U.S. Department of Homeland Security

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CG-543 Policy Letter
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To: Distribution

Subj: GUIDELINES FOR ENSURING COMPLIANCE WITH ANNEX VI TO THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS (MARPOL) 73/78; PREVENTION OF AIR POLLUTION FROM SHIPS

Ref: (a) COMDT COGARD WASHINGTON DC 301904 Z DEC 08

1. Purpose. To provide guidance to ensure compliance with the provisions of MARPOL 73/78, Annex VI for U.S. flagged vessels and all foreign flagged vessels 400 Gross Tons (ITC) and above that engaged on international voyages and call on U.S. ports.

2. Directives Affected. MOC Policy Letter 05-02 is cancelled effective 08 January 2009.

3 Action. As discussed in reference (a), MARPOL 73/78, Annex VI entered into force for the United States on January 8, 2009. Sector Commanders/OCMIs shall direct their staffs to use the guidance in enclosures (1) and (2) during U.S. flag vessel inspections and Port State Control examinations respectively, to ensure all U.S. inspected and uninspected vessels and all foreign flag vessels over 400 Gross Tons operating in U.S. waters comply with the provisions of MARPOL 73/78, Annex VI. OCMIs should bring this policy to the attention of appropriate individuals in the marine industry.

4. Background. MARPOL 73/78, Annex VI outlines international requirements for vessel air emissions and pollution prevention measures for vessels. On October 8, 2008, the United States deposited an instrument of ratification with the International Maritime Organization for Annex VI of the International Convention for the Prevention of Pollution by Ships, 1973 as modified by the Protocol of 1978 (MARPOL 73/78). Under the terms of the convention, nations that are parties to MARPOL 73/78 Annex VI must require ships of their administration and foreign 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 will be subject to demonstrating compliance with MARPOL Annex VI.

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Enclosures: (1) MARPOL Annex VI Verification of U.S. Flagged Vessels
(2) MARPOL Annex VI Foreign Flag Ship Examination Procedures

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

MARPOL ANNEX VI
VERIFICATION OF U.S. FLAG VESSELS

1. Background:
On October 8, 2008, the United States became a Party to MARPOL 73/78, Annex VI – Regulations for the Prevention of Air Pollution from Ships (here on referred to as Annex VI). Starting on January 8, 2009 (the entry into force date), all U.S. ships must comply with the applicable portions of Annex VI as outlined below. Compliance verification shall follow the process and scope as described in the applicable portions of this enclosure and should primarily focus on documentation, equipment certification/approval and cursory materiel tests/inspection.

2. International Air Pollution Prevention (IAPP) Certificate and Engine International Air Pollution Prevention (EIAPP) Certificate:
IAPP and EIAPP Certificates document compliance with Annex VI. Ships of 400 gross tons and above, as measured under the International Convention on Tonnage Measurement of Ships, 1969 (ITC), engaging on international voyages - voyages to ports or offshore terminals under the jurisdiction of a party to Annex VI, must demonstrate compliance with Annex VI through possession of an IAPP Certificate and its associated EIAPP Certificate. Note that for ships whose keel was laid before July 18, 1994 and have Regulatory tonnage of less than 400 GT, are not required to hold an IAPP Certificate.

An EIAPP certificate is the internationally accepted documentation that a specific engine meets the international Nitrogen Oxide (NOx) emission limits for marine diesel engines required by Regulation 13 of Annex VI. Ships engaged on international voyages with engines over 130kW/175 horsepower installed on vessels constructed on or after January 1, 2000 are required to have a valid EIAPP Certificate issued by the Environmental Protection Agency (EPA).

Those vessels required to hold a valid IAPP Certificate, and if appropriate the EIAPP Certificate, must have them to avoid being subject to port state actions when engaged on international voyages. Officers-in-Charge, Marine Inspection (OCMI) should encourage proactive compliance to avoid detention of U.S. ships in foreign ports.

The IAPP Certificate and its Supplement issued by the Coast Guard are available under USCG Form CG-6056 and CG-6056A, respectfully. A list of Administrations party to Annex VI along with their entry into force dates may be found in the IMO web page or on CG Central following the tabs Foreign Vessel Inspections (Port State) Community and General Information.

a. IAPP Certificate Compliance Dates. United States ships constructed - keels of which are laid or which are at a similar stage of construction:

- Before January 8, 2009 must have on board a valid IAPP certificate no later than the first scheduled dry-docking after the January 8, 2009 but in no case later than January 8, 2012.
- After January 8, 2009, must have on board a valid IAPP certificate upon completion of its initial survey before the ship is placed into service. Each certificate is valid for a maximum of five years.

b. Obtaining an IAPP Certificate from the Coast Guard or Authorized Class Societies (ACS). Vessel owners and operators of U.S. flagged vessels may contact their cognizant OCMI or ACS for application, inspection/survey, and issuance of an IAPP Certificate and its Supplement. Only ACSs that have been delegated the authority to issue IAPP Certificates on behalf of the Coast Guard in accordance with 46 CFR 8.320 may issue IAPP Certificates to U.S. flagged vessels. A list of ACSs and their delegated authorities is provided on the Coast Guard's Alternate Compliance Program web page at http://www.uscg.mil/hq/cg5/acp/ by selecting the "Summary Table of Authorizations" tab. Please note, as of the publication of this policy, no ACS have been delegated the authority to issue IAPP Certificates.

c. Continued Use and Exchange of Statement of Voluntary Compliance (SOVC).
In the period before the United States became party to Annex VI, some vessel owners and operators elected to obtain a SOVC from either the Coast Guard or their ACS. The SOVC serves as proof of shipboard compliance with Annex VI for vessels engaged in voyages to ports or offshore terminals under the jurisdiction of other parties to Annex VI. Guidance for the issuance of SOVC was provided in the now cancelled MOC Policy Letter 05-02. As the United States is now a Party to Annex VI, an SOVC shall not be issued to a vessel on or after January 8, 2009. Instead, OCMIs and ACS shall issue IAPP Certificates.

These ships may continue to operate under the conditions of their SOVC until the time the ship is required to obtain an IAPP Certificate - their first scheduled dry-docking after the January 8, 2009 but in no case later January 8, 2012. Alternately, owners and operators of these vessels at any time may exchange the SOVC for an IAPP certificate if they have first obtained an EIAPP Certificate issued by the EPA. As discussed in section 5.b of this enclosure, vessel operators obtain the EIAPP Certificate from the engines manufacturer. If the engine manufacture is no longer in business, then the vessel operator should work directly with the EPA to obtain the EIAPP Certificate. Then, to receive the IAPP certificate, the owner or operator should display the EIAPP and SOVC to a the cognizant OCMI or ACS approved to issue the IAPP Certificate on behalf of the United States as per 46 CFR Part 8.320. Owners and operators of ships not required by Annex VI to have an EIAPP certificate may simply approach the OCMI or ACS directly. The OCMI or ACS may then administratively exchange the SOVC for an IAPP Certificate. The IAPP certificate should have the same expiration date as the SOVC.

3. Annex VI Compliance Documentation by Vessel Type:
Depending on a U.S. vessel's inspection status, gross tonnage, and route, U.S. ships will demonstrate compliance with Annex VI via possession of either an IAPP Certificate, issuance of a Certificate of Inspection (COI), and/or an Annex VI endorsement on the COI.

The table below summarizes the various Annex VI compliance documentation scenarios:

Inspection Status	**Gross Tonnage**	**Route**	**Annex VI Documentation**
Inspected	≥ 400 ITC	International	IAPP Certificate and EIAPP Certificate, if appropriate
Inspected	≤ 400 ITC	International	Annex VI endorsement on COI
Inspected	Any gross tonnage	Domestic	COI
Uninspected	≥ 400 ITC	International	IAPP Certificate upon request and EIAPP Certificate, if appropriate
Uninspected	≤ 400 ITC	International	IAPP Certificate upon request and EIAPP Certificate if appropriate
Uninspected	Any gross tonnage	Domestic	None Required

a. Inspected U.S. Vessels 400 Gross Tons and over on International Voyages. U.S. inspected ships of 400 gross tons (ITC) and above, engaging in voyages to ports or offshore terminals under the jurisdiction of a party to Annex VI must demonstrate compliance with Annex VI through possession of an IAPP Certificate, as per Regulation 6 of Annex VI. OCMIs shall not issue an IAPP Certificate to a vessel that fails to fully comply with the applicable provisions of Annex VI. If the vessel has an engine that is regulated under Regulation 13 of Annex VI, the vessel should have a valid EIAPP Certificate issued by the EPA.

For U.S. Government owned ships operated by the Military Sealift Command (MSC), OCMI's may issue Annex VI Statements of Voluntary Compliance (SOVC) Certificates (USCG Form CG-6056B and CG-6056C) in lieu of the IAPP Certificate and its Supplement.

b. Inspected Vessels less than 400 Gross Tons on International Voyages. U.S. inspected ships less than 400 gross tons (ITC) that engage in voyages to ports or offshore terminals under the jurisdiction of other Parties to Annex VI need not hold a valid IAPP Certificate. Rather, for vessels that fully comply, a valid Certificate of Inspection (COI) with the following endorsement will demonstrate compliance:

"This vessel complies with the applicable provisions of MARPOL 73/78, Annex VI."

No COI endorsement may be made if a vessel fails to fully comply with the provisions of Annex VI which are applicable to the vessel. In any event, compliant vessels should not be issued an IAPP Certificate. If the vessel has an engine that is regulated under Regulation 13 of Annex VI, the vessel should have a valid EIAPP Certificate issued by the EPA.

c. Inspected Vessels of any Gross Tons NOT on International Voyages. U.S. inspected ships that do not engage in voyages to ports or offshore terminals under the jurisdiction of other Parties to Annex VI need not hold a valid IAPP Certificate and will not be issued an Annex VI endorsement on its COI. As Annex VI requirements under this guidance are incorporated into the certification process, issuance of a COI is evidence of Annex VI compliance.

d. Uninspected Vessels over 400 Gross Tons on International Voyages. All U.S. ships, including uninspected ships, of 400 gross tons (ITC) and above, engaging in voyages to ports or offshore terminals under the jurisdiction of a party to Annex VI must demonstrate compliance with Annex VI through possession of an IAPP Certificate, as per Regulation 6 of Annex VI. Upon request, OCMIs should furnish uninspected vessels over 400 gross tons (ITC) engaged in international voyages with an IAPP Certificate. It is incumbent upon the vessel's owner to contact the OCMI or ACS to schedule IAPP surveys. If the vessel has an engine that is regulated under Regulation 13 of Annex VI, the vessel should have a valid EIAPP Certificate issued by the EPA.

e. Uninspected Vessels less than 400 Gross Tons on International Voyages. Regulation 6 of Annex VI does not require ships less then 400 gross tons (ITC), engaging in voyages to ports or offshore terminals under the jurisdiction of a party to Annex VI to demonstrate compliance with Annex VI through possession of an IAPP Certificate. However, to demonstrate compliance, upon request, OCMIs should furnish uninspected vessels less than 400 gross tons (ITC) engaged in international voyages with an IAPP Certificate. It is incumbent upon the vessel's owner to contact the OCMI or ACS to schedule IAPP surveys. If the vessel has an engine that is regulated under Regulation 13 of Annex VI, the vessel should have a valid EIAPP Certificate issued by the EPA.

f. Uninspected Vessels of any Gross Tons NOT on International Voyages. These vessels need not obtain documentation that indicates Annex VI compliance. However, these ships must still adhere to the applicable portions of Annex VI and must be able to demonstrate compliance during Coast Guard examinations or boarding's.

4. Surveys and Inspections:

For U.S. inspected vessels, the Coast Guard or ACS will verify shipboard compliance with the applicable provisions of Annex VI and issue IAPP Certificates or Annex VI COI endorsements as appropriate during routine scheduled inspections, such as during the inspection for certification or an annual re-inspection for endorsement on a COI. For uninspected vessels, the Coast Guard will conduct Annex VI compliance exams in conjunction with other Coast Guard examinations or boardings, and may issue IAPP Certificates upon request.

a. IAPP Certificate Surveys. The Coast Guard or ACS will conduct the following Annex VI compliance exams for the issuance and endorsement of IAPP Certificates:

i. An Initial Survey before a ship is placed into service or before the IAPP Certificate is issued for the first time. An Initial Survey is required for all vessels, including existing vessels, new construction, and re-flagged vessels. The OCMI or ACS will verify that the vessel's equipment, systems, fittings, arrangements and material fully comply with the applicable requirements of Annex VI. After successful inspection, the Coast Guard or ACS will issue the IAPP Certificate and its Supplement. The IAPP Certificate and its Supplement is valid for a period of no more than five years.

ii. A Renewal Survey at the time just prior to the expiration of the IAPP Certificate. The OCMI will verify that the vessel's equipment, systems, fittings, arrangements and material fully comply with applicable requirements Annex VI. After successful inspection, the OCMI or ACS will reissue a new IAPP Certificate and its Supplement. This IAPP Certificate and its Supplement is valid for a period of no more than five years.

iii. Two Annual Surveys within three months before or after the second or fourth anniversary of the IAPP Certificate's period of validity. The OCMI or ACS will endorse the IAPP Certificate to indicate that the vessel's equipment, systems, fittings, arrangements and material have been maintained to conform with the provisions of Annex VI and that no changes were made, and that they remain satisfactory for the service for which the ship is intended.

iv. One Intermediate Survey within six months before or after the halfway date of the IAPP Certificate's period of validity. The OCMI or ACS will endorse the IAPP Certificate to indicate that the vessel's equipment, systems, fittings, arrangements and material fully comply with the applicable requirements of Annex VI and are in good working order.

v. An Additional Survey either general or partial, according to the circumstances after repairs made subsequent to accidents or defects are discovered, or whenever any important repairs or renewals are made. The OCMI or ACS shall ensure that the necessary repairs or renewals have been effectively completed, and that the ship complies in all respects with the provisions of Annex VI. The OCMI or ACS need not endorse the IAPP Certificate, but should properly document the Additional Survey in the associated inspection or survey activity report.

b. Marine Information for Safety and Law Enforcement (MISLE).

- Once available in MISLE, document all Annex VI inspection activities by selecting the sub activity type "MARPOL Annex VI Examination."

- Following the Initial Annex VI Examination, enter the following Special Note in MISLE with an expiration date of not less then 5 years:

- "DD/MM/YY Vessel satisfactorily inspected for compliance with MARPOL, Annex VI."

- Record IAPP Certificate issuance by selecting the appropriate MISLE "document" drop down option. Remember to attach a copy of the IAPP Certificate and its Supplement, USCG Form CG-6056 and CG-6056A, respectfully.

c. Deficiencies regarding Annex VI Requirements. If a vessel has serious Annex VI discrepancies, the OCMI shall withhold issuance of the IAPP Certificate or Annex VI endorsement on its COI until compliance is proven. The table below provides guidance regarding deficiencies and the recommended action:

Corrective Action for Annex VI Deficiencies		
Type of Deficiency	Recommended Action	
	Withhold IAPP/ COI endorsement until corrected	Issue CG-835 for 30 day correction
EIAPP Certificate missing entirely	X	
EIAPP Certificate not issued by the EPA	*	
Absence of EPA approved Technical File	*	
Installed equipment inconsistent with IAPP, EIAPP, or Technical File.	X	
Engine settings are beyond values outlined in Technical File or components are inconsistent with the Technical File	X	
Fuel oil sulfur content exceeds 4.5%	X	
Incinerators installed after 1998 not USCG approved	X	
Master and crew appear unfamiliar with Annex VI regulations, equipment and operations	X	
Absence/inaccuracy of Record Book of Engine Parameters		X
Non-compliance with SOx requirements including bunker note/samples		X
Materiel discrepancies with Vapor Recovery Systems		X
Materiel discrepancies with incinerators		X

* On an interim basis, OCMI's may accept EPA-issued SOC's for the issuance of an IAPP Certificate. See section 5.b.i for details.

5. Inspection Details:

During Annex VI compliance inspections, Coast Guard marine inspectors should refer to the following items using the appropriate Annex VI Checklist provided as Appendix A to this enclosure. Appendix A provides three Checklists; each provides requirements depending on the vessel's gross tonnage and route. The recommended examinations, tests and inspection discussed in this section and the associated checklist provides guidance when conducting initial and renewal IAPP Annex VI compliance examinations and for expanded examinations where there is suspected non-compliance. Typically, expanded examinations should focus only on items suspected of non-compliance and not be aimed at an entire Annex VI survey. For annual, intermediate and additional IAPP Annex VI examinations, marine inspectors should employ a random approach using the guidance of this section and the minimum inspection criteria of the checklist as a template to assure national consistency.

a. EPA Engine Emission Regulations: For U.S. vessels, all 2004 and later model year marine diesel engines are required to meet EPA emission regulations of either 40 CFR Part 94 (Category 1, 2, and 3 engines - includes small recreational vessels up to large ocean-going vessels) or 40 CFR Part 1042 (Category 1 and 2 engines - includes vessels with engines up to 30 liters / cylinder displacement). In some minor cases, land-based non-road engines can be used in marine applications - these engines are subject to 40 CFR Part 89 or 40 CFR Part 1039.

Compliance with EPA emission regulations is evidenced by the presence of a permanent emission control information label on the engine. If the label is absent from the engine or is inconsistent with the application for which the engine is installed, marine inspectors should notify the local EPA compliance office. Refer to EPA's website at http://www.epa.gov/otaq/marine.htm for further guidance on EPA emission regulations, EIAPP Certificate issuance and EPA contact information.

b. Engine International Air Pollution Prevention (EIAPP) Certificate (Annex VI, Reg. 13): An EIAPP certificate is the internationally accepted documentation that a specific engine meets the international Nitrogen Oxide (NOx) emission limits for marine diesel engines required by Regulation 13 of Annex VI. For all U.S. ships engaged on international voyages, verify that all engines over 130kW/175 horsepower installed on a vessel constructed on or after January 1, 2000 have a valid EIAPP Certificate issued by the EPA. Vessel operators obtain the EIAPP Certificate from the engine manufacturer. If the engine manufacture is no longer in business, than the vessel operator should work directly with the EPA to obtain the EIAPP Certificate.

An engine need not comply with the NOx requirements if the engine is:

- Installed before January 1, 2000 unless the engine went through a major conversion as defined in Regulation 13 of Annex VI, or

- Used exclusively for emergency purposes (e.g., lifeboats, emergency diesel generators), regardless of the installation date.

i. Interim Acceptance of Other Engine Documentation Issued by EPA. In general, EIAPP Certificates must be issued by the EPA (including re-flagged vessels). However, in the period prior to the United States becoming signatory to Annex VI, the EPA issued Statements of Compliance (SOC) with Regulation 13 of Annex VI. Now that the United States is party to Annex VI, the EPA is in the process of exchanging SOCs for EIAPP Certificates. In the first few years after Annex VI enters into force, Marine Inspectors may find that some vessels still hold these EPA-issued SOCs.

Because an EPA-issued SOC demonstrates compliance similar to an EPA issued EIAPP Certificate, Marine Inspectors may accept them in the interim in order to issue IAPP Certificates. In such cases, the OCMI shall issue a requirement for the vessel to obtain an EPA-issued EIAPP Certificate within 90 days. This provision that allows for the interim acceptance of EPA-issued SOCs is only valid until January 8, 2012. In no circumstance should an IAPP Certificate be issued to a U.S. vessel that holds a SOC or EIAPP Certificate issued by another Flag Administration or Class Society and that does not also hold an EPA-issued SOC or EIAPP Certificate.

ii. Technical File. A Technical File should be approved by the EPA as part of the engine certification and contain details of engine parameters and settings that may effect the engine's NOx emissions. EPA approval of a technical file is evidenced by issuance of an EIAPP Certificate or SOC. The EIAPP Certificate or SOC will reference the document identification number for the approved Technical File. For each engine required to comply with the NOx requirements, inspectors should verify that the vessel maintains onboard an EPA approved Technical File during the service life of that engine. Additionally, for those engines certificated to use multiple fuels (duel-fueled engines); a separate technical file is required for each fuel. Inspectors should confirm that the engine has not been modified or adjusted outside of the levels permitted in the Technical File since the engine's last survey/inspection. A cursory review of the Technical File should suffice to assure that all of the elements are represented. Specifically, a Technical File should include:

- Identification of components, settings and operating values of the engine impacting NOx emissions;
- Identification of the full range of allowable adjustments for the engine;
- A full record of the engine's performance, including rated speed and power;
- An onboard system of NOx verification procedures;
- A copy of the emission test report used to certify the engine, include test reports for each fuel if the engine is duel-fueled;
- If applicable, the designation and any restrictions for the engine;
- A spare part component specification sheet to ensure continued compliance if parts are replaced; and
- The EIAPP Certificate.

iii. Record Book of Engine Parameters. For each engine required to comply with the NOx requirements, inspectors should verify that vessel maintains the Record Book of Engine Parameters. The vessel's crew uses the Record Book of Engine Parameters to record engine adjustments, parameter changes, as well as component changes and setting which could influence NOx emissions. The Record Book of Engine Parameters should be compared to, and match, the current engine settings and should always be within the parameters detailed in the Technical File. Descriptions of any changes affecting the designated engine parameters, including adjustments, parts replacements and modifications to engine parts, shall be recorded chronologically in the Record Book of Engine Parameters.

iv. NOx Verification Methods (Annex VI, Reg.5.3, 5.4 & NOx Technical Code 2.4). To ensure that engines remain in compliance with Regulation 13 of Annex VI after shipboard installation, marine inspectors or ACS surveyors shall check each engine with an EIAPP Certificate at least once prior to issuance or re-issuance of the IAPP Certificate. One of three onboard verification procedures may be employed by the vessel's operator to prove NOx compliance - the Engine Parameter Check, Simplified Measurement, or Direct Measurement methods.

As a general principle, on-board NOx verification procedures should allow a marine inspector to easily determine if an engine has remained in compliance with Regulation 13of Annex VI. At the same time, it shall not be so burdensome as to unduly delay the ship or to require in-depth knowledge of the characteristics of a particular engine or require the use of special measuring devices not available on board. A description of the three methods and recommended inspection procedures f is provided below:

(1) Engine Parameter Check Method. The Parameter Check is the most commonly used verification procedure utilized by vessel operators. The method requires cross verification of engine status/setting against the Record Book of Engine Parameters and the components outlined in each engine's Technical File, as described in section 6.2 of the NOx Technical Code.

Inspection requirements:

- Verification of appropriate EPA approved EIAPP Certificates (and Supplements).
- Verification that the vessel has appropriate and EPA approved Technical Files for each engine required to hold an EIAPP Certificate.
- Verify that the Record Book of Engine Parameters is maintained. The Record Book of Engine Parameters should be compared to, and match, the current engine settings and should always be within the parameters detailed in the Technical File.
- Verify engine components, engine settings or operating values (as dictated in the engine(s) Technical File and Record Book of Engine Parameters) of each engine required to hold an EIAPP Certificate. At least one engine component, setting or value should be checked annually for each engine. However, the scope can be expanded to be fully comprehensive if warranted.

Typical NO_x influencing components or parameters that may require verification of identification and/or operating values as indicated in the engine Technical File may include:

- Injection timing (charge air pressure/temperature, combustion peak pressure, exhaust gas temperature)
- Injection system components (nozzle, injector, fuel pump)
- Injection pressure
- Camshaft components
- Valve timing
- Combustion chamber (piston, cylinder head, liner)
- Compression ratio (connecting rod, piston rod, gaskets, check for clearance)
- Turbo charger (internal components)
- Charge air cooler/charge air pre-heater
- Auxiliary blower
- NO_x reducing equipment (if installed, and approved)

(2) Simplified Measurement Method. This verification procedure incorporates engine testing similar to the initial manufacturer's parent engine test-bed with simplifications outlined in section 6.3 of the NOx Technical Code. This method requires full load running of the engine.

Inspection requirements:

- Verification of appropriate EPA approved EIAPP Certificates (and Supplements)
- Verification that the vessel has appropriate and EPA approved Technical Files for each engine required to hold an EIAPP Certificate
- Examine engine manufacturer recommendations for Simplified Measurement.
- Review test results.

(3) Direct Measurement Method. This verification procedure requires direct NOx emission measurements during normal operation. The test procedures are detailed in sections 2.3 and 5.5 of the NOx Technical Code.

Inspection requirements:

- Verification of appropriate EPA approved EIAPP Certificates (and Supplements)
- Verification that the vessel has appropriate and EPA approved Technical Files for each engine required to hold an EIAPP Certificate
- Verify documentation and EPA approval of measurement equipment
- Review measurement results for compliance with the NO_x Technical Code.

c. Sulphur Oxides (SOx) and Fuel Oil Quality (Annex VI, Reg. 14 & 18):
Annex VI sets limits on SOx emissions from ship exhausts and place a global cap of 4.5% m/m on the sulphur content of fuel oil. Additionally, certain regions may be declared as Sulfur Emission Control Areas (SECA), which requires the use of lower sulphur content fuel.

i. Bunker Delivery Notes. Examine the vessel's bunker delivery notes to ensure that the fuel's sulfur content does not exceed 4.5% m/m. Bunker delivery notes should be maintained aboard in such a place as to be readily available for inspection. It shall be retained onboard the vessel for at least three years after the fuel was delivered.

Bunker Delivery Notes are required for U.S. vessels that are of 400 gross tons and above and engaged in voyages to ports or terminals under the jurisdiction of other Parties, i.e. subject to Annex VI survey and IAPP Certification – Regulations 5 and 6 respectively.

Bunker Delivery Notes shall contain at least the information specified in appendix V to Annex VI, which includes:

- Name and IMO/Offical Number of the receiving ship
- Port
- Date or commencement of delivery
- Name, address, and telephone number of the marine fuel oil supplier
- Product name(s)
- Density at 15ºC (Kg/M³)
- Sulphur content (% m/m)
- 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 14.4(a) and regulation 18.1 of Annex VI.

ii. Bunker Samples: Bunker Samples of not less then 400 ml should be obtained for each bunker delivery. Verify that the sample is associated with a bunker delivery note. Samples should be retained under the vessel's control for at least 12 months, or until that fuel is substantially consumed (approximately 80% of each particular fuel delivery) if longer than 12 months. Regulation 18 specifies that samples should be under the vessel's control in accordance with IMO Resolution MEPC.96(47) – "Guidelines for the Sampling of Fuel Oil for Determination of Compliance with Annex VI of MARPOL 73/78." Currently, the Coast Guard interprets "under the vessel's control" to mean "on board the vessel."

Bunker Samples are required for U.S. vessels that are of 400 gross tons and above and engaged in voyages to ports or terminals under the jurisdiction of other Parties, i.e. subject to Annex VI survey and IAPP Certification – Regulations 5 and 6 respectively.

Each Bunker Sample must be:

- Sealed;
- Uniquely marked with identification;

- Marked with the location and method by which the sample was drawn;
- Marked with the delivery date;
- Marked with the name of the bunker facility;
- Marked with the vessel's name and IMO number;
- Signed by the fuel supplier's representative and the Master or Officer in Charge;
- Marked with the bunker grade; and
- Securely stored at cool/ambient temperature and not be stored in direct sunlight or in an accommodation space.

iii. Vessels on Voyages to Sulfur Oxides (SOx) Emission Control Areas (SECA). SECAs are defined in Regulation 14 of Annex VI, and currently includes the Baltic Sea and North Sea Areas. Vessels sailing in SECAs are required to meet additional measures to reduce SOx emissions as follows:

- The vessel's fuel sulfur content (consumed in a SECA) should not exceed 1.5% m/m, (and shall follow the same documentation and sample retention protocol required by Regulation 18 and as discussed in paragraph 5.c.i & ii above); or
- The vessel may employ an approved exhaust gas cleaning system as defined in Regulation 14(4)(b) which reduces Sulfur Oxides to 6.0 g SOx/kW h or less [Note: no exhaust gas cleaning systems are approved by the U.S. at the issuance of this policy.]; or
- The vessel may employ other technological methods to reduce SOx emissions that are approved by the Coast Guard.
- Vessels should be provided with separate tanks for 4.5% and 1.5% fuel, but should allow time for the fuel oil service system to be fully flushed of all fuels exceeding 1.5% m/m sulfur content before entering a SECA.
- Vessels should record the date, time, and position of fuel-change-over operations (both entering and departing a SECA), which may be contained in an engine, deck, or other appropriate logbook. If logged in the Oil Record Book, the entry should be coded under item (I).

d. Ozone Depleting Substances (Annex VI, Reg. 12): New installations containing ozone-depleting substances, as defined in Annex VI, are prohibited from being fitted on or after May 19, 2005, except hydrochloflurocarbons (HCFCs) which are permitted until January 1, 2020. Marine Inspectors should verify the manufacturer's specifications for new equipment installations (e.g., refrigeration or air conditioning systems) which could use an ozone depleting substance. Existing equipment using ozone depleting substances is permitted, however, deliberate emissions (caused by disposal, repair, maintenance, etc.) is prohibited. When removed from service, equipment that contains ozone depleting substances should be delivered to an appropriate disposal reception facility.

With respect to the completion of the IAPP Certificate Supplement items 2.1.2 and 2.1.3, permanently sealed refrigeration equipment should not be included. Permanently sealed refrigeration equipment are equipment where there is no refrigerant charging connections or potentially removable components.

e. Shipboard Incineration (Annex VI, Reg. 16): If fitted, vessel incinerators installed on or after January 1, 2000, shall be approved by the Coast Guard based on IMO Resolution MEPC.76(40). Incinerators installed after March 26, 1998, already require Coast Guard approval. Incinerators installed on U.S. flagged vessels before March 26, 1998 need not be approved. Inspectors should conduct a cursory review of the Garbage Record Book (for required vessels) to ensure that the following prohibited substances have not been incinerated:

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

Inspectors should confirm that all incinerators are in good working order, the casing insulation is in good condition, and that the system is free of leaks of gas or smoke. Additionally, the appropriate alarms and safety shut downs should be proven per the manufacturers' instructions and specifications.

The following are additional test and examinations are required for incinerators installed on or after January 1, 2000:

- Verify that the appropriate crew can competently and safely operate installed incinerators per the manufacturer's instructions;
- Verify that the incinerator has a current manufacturer's manual;
- Verify the proper operation of combustion flue gas outlet temperature device;
- On continuous feed incinerators, verify that waste cannot be fed into the combustion chamber if the combustion temperature is below 850º C; and /or
- On batch-loaded incinerators, verify that combustion temperature reaches 600º C within 5 minutes after start-up.

f. Volatile Organic Compounds (Annex VI, Reg. 15). If the vessel is equipped with a vapor recovery system, then the system should be verified for compliance with 46 CFR Part 39 as part of the Annex VI inspection. Otherwise, existing inspection polices prevail for vapor control systems and their components.

g. International Safety Management Code. A well-crafted Safety Management System (SMS) is an appropriate management tool to assist vessel operators to meet the requirements of Annex VI. Elements that pertain to Annex VI compliance should be included in the vessel's SMS in order to obtain an IAPP Certificate. Further guidance will be promulgated via a Coast Guard published Navigation and Vessel Inspection Circular (NVIC) for Annex VI. For planning purposes, logical processes for inclusion in a shipboard SMS may include shipboard/corporate quality standards, procedures, and responsibilities for personnel regarding:

- NOx Requirements
- SOx Requirements
- Fuel Oil Quality Requirements (including sample retention and SECA requirements);
- Incineration Requirements (including training and prohibitions)
- Ozone Depleting Substance Requirements; and
- Sulfur Emission Control Area Requirements.

MARPOL Annex VI
IAPP Certificate Checklist
Verification of U.S. Vessels of 400 ITC and above engaged on International Voyages

Vessel:		**O.N.**	

Gross Tonnage (ITC):	**(more than 400 ITC)**	**Route:**	**International**

- *The following Checklist is provided as a guide for conducting MARPOL Annex VI Compliance examinations for issuance of IAPP Certificates to vessels more than 400 ITC engaged on international voyages– voyages to other parties of Annex VI. Refer to the guidance provided in this Enclosure for further information regarding each Checklist item.*
- *The Un-shaded blocks ☐ of each column indicate the minimum items for all Annex VI compliance verification exams. The remaining shaded blocks ▢ of each column may be used for expanded examinations when marine inspectors feel that there is sufficient non-compliance to justify an expansion during examinations other than Initial /Intermediate/ Renewal IAPP Exams.*
- *The checklist may be expanded and contracted as required by the particular inspection. Typically, expanded examinations should focus only on items suspected of non-compliance and not be aimed at an entire Annex VI survey.*

	Inspection Item	**Initial/ Intermediate/ Renewal IAPP Exam**	**Annual IAPP Exam**	**Comments**
A International Air Pollution Prevention (IAPP) Certificate and its Supplement				
1	Ensure IAPP is valid and all applicable aspects of the Supplement properly captures Annex VI requirements.			
2	If issued by an Authorized Class Society (ACS), ensure the Coast Guard has authorized that ACS to issue IAPP Certificates.			
B EPA Engine Emission Regulations				
1	For all 2004 and later model year marine diesel engines, verify that the engine complies with EPA emission regulations as evidenced by the presence of a permanent emission control information label on the engine.			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
C Engine International Air Pollution Prevention (EIAPP) Certificate				
1	EIAPP or SOC issued by EPA			
C-1 Technical File (for engines requiring EIAPP)				
1	Identification of components, settings of engines influencing NO_x emissions.			
2	Identification of full range of allowable engine adjustments.			
3	Record of engine performance, rated speed & power			
4	Shipboard NO_x verification procedures			
5	Copy of manufacturers' emission report used for engine certification.			
6	Any applicable engine restrictions			
7	Spare part component specification sheet			
8	EIAPP Certificate			
C-2 Record Book of Engine Parameters				
1	Maintained for each engine that holds an EIAPP			
2	Records engine adjustments, parameter changes, and component changes and setting that could influence NOx emissions.			
3	Descriptions of any changes affecting the designated engine parameters, including adjustments, parts replacements and modifications are recorded chronologically.			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
C-3 Onboard NOx Verification Methods				
C-3A Engine Parameter Check Method				
1	Verification of EIAPP Certificates			
2	Verification of Technical File			
3	Verification of Record Book of Engine Parameters			
4	Cross verification of at least one (1) engine status/setting against the Record Book of Engine Parameters and the components in the Technical File. [check technical file to verify appropriate fuel used]			
C-3B Simplified Measurement Method				
1	Verification of EIAPP Certificates			
2	Verification of Technical File			
3	Examine engine manufacturers recommendations for Simplified Measurement			
4	Review test results			
C-3C Direct Measurement Method				
1	Verification of EIAPP Certificates			
2	Verification of Technical File			
3	Verify documentation and EPA approval of measurement equipment			
4	Review logged measurement results for compliance with the NOx Technical Code			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
D SOx and Fuel Oil Quality				
D-1 Bunker Delivery Notes				
1	Bunker Delivery Notes contain information specified in Appendix V to Annex VI			
2	Sulfur content of not more than 4.5 % m/m			
3	Kept aboard for 3 years after bunker delivery			
D-2 Bunker Samples				
1	Each sample not less than 400 ml for each delivery			
2	Sealed			
3	Uniquely identified			
4	Location (including facility), date & method drawn			
5	Marked with the delivery date			
6	Marked with the name of the bunker facility			
7	Marked with the vessel's name and IMO number			
8	Signed by the fuel supplier's representative and the Master or Officer in Charge			
9	Marked with the bunker grade			
10	Onboard storage at cool/ambient temperature and not stored in direct sunlight or in an accommodation space			
11	Sample retained for a minimum of 12 months			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
D-3 Sulfur Emission Control Areas (SECA) • **Baltic Sea** • **North Sea**				
1	If separate fuel tanks are used – verify that "high" & "low" sulfur fuels cannot be blended/mixed			
2	Verify unauthorized inter-connection of "high" & "low" sulfur fuel piping			
3	Approved exhaust gas cleaning system (if installed) [The U.S. has not approved any exhaust gas cleaning systems as of the issuance of this policy]			
4	Verify logs to ensure date, time, position, of fuel change over was documented			
4.1	Verify bunker delivery notes to verify 1.5% m/m sulfur fuel was delivered			
4.2	Verify that fuel system was sufficiently flushed of fuel exceeding 1.5% m/m before entering SECA			
4.3	Sulfur content consumed in SECA does not exceed 1.5% m/m			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
E Ozone Depleting Substances (ODS)				
1	Installations fitted onboard on/after 19 May 05 must not contain ODS			
2	Hydrochloroflurocarbons (HCFC) permitted until 2020			
3	Systems containing ODS appear/found to be free of leaks.			
4	If systems containing ODS have been partially or fully discharged – were they replaced in kind or replaced with HCFC or non-ozone depleting medium?			
5	If **yes** to 4 – assure accuracy of IAPP Supplement sections 2.1.1, 2.1.2, and 2.1.3			
6	If **yes** to 4 – Verify that ODS (or equipment containing ODS) was properly disposed.			
7	Typical Shipboard ODS • Halon 1211 • Halon 1301 (*Fire Suppression Systems)* • Halon 2402 • CFC-11 • CFC-12 • CFC-113 (R*efrigeration Systems)* • CFC-114 • CFC-115			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
F Incinerators				
1	If installed on/after 26 Mar 98 must be CG approved			
2	If installed on/after 01 Jan 00 must CG Approved under MEPC.76(40) as amended by MEPC.93(45)			
3	Manufacturer's manual			
4	Verify appropriate crew training is documented			
5	Test flue gas temp device			
6	Continuously fed systems cannot feed unless 850° C			
7	Batch fed systems must reach 600° C within 5 minutes after start-up			
F-1	Prohibited Materials • MARPOL Annex I, II, and III cargo residues; • Polychlorinated biphenyls (PCBs); • Garbage as define by MARPOL Annex V containing more than traces of heavy metals (*e.g. some televisions, computers, monitors, radios, etc. could contain heavy metals*); • Refined petroleum products with halogen compounds (*e.g., some lubricants may contain halogen compounds*); • Polyvinyl chlorides (PVC) (unless incinerator is specifically type approved by the Coast Guard/IMO for that use).			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
G Volatile Organic Compounds				
1	System CG approved under 46 CFR 39			
2	COI / COC endorsed for Vapor Recovery System			
H Safety Management Systems				
1	Conduct cursory review to ensure main elements of MARPOL Annex VI are covered (use lettered checklist headings as a guide, (*if vessel requires an SMS*)			

MARPOL Annex VI
IAPP Certificate Checklist
Verification of U.S. Vessels of less than 400 ITC engaged on International Voyages

Vessel:		**O.N.**	

Gross Tonnage (ITC):	**(less than 400 ITC)**	**Route:**	**International**

- *The following Checklist is provided as a guide for conducting MARPOL Annex VI Compliance examinations for issuance of IAPP Certificates to vessels less than 400 ITC engaged on international voyages – voyages to other parties of Annex VI.. Refer to the guidance provided in this Enclosure for further information regarding each Checklist item.*
- *The Un-shaded blocks ☐ of each column indicate the minimum items for all Annex VI compliance verification exams. The remaining shaded blocks ☐ of each column may be used for expanded examinations when marine inspectors feel that there is sufficient non-compliance to justify an expansion during examinations other than Initial /Intermediate/ Renewal IAPP Exams.*
- *The checklist may be expanded and contracted as required by the particular inspection. Typically, expanded examinations should focus only on items suspected of non-compliance and not be aimed at an entire Annex VI survey.*

	Inspection Item	**Initial/ Intermediate/ Renewal IAPP Exam**	**Annual IAPP Exam**	**Comments**
A International Air Pollution Prevention (IAPP) Certificate and its Supplement				
1	Ensure IAPP is valid and all applicable aspects of the Supplement properly captures Annex VI requirements.			
2	If issued by an Authorized Class Society (ACS), ensure the Coast Guard has authorized that ACS to issue IAPP Certificates.			
B EPA Engine Emission Regulations				
1	For all 2004 and later model year marine diesel engines, verify that the engine complies with EPA emission regulations as evidenced by the presence of a permanent emission control information label on the engine.			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
C Engine International Air Pollution Prevention (EIAPP) Certificate				
1	EIAPP or SOC issued by EPA			
C-1 Technical File (for engines requiring EIAPP)				
1	Identification of components, settings of engines influencing NO_x emissions.			
2	Identification of full range of allowable engine adjustments.			
3	Record of engine performance, rated speed & power			
4	Shipboard NO_x verification procedures			
5	Copy of manufacturers' emission report used for engine certification.			
6	Any applicable engine restrictions			
7	Spare part component specification sheet			
8	EIAPP Certificate			
C-2 Record Book of Engine Parameters				
1	Maintained for each engine that holds an EIAPP			
2	Records engine adjustments, parameter changes, and component changes and setting that could influence NOx emissions.			
3	Descriptions of any changes affecting the designated engine parameters, including adjustments, parts replacements and modifications are recorded chronologically.			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
C-3 Onboard NOx Verification Methods				
C-3A Engine Parameter Check Method				
1	Verification of EIAPP Certificates			
2	Verification of Technical File			
3	Verification of Record Book of Engine Parameters			
4	Cross verification of at least one (1) engine status/setting against the Record Book of Engine Parameters and the components in the Technical File. [check technical file to verify appropriate fuel used]			
C-3B Simplified Measurement Method				
1	Verification of EIAPP Certificates			
2	Verification of Technical File			
3	Examine engine manufacturers recommendations for Simplified Measurement			
4	Review test results			
C-3C Direct Measurement Method				
1	Verification of EIAPP Certificates			
2	Verification of Technical File			
3	Verify documentation and EPA approval of measurement equipment			
4	Review logged measurement results for compliance with the NOx Technical Code			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
D SOx and Fuel Oil Quality				
1	Sulfur content of not more than 4.5 % m/m			
D-1 Sulfur Emission Control Areas (SECA) • **Baltic Sea** • **North Sea**				
1	If separate fuel tanks are used – verify that "high" & "low" sulfur fuels cannot be blended/mixed			
2	Verify unauthorized inter-connection of "high" & "low" sulfur fuel piping			
3	Approved exhaust gas cleaning system (if installed) [The U.S. has not approved any exhaust gas cleaning systems as of the issuance of this policy]			
4	Verify logs to ensure date, time, position, of fuel change over was documented			
4.1	Verify that fuel system was sufficiently flushed of fuel exceeding 1.5% m/m before entering SECA			
4.2	Sulfur content consumed in SECA does not exceed 1.5% m/m			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
E Ozone Depleting Substances (ODS)				
1	Installations fitted onboard on/after 19 May 05 must not contain ODS			
2	Hydrochloroflurocarbons (HCFC) permitted until 2020			
3	Systems containing ODS appear/found to be free of leaks.			
4	If systems containing ODS have been partially or fully discharged – were they replaced in kind or replaced with HCFC or non-ozone depleting medium?			
5	If **yes** to 4 – assure accuracy of IAPP Supplement sections 2.1.1, 2.1.2, and 2.1.3			
6	If **yes** to 4 – Verify that ODS (or equipment containing ODS) were properly disposed			
7	Typical Shipboard ODS: Halon 1211 • Halon 1301 (*Fire Suppression Systems)* • Halon 2402 • CFC-11 • CFC-12 • CFC-113 (R*efrigeration Systems)* • CFC-114 • CFC-115			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
F Incinerators				
1	If installed on/after 26 Mar 98 must be CG approved			
2	If installed on/after 01 Jan 00 must CG Approved under MEPC.76(40) as amended by MEPC.93(45)			
3	Manufacturer's manual			
4	Verify appropriate crew training is documented			
5	Test flue gas temp device			
6	Continuously fed systems cannot feed unless 850° C			
7	Batch fed systems must reach 600° C within 5 minutes after start-up			
F-1	Prohibited Materials • MARPOL Annex I, II, and III cargo residues; • Polychlorinated biphenyls (PCBs); • Garbage as define by MARPOL Annex V containing more than traces of heavy metals (*e.g. some televisions, computers, monitors, radios, etc. could contain heavy metals*); • Refined petroleum products with halogen compounds (*e.g., some lubricants may contain halogen compounds*); • Polyvinyl chlorides (PVC) (unless incinerator is specifically type approved by the Coast Guard/IMO for that use).			

	Inspection Item	Initial/ Intermediate/ Renewal IAPP Exam	Annual IAPP Exam	Comments
G Volatile Organic Compounds				
1	System CG approved under 46 CFR 39			
2	COI / COC endorsed for Vapor Recovery System			
H Safety Management Systems				
1	Conduct cursory review to ensure main elements of MARPOL Annex VI are covered (use lettered checklist headings as a guide, (*if vessel requires an SMS*)			

MARPOL Annex VI
Compliance Checklist
Verification of U.S. Vessels of any GT not engaged on International Voyages

Vessel:		**O.N.**	

Gross Tonnage:		**Route:**	**Domestic Only**

- *The following Checklist is provided as a guide for conducting MARPOL Annex VI Compliance examinations during Certificate of Inspection (COI) exams for those U.S. ships that DO NOT engage on International Voyages – voyages to other parties of Annex VI. Refer to the guidance provided in this Enclosure for further information regarding each Checklist item.*
- *The Un-shaded blocks ☐ of each column indicate the minimum items for all Annex VI compliance verification exams. The remaining shaded blocks ▢ of each column may be used for expanded examinations when marine inspectors feel that there is sufficient non-compliance to justify an expansion during examinations.*
- *The checklist may be expanded and contracted as required by the particular inspection. Typically, expanded examinations should focus only on items suspected of non-compliance and not be aimed at an entire Annex VI survey.*

	Inspection Item	**COI/ Periodic Exam**	**Annual Exam**	**Comments**
A EPA Engine Emission Regulations				
1	For all 2004 and later model year marine diesel engines, verify that the engine complies with EPA emission regulations as evidenced by the presence of a permanent emission control information label on the engine.			
B SOx and Fuel Oil Quality				
1	Sulfur content of not more than 4.5 % m/m			

	Inspection Item	COI/ Periodic Exam	Annual Exam	Comments
C Ozone Depleting Substances (ODS)				
1	Installations fitted onboard on/after 19 May 05 must not contain ODS			
2	Hydrochloroflurocarbons (HCFC) permitted until 2020			
3	Systems containing ODS appear/found to be free of leaks.			
4	If systems containing ODS have been partially or fully discharged – were they replaced in kind or replaced with HCFC or non-ozone depleting medium?			
5	If **yes** to 4 – assure accuracy of IAPP Supplement sections 2.1.1, 2.1.2, and 2.1.3			
6	If **yes** to 4 – Verify that ODS (or equipment containing ODS were properly disposed			
7	Typical Shipboard ODS • Halon 1211 • Halon 1301 (*Fire Suppression Systems)* • Halon 2402 • CFC-11 • CFC-12 • CFC-113 (R*efrigeration Systems)* • CFC-114 • CFC-115			

	Inspection Item	COI/ Periodic Exam	Annual Exam	Comments
D Incinerators				
1	If installed on/after 26 Mar 98 must be CG approved			
2	If installed on/after 01 Jan 00 must CG Approved under MEPC.76(40) as amended by MEPC.93(45)			
3	Manufacturer's manual			
4	Verify appropriate crew training is documented			
5	Test flue gas temp device			
6	Continuously fed systems cannot feed unless 850° C			
7	Batch fed systems must reach 600° C within 5 minutes after start-up			
F-1	Prohibited Materials • MARPOL Annex I, II, and III cargo residues; • Polychlorinated biphenyls (PCBs); • Garbage as define by MARPOL Annex V containing more than traces of heavy metals (*e.g. some televisions, computers, monitors, radios, etc. could contain heavy metals*); • Refined petroleum products with halogen compounds (*e.g., some lubricants may contain halogen compounds*); • Polyvinyl chlorides (PVC) (unless incinerator is specifically type approved by the Coast Guard/IMO for that use).			
E Volatile Organic Compounds				
1	COI / COC endorsed for Vapor Recovery System under 46 CFR 39.			
F Safety Management Systems				
1	If vessel has a SMS, conduct cursory review to ensure main elements of Annex VI are covered.			

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 materiel 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.

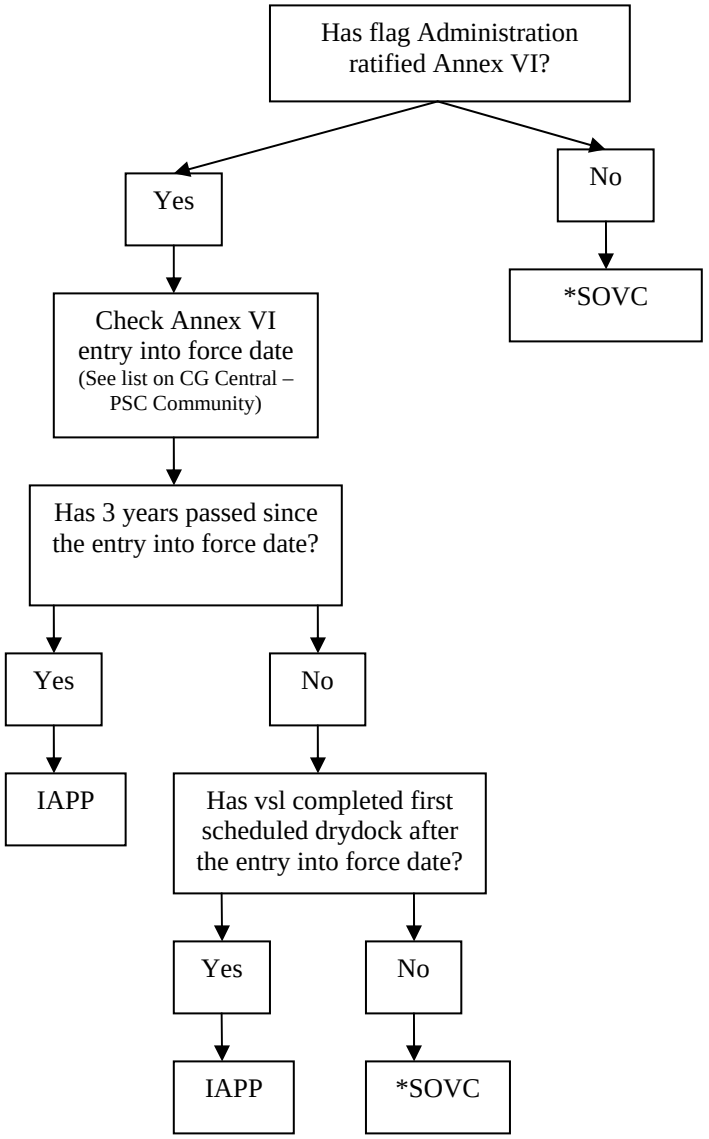
        i. Ship's Flag Administration Annex VI Entry into Force Date More than 3 Years Ago. Ships registered with flag Administrations which have an Annex VI entry into force date which is more than three years from the date of the USCG PSC examination must hold a valid IAPP and supplement.

[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 File[4] 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 Parameters[5]: 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]

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[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 NOx 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 NOx 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 SECAs[6] 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 emissions[7]. 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 hydrochloflurocarbons (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 NOx 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 NOx 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 NOx requirements after May 19, 2005, verify the Record Book of Engine Parameters is properly maintained for each engine required to meet the NOx 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 NOx 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/m^3) 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 change 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 change 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 SOx/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 being used exceeds 4.5% m/m;
d. Non-compliance with SECA requirements in U.S. waters[9];
e. An incinerator or required emission scrubbers that does not meet approval requirements[10] 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 incomplete[11] 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.