is substandard. Failure to do so provides an unfair advantage to a vessel owner or operator who does not maintain the vessel in accordance with the international standards and does not provide appropriate measures for future targeting of the substandard vessel and other vessels having the same owner and operator for PSC examination. The following list of MARPOL Annex VI detainable deficiencies is, by no means, a complete listing; however, the listing provides an excellent working description of "substandard" for the purposes of this Annex:

- a. Absence of a valid IAPP Certificate, EIAPP Certificate, or Technical Files;
- b. A diesel engine for which an EIAPP Certificate is required, which does not meet the NO_x Technical Code;
- c. The sulfur content of the onboard bunkers exceeds 4.5% m/m;
- d. Non-compliance with SECA requirements in U.S. waters⁹;
- e. An incinerator or required emission scrubbers that does not meet approval requirements¹⁰ or meets approval requirements, but does not function properly;
- f. Ozone-depleting substances not listed on the IAPP Supplement are used on board the vessel;
- g. Ozone-depleting substances are being emitted;

⁹ Currently, no SECAs exist in the U.S.

¹⁰ MEPC.76(40) and MEPC.93(45)

- h. The vessel has a substantially incomplete¹¹ file of bunker delivery notes and associated fuel samples; and
 - i. Master or crew is not familiar with essential procedures regarding the operation of air pollution prevention equipment.
6. Checklist for PSC Examination: See applicable Foreign Vessel Examination Job Aids (840 books).

¹¹ A single missing bunker delivery note or fuel sample does not constitute substantially incomplete; multiple missing notes and/or samples indicating a pattern of non-compliance constitutes substantially incomplete.