



March 20, 2020

CSI Client Advisory 04-2020

SUBJECT: MARPOL Annex VI

Under MARPOL Annex VI, the global low sulfur fuel cap came into effect on January 1, 2020, reducing the bunker fuel sulfur content from 3.50% m/m to 0.50% m/m. Most of the United States is encompassed by the North American and U.S. Caribbean Emission Control Areas (ECA) and the sulfur limits for these areas remain unchanged. Since 2015, these ECAs have had and will continue to have a sulfur cap of 0.1% m/m. For U.S. ports outside of the designated ECAs (i.e. Guam), vessels must ensure they operate under the new MARPOL sulfur cap of 0.50% m/m.

For any vessel arriving to the States that does not have MARPOL Annex VI compliant fuel, the operator must submit a Fuel Oil Non-Availability Report (FONAR) to the local Coast Guard Captain of the Port (COTP) and the vessel's Flag Administration. The COTP will review the FONAR and decide what enforcement actions will be taken.

For any vessel operating in the States that is using an Exhaust Gas "scrubber" System (EGS) for compliance with the MARPOL 0.5% (0.1% inside the ECA) requirement, the operator needs to ensure the guidelines outlined in IMO Resolution MEPC.184(59) and MEPC.259(68) are followed. Part of the compliance requirement is that the Flag Administration issue documentation (separate from the International Air Pollution (IAPP) Supplement) that with the use of the EGS, the vessel will be issued a fuel exception or exemption and the vessel operates on a MARPOL Annex VI equivalency. Vessels operating on the Annex VI equivalency must ensure the Flag Administration submits the equivalency to the IMO Global Integrated Shipping Information System (GISIS) prior to the ship entering a US ECA. You can access the GISIS Public Area website at: <https://gisis.imo.org>.

As of March 1st, MARPOL Annex VI prohibits the carriage of bunker fuel in excess of 0.5 % m/m sulfur, unless the vessel has been fitted with an approved EGS. This is applicable only to the bunker fuel, not cargo. The vessel is subject to enforcement actions if non-compliant bunkers are onboard. If any of your vessels have bunkers remaining onboard with the sulfur content above 0.5%, recommend you notify the Flag Administration and follow their instructions.

If one of your vessels should receive bunkers below the 0.5% sulfur content as documented on the Bunker Delivery Note (BDN), and the fuel analysis report is above the 5% sulfur limit, the Flag Administration should be informed in accordance with MARPOL Annex VI regulation 18.9.6. The Administration will inform IMO, which will make the information available on the IMO GISIS website. If arriving at a U.S. Port, also notify the cognizant COTP with details of the situation along with any acknowledgements from the Flag Administration. Keep in mind, it's the sulfur content listed on the BDN, which under MARPOL, is binding. If there is a substantial



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difference in the sulfur content between the BDN and the analysis report, the Administration may require the MARPOL sample be analyzed.

The U.S. Coast Guard signed a Memorandum of Understanding (MOU) with the U.S. Environmental Protection Agency (EPA) to assist in the Annex VI enforcement. The Coast Guard will enforce the Annex VI requirements during Port State Control (PSC) exams, and the EPA will overlook the Annex VI technical program.

The Coast Guard has developed an ECA & Global Sulfur Cap Job Aid (enclosed). Based on this guide your vessels should ensure:

- Bunker Delivery Notes (BDNs) are retained onboard and contain all valid information.
- All vessel logs are up to date regarding changeover of fuels in ECA areas.
- The vessel has written “ship specific” fuel oil change over procedure for the main engine, boilers, generators, EGS, etc....

This Client Advisory, along with previously issued Advisories, can be retrieved from our website, www.compliancesystemsinc.com. Should you have any questions regarding this advisory, please do not hesitate to contact our office at csi@compliancesystemsinc.com or +1-912-233-8181.

UNITED STATES COAST GUARD

ECA & Global Sulfur Cap JOB AID

Domestic & Foreign Vessels

Office of Commercial Vessel Compliance (CG-CVC)

12/18/2019

Section 1: Information

Section 2: Annex VI Check-off (all inclusive): A complete check list encompassing all of Annex VI is provided to supplement the inspection / vessel type specific Job Aids. This section of the Job Aid is intended to serve as a memory jogger during inspection/examinations and to assist the MI/PSCO when MARPOL Annex VI deficiencies are identified, especially regarding Regulation 14 & 18. Realizing the difference between a domestic vessel inspection and a foreign vessel exam, this list is not required to be completed in its entirety and the referenced items may be spot checked unless a more thorough review is required: 1) based on the scope of the inspection (domestic); or 2) an expanded exam is required based on the PSCO's impressions and/or observations.

Section 3: ECA & Global Sulfur Cap (carriage ban) Deficiency Matrix – This Matrix is only intended to provide a few deficiency examples for non-compliance with the North American & U.S. Caribbean Sea ECA (this list is not all inclusive) and the global sulfur cap (carriage ban).

ECA & GLOBAL SULFUR CAP JOB AID
Section 1 Information
December 2019

MARPOL Annex VI, Regulation 4, Regulation 14 and Regulation 18
[U.S. Domestic Regulations for same - 40 CFR § 1043]

This Job Aid is intended to be used by Coast Guard Marine Inspectors (MI) and Port State Control Officers (PSCO) to assist in identifying and documenting compliance with MARPOL Annex VI, Regulation 14 while operating within the North American & U.S. Caribbean Sea Emission Control Areas (ECA), as well as compliance MARPOL Annex VI requirements while operating on the high seas. Compliance with Annex VI Reg. 14 can be achieved by several means: Utilization of Low Sulfur Fuel Oil (Reg. 14); by Equivalence (Reg. 4); or by receiving (temporary) Exemptions (Reg. 3). In order to determine the approved method of compliance, MI/PSCOs must review the Supplement to the IAPP sections 2.3. (content of sulfur used and equivalent arrangements, if any, as listed in 2.6). For vessels that are issued Exemptions under Annex VI Reg. 3, separate documentation will be issued by an Administration permitting the exemption and will not be captured on the Supplement to the IAPP Certificate).

A vessel using an Equivalence or Exemption approved by an Administration is not considered in violation of Annex VI. When an Equivalence is issued to the vessel, the MI/PSCO should ensure that it is appropriately documented as per MARPOL Annex VI Regulation 4 – documented on IAPP Supplement and in the IMO [Global Integrated Shipping Information System \(GISIS\)](#).



MARPOL Annex VI

Notifications communicated under the provisions of MARPOL Annex VI (Regulations for the Prevention of Air Pollution from Ships).

(Go to hyperlink, click on MARPOL Annex VI icon, use/create a GISIS public account, click on Regulation 4.2 link, then search for vessel by IMO number).

For vessels that use a scrubber in lieu of Low Sulfur Fuel Oil (Equivalence (Reg. 4): MIs/PSCOs should be aware that guidelines for exhaust cleaning systems are available, see Resolution MEPC 259(68), Adopted on 15 May 2015: 2015 Guidelines for Exhaust Gas Cleaning Systems and Resolution MEPC.184(59), Adopted on 17 July 2009: 2009 GUIDELINES FOR EXHAUST GAS CLEANING SYSTEMS – The purpose of these Guidelines is to specify the requirements for the testing, survey certification and verification of exhaust gas cleaning systems (EGCS) under Regulation 4 to ensure that they provide effective equivalence to requirements of regulations 14.1 and 14.4 of MARPOL Annex VI.

The Coast Guard will continue to use the guidance CG-543 Policy Letter 09-01 when performing Domestic inspections and Port State Control examinations. This policy letter outlines the minimum items that MIs and PSCOs should review or examine. Special care should be exercised to enforce the requirements at the time of the inspection/examination (i.e. on 01 January 2020, the sulfur content of fuel oil carried onboard a vessel for use outside ECA should not exceed 0.50% m/m, unless vessel has an equivalency). CVC-WI-020 outlines the compliance and enforcement procedures specific to MARPOL Annex VI, Regulation 14 & 18 for the ECAs. Additional PSC guidance is provided in the *2019 Guidelines for Port State Control under the Revised MARPOL*

Annex VI (MEPC.321(74). The depth and scope of the examination must be determined by the MIs and PSCOs based on the condition of the vessel, compliance with the ECA through the use of low sulfur fuel oil (or other methods of compliance) , the operation of its systems used for compliance, and the competency of the vessel’s crew.

Fuel Oil Non-Availability Report (FONAR):

The expectation is that vessels arriving without compliant fuel oil (non-availability) will be purchasing compliant fuel oil at the first U.S. port of call where compliant fuel oil is available. As of July 2019, FONARs should be submitted to the Captain of the Port; EPA is no longer receiving FONARs per MSIB 05-19.

Deficiency codes associated with the PSC Form B:

The following codes shall be used for documenting Annex VI deficiencies:

PSC Form B - Deficiency Codes: MARPOL Annex VI (SO_x, ECA)

- | | |
|---------------------------------------|---|
| 01124 – IAPP Certificate | 14614 - Sulfur oxides |
| 01125 – EIAPP Certificate | 14617 – Sulfur content of fuel used |
| 14601 – Technical File | 14616 – Alternative arrangement / Equivalent |
| 14604 – Bunker Delivery Note | 14699 – Other |
| 14612 – SO_x records | |
| 14615 – Change-over Procedures | |

ECA Job Aid Section 2

MARPOL ANNEX VI COMPLIANCE CHECK SHEET

(This check sheet is not required to be completed in its entirety)

December 2019

MARPOL Annex VI – General (All vessels / conducted during PSC A and PSC B exams)

REVIEW INTERNATIONAL AIR POLLUTION PREVENTION (IAPP) CERTIFICATE

ONBOARD (VALID)

SUPPLEMENT INCLUDES (SPOT CHECK):

DESCRIPTION OF OZONE DEPLETING SUBSTANCES CONTAINED IN SYSTEMS AND EQUIPMENT (IAPP Section 2.1)

DESCRIPTION OF DIESEL ENGINES > 130 KW (175 HP) AND INSTALLED OR CONVERTED AFTER 1/1/2000 THAT COMPLYⁱ WITH NO_x EMISSION STANDARDS (IAPP Section 2.2).

DESCRIPTION OF METHOD TO OPERATE IN AN EMISSION CONTROL AREAS (ECA) (IAPP Section 2.3, fuel sulfur content or Section 2.6, equivalent arrangement)

VESSELS OPERATING UNDER AN EXEMPTION (REG. 3): ISSUED SEPARATE DOCUMENTATION BY THE ADMINISTRATION AND USCG – PERMIT (Uncommon)

DESCRIPTION OF INCINERATOR, WHICH MEPC RESOLUTION THAT APPLIES Y / N

VERIFY SHIP EQUIPMENT CORRESPONDS SUBSTANTIALLY WITH PARTICULARS LISTED ON IAPP (SPOT CHECK)

REVIEW ENGINE INT'L AIR POLLUTION PREVENTION (EIAPP) CERTIFICATE

ONE ONBOARD FOR EACH DIESEL ENGINE > 130 KW (175 HP) AND INSTALLED OR CONVERTED AFTER 1/1/2000

SPOT CHECK SUPPLEMENT

DATA ON DIESEL ENGINE COMPLIANCE

ⁱ See CVC-WI-014 regarding enforcement discretion guidance regarding MARPOL Annex VI Tier III standards

REVIEW EXHAUST GAS CLEANING SYSTEMS (EGCS) DOCUMENTATION (IF FITTED)

Resolution MEPC.259(68), Adopted on 15 May 2015: 2015 GUIDELINES FOR EXHAUST GAS CLEANING SYSTEMS or

Resolution MEPC.184(59), Adopted on 17 July 2009: 2009 GUIDELINES FOR EXHAUST GAS CLEANING SYSTEMS

- ONBOARD FOR EACH ENGINE
- VERIFY ETM-A (SCHEME A) OR ETM-B (SCHEME B) IS ONBOARD AND APPROVED BY ADMINISTRATION/RO
- IF ETM-A, VERIFY "VERIFICATION PROCEDURE" IS PROVIDED AND APPROVED BY ADMINISTRATION/RO
- REVIEW BUNKER DELIVERY NOTES AND SULFUR CONTENT OF FUEL OIL ONBOARD
- COMPARE CERTIFIED VALUE/OPERATING PARAMETERS TO SULFUR CONTENT OF FUEL OIL BEING UTILIZED/ONBOARD I.E. MAXIMUM SULFUR CONTENT THAT EGCS CAN CLEAN TO MEET MARPOL ANNEX VI SO_x STANDARD
 - DOES THE EGCS REQUIRE AN ADJUSTMENT WHEN VESSEL ENTERS AN ECA?
 - IS IT CAPTURED IN A PROCEDURE?
 - IS THE CREW FAMILIAR WITH IT?

EGCS WASHWATER

- ASK MASTER/CHIEF ENGINEER IF WASHWATER MONITORING IS OPERATING AS DESIGNED
 - IF IT IS NOT OR MASTER/CHIEF ENGINEER IS UNSURE OR CANNOT VERIFY, THEN ISSUE A DEFICIENCY IAW THE MATRIX BELOW FOR INOPERABLE EGCS, CONSIDER ISSUING A VGP DEFICIENCY AS WELL

REVIEW TYPE APPROVAL CERTIFICATE FOR INCINERATOR

- REQUIRED FOR INCINERATORS INSTALLED ON OR AFTER 1 JANUARY 2000

- COMPLIANT WITH MEPC.76(40) AND MEPC.93(45)
- EXAMINE INCINERATOR (IF PRESENT)**
 - SHIPBOARD GARBAGE PROPERLY DISPOSED
 - EVIDENCE OF USE (CLINKERS)
 - SAFETY OF BURNER ASSEMBLY
 - ELECTRICAL CONTROLS
 - MARPOL V PLACARD POSTED
 - LITERS/HOUR
 - VERIFY APPROVED BY USCG OR ADMINISTRATION
 - NOTE THE USE AND QUANTITIES OF SLUDGE INCINERATION IN THE ORB
 - QUESTION CREW ON HOW MUCH WASTE OIL/SLUDGE THE INCINERATOR BURNS. IF ALL WASTE OIL IS BURNED, VERIFY/ COMPARE THE CAPACITY OF INCINERATOR AGAINST SHIP'S DAILY PRODUCTION OF SLUDGE
 - SPOT CHECK CONDITION & WITNESS OPERATION (IF OPERATING).
- REVIEW BUNKER DELIVERY NOTES (SPOT CHECK)**
 - PROVIDED FOR EACH FUEL DELIVERY
 - MAINTAINED ONBOARD FOR AT LEAST THREE YEARS
 - PROVIDE INFORMATION ON:
 - NAME AND IMO NUMBER OF SHIP
 - DATE OF COMMENCEMENT OF DELIVERY
 - NAME, ADDRESS, AND TELEPHONE NUMBER OF MARINE FUEL SUPPLIER
 - PRODUCT NAME(S)
 - QUANTITY (METRIC TONS)
 - DENSITY
 - SULFUR CONTENT (NOT TO EXCEED 0.50% M/M (AFTER 01 MARCH 2020) AND NOT TO EXCEED 0.10% M/M FOR ECA – NOTE EXHAUST CLEANING SYSTEMS MAY SUBSTITUTE FOR LOWER SULFUR CONTENT FUEL TO MEET SO_x REQUIREMENTS.
 - ECA - SULFUR CONTENT 0.10% M/M: **Y / N** (IF **NO**, OBTAIN A COPY OF THE BDN /HAVE MASTER CERTIFY THAT EACH COPY IS A TRUE COPY OF THE BDN – SEE REG. 18.7.1)
 - IF VESSEL HAS A EGCS, COMPARE CERTIFIED VALUE/OPERATING PARAMETERS TO

SULFUR CONTENT OF FUEL OIL BEING UTILIZED/ONBOARD (I.E. MAXIMUM SULFUR CONTENT THAT EGCS CAN CLEAN TO MEET MARPOL ANNEX VI SO_x STANDARD:
Y / N (IF NO, OBTAIN A COPY OF THE BDN /HAVE MASTER CERTIFY THAT EACH COPY IS A TRUE COPY OF THE BDN – SEE REG. 18.7.1)

VERIFY FUEL SAMPLES ONBOARD (SPOT CHECK)

- PROVIDED FOR EACH FUEL DELIVERY
- ASSOCIATED WITH A BUNKER DELIVERY NOTE
- KEPT ON BOARD FOR AT LEAST 12 MONTHS

VESSELS UTILIZING LOW SULFUR F/O FOR COMPLIANCE WITH THE GLOBAL SULFUR CAP (0.50%) AND ECA (0.10%)

- REVIEW LOGBOOK (AS PRESCRIBED BY THE ADMINISTRATION) FOR ENTRIES
 - VOLUME OF LOW SULFUR FUEL OIL IN EACH TANK RECORDED
 - DATE, TIME AND POSITION OF SHIP WHEN FUEL OIL CHANGEOVER OPERATION WAS COMPLETED
 - DID THE CHANGEOVER OCCUR PRIOR TO ENTRY (OR AFTER EXIT FROM) THE ECA

SPOT CHECK WRITTEN PROCEDURES

- DOES IT DESCRIBE HOW THE FUEL OIL CHANGE-OVER IS TO BE DONE
- DOES IT DESCRIBE HOW MUCH TIME IS REQUIRED OR HOW LONG TO OPERATE THE EQUIPMENT TO ENSURE THE SYSTEM IS FULLY FLUSHED OF FUEL OILS EXCEEDING APPLICABLE SULFUR LIMITS
- DO THE CREWMEMBERS RESPONSIBLE FOR CONDUCTING THE CHANGE-OVER UNDERSTAND THE PROCESS AS WRITTEN

VESSELS UTILIZING AN EGCS FOR EQUIVALENCE (REG. 4) FOR COMPLIANCE WITH THE ECA

- APPROVED METHOD (Supplement to the IAPP Certificate section 2.6)
 - IS EGCS OPERATIONAL Y / N , IF NO THEN PROCEED TO EXPANDED EXAM SECTION OF JOB

AID

TYPE (e.g. scrubber / manufacturer):_____

COMPLIANCE METHOD APPROVED Scheme A OR Scheme B

OTHER PROCEDURES APPROVED FOR COMPLIANCE: _____

DOES DATA RECORDING AND PROCESSING DEVICE SHOW EVIDENCE OF TAMPERING: Y / N, IF YES THEN PROCEED TO EXPANDED EXAM SECTION OF JOB AID

DOES THE EGCS DATA RECORDING AND PROCESSING DEVICE AND/OR CREW INDICATE THAT THE SYSTEM IS NOT FUNCTIONING AS DESIGNED (E.G. ACTIVE OR RECENT VISUAL FAULTS/ALARMS AND UNFAMILIARITY BY CREW WITH PROPER OPERATION OF THE EGCS: Y / N, *IF YES THEN PROCEED TO EXPANDED EXAM SECTION OF JOB AID*

VESSELS UTILIZING EQUIVALENCE (REG. 4) FOR COMPLIANCE WITH THE ECA OTHER THAN EGCS

APPROVED METHOD (Supplement to the IAPP Certificate section 2.6)

IF USING EQUIPMENT - OPERATIONAL Y / N

TYPE (:_____

COMPLIANCE METHOD APPROVED _____

OTHER PROCEDURES APPROVED FOR COMPLIANCE: _____

ALTERNATIVE FUEL OILS – Y / N

TYPE OF ALTERNATIVE FUEL OIL _____

IS THIS ACCOMPLISHED BY BLENDING ONBOARD Y / N

IS THERE EQUIPMENT INSTALLED TO PERFORM THE BLENDING

ARE THERE PROCEDURES FOR BLENDING

IS TESTING REQUIRED (SULFUR) BY THE CREW TO ENSURE COMPLIANCE Y / N

VESSELS ISSUED AN EXEMPTION (REG. 3) FROM COMPLYING WITH REG. 14 (ECA): TO CONDUCT TRIALS FOR SHIP EMISSION REDUCTION AND CONTROL TECHNOLOGY RESEARCH (UNCOMMON)

HAS FLAG ADMINISTRATION ISSUED DOCUMENTATION APPROVING THE EXEMPTION Y / N

ISSUED DATE: _____ EXPIRATION DATE: _____

OBTAIN A COPY OF THE ISSUED DOCUMENT (See Section (1) of the ECA Job Aid for further details)

MARPOL Annex VI – DOMESTIC / PSC EXPANDED EXAM MARPOL ANNEX VI :

Items reviewed during the scope of a Domestic Inspection or when conducting a PSC Expanded Exam

REVIEW TECHNICAL FILE FOR EACH DIESEL ENGINE

- ONBOARD FOR EACH ENGINE
- COMPLIES WITH PARA 2.3.6 OF NO_x TECHNICAL CODE (SPOT CHECK)

REVIEW RECORD BOOK OF DIESEL ENGINE PARAMETERS (SPOT CHECK)

- ONBOARD FOR EACH ENGINE COMPLIES WITH PARA 6.2.3.3 OF NO_x TECHNICAL CODE

REVIEW REPORTS OF NON-COMPLIANCE FOR MARPOL ANNEX VI FUEL DELIVERY

- PROVIDED FOR EACH FUEL DELIVERY TO ADMINISTRATION IF FUEL DOES NOT COMPLY WITH ANNEX VI REQUIREMENTS
- REVIEW RECORDS REGARDING SUCH REPORTS (POST BUNKERING FUEL ANALYSIS REPORT)

REVIEW EVIDENCE/RECORDS

- IF DEFICIENCIES PERTAINING TO MARPOL ANNEX VI ECA ARE IDENTIFIED
 - OBTAIN COPIES OF THE RELEVANT DOCUMENTS (IAPP, BUNKER DELIVERY NOTES, VOYAGE PLAN, CHANGE-OVER PROCEDURES, LOGS, ETC...)
 - REQUEST THE MASTER TO STAMPED/SIGN AS APPROPRIATE (Inform the Master they are only certifying that each copy is a true copy)
- OTHER ANNEX VI DEFICIENCIES IDENTIFIED
 - OBTAIN COPIES OF RELEVANT DOCUMENTS/EVIDENCE PRESENTED BY THE MASTER/CREW
 - REQUEST THE MASTER TO STAMPED/SIGN AS APPROPRIATE (Inform the Master they are only certifying that each copy is a true copy)

- ❑ VERIFY PROPER SCRUBBER OPERATION (BE FAMILIAR WITH MEPC.259(68) AND/OR MEPC.184(59))
 - ❑ REVIEW ONBOARD MONITORING MANUAL (OMM)
 - ❑ VERIFY OMM IS APPROVED BY THE ADMINISTRATION/RO
 - ❑ REVIEW SO_x EMISSIONS COMPLIANCE PLAN (SECP)
 - IF SCHEME A, REVIEW OPERATIONAL PARAMETERS REQUIRED TO MEET MARPOL ANNEX REGULATION 14
 - IF SCHEME B, REVIEW HOW CONTINUOUS EXHAUST GAS EMISSIONS MONITORING FUNCTIONS TO ENSURE EQUIVALENT LEVEL OF COMPLIANCE
 - ❑ SCHEME A VERIFICATION (OPERATIONAL PARAMETERS)
 - ❑ VERIFY DATA RECORDING AND PROCESSING DEVICE DOES NOT APPEAR TAMPERED
 - ❑ DIRECT CREW TO SHOW DATA RECORDED DURING PREVIOUS VOYAGE; SPOT CHECK THAT SENSOR READINGS ARE WITHIN THE OPERATIONAL PARAMETERS FOR THE EGCS
 - ❑ IF DEVIATIONS FROM OPERATIONAL PARAMETERS ARE NOTED -> DIRECT CREW TO CONDUCT VERIFICATION PROCEDURE TO VERIFY SUCCESSFUL OPERATION.
 - ❑ IF VERIFICATION PROCEDURE IS UNSUCCESSFUL OR CREW IS UNABLE TO PERFORM, THEN ISSUE DEFICIENCY IAW WITH DEFICIENCY MATRIX FOR INOPERABLE EGCS
 - ❑ SCHEME B VERIFICATION (CONTINUOUS EXHAUST GAS MONITORING)
 - ❑ VERIFY DATA RECORDING AND PROCESSING DEVICE DOES NOT APPEAR TAMPERED
 - ❑ DIRECT CREW TO SHOW DATA RECORDED DURING PREVIOUS VOYAGE; SPOT CHECK THAT SENSOR READINGS (SO_x / CO₂) REPRESENT AN EQUIVALENT LEVEL OF COMPLIANCE BASED ON THE SECP
 - ❑ IF DEVIATIONS IN EXHAUST GAS MONITORING IS NOTED -> ISSUE DEFICIENCY IAW WITH DEFICIENCY MATRIX FOR INOPERABLE EGCS

- ❑ REVIEW EGCS WASHWATER DATA TO ENSURE IT IS WITHIN RANGES SPECIFIED BY 2013 VGP AND IS BEING RECORDED
 - ❑ pH (No less than 6.5 pH while vessel is stationary)
 - ❑ PAH (No greater than 50 µg/L)
 - ❑ TURBIDITY (No greater than 25 FNU (formazin nephelometric units) or 25 NTU (nephtoletic turbidity units))
 - ❑ TEMPERATURE (should be continuously recorded and accurate)
- ❑ FUEL SAMPLING, WHEN DEEMED NECESSARY BY OCMI/COTP TO VERIFY COMPLIANCE
 - ❑ REQUEST OR DIRECT (COTP ORDER) VESSEL TO UTILIZE THIRD PARTY COMPANY/LABORTORY TO CONDUCT SULFUR CONTENT ANALYSIS TO VERIFY SUBSTANTIAL COMPLIANCE (NOTE: ADDITIONAL TESTING BY U.S. GOVERNMENT ENTITY MAY BE REQUIRED FOR CRIMINAL CASES)
 - ❑ DETERMINE FUEL SAMPLING LOCATION(S) BASED ON AREAS OF CONCERN AND PRACTICALITY

DOCUMENTATION:

- ❑ **ECA RELATED DEFICIENCIES IDENTIFIED***
 - ❑ MASTER INFORMED THAT DEFICIENCIES IDENTIFIED MAY BE REFERRED TO THE EPA FOR POSSIBLE ENFORCEMENT ACTION
 - ❑ HAVE THE MASTER MAKE COPIES OF DOCUMENTS (BUNKER DELIVERY NOTE(S)/VOYAGE PLAN¹/LOG BOOK PAGE(S)/OTHER RELEVANT EVIDENCE PRESENTED), STAMP (VESSEL SEAL IF AVAILABLE), AND SIGN FOR INCLUDING IN THE MISLE ACTIVITY.
 - ❑ MISLE ACTIVITY CASE WORK COMPLETED IN ACCORDANCE WITH MOST CURRENT GUIDANCE
 - ❑ DEFICIENCY DOCUMENTED I.A.W. TIME FRAME (NO LATER THAN 4 HOURS)
 - ❑ SCANNED INTO MISLE UNDER THE ACTIVITY'S DOCUMENT TAB
 - (1) DOCUMENTS OBTAINED FROM THE INSPECTION/EXAMINATION ARE LOADED AS ONE FILE AND NAMED ACCORDINGLY: E.G., AnnexVI-ECA-DDMMYY.PDF (e.g., AnnexVI-ECA-01DEC19.pdf)

¹ SOLAS Ch. V, Reg. 34.2.4 – voyage plan shall identify a route which: takes into account the marine environmental protection measures that apply, and avoids, as far as possible, actions and activities which could cause damage to the environment.

- ❑ FOR VESSELS OPERATING WITH AN EXCEPTION/EXEMPTION (UNCOMMON) – E-MAIL SENT TO CGCVC@uscg.mil (see Section (1) of the ECA Job Aid for details) Y / N / N/A

*NOTE: ANNEX VI / ECA RELATED DEFICIENCY DATA IS FREQUENTLY SHARED AND DISCUSSED WITH EPA. UNIFORM CASE WORK, WITH RESPECT TO MARPOL ANNEX VI, IS IMPORTANT TO PROVIDE CONSOLIDATED CASEWORK PACKAGES TO EPA AS NECESSARY FOR CIVIL AND CRIMINAL ENFORCEMENT

MARPOL Annex VI
Regulation 14
Deficiency Matrix
Section 3
December 2019

For Vessels within an ECA (North American or U.S. Caribbean Sea ECA)				
Observation	Code	Description	Cite	Code/Action Taken
<p>VESSELS UTILIZING LOW SULFUR F/O TO COMPLY WITH REG. 14</p> <p>Vessel did not have compliant fuel oil onboard for operating in the ECA; the F/O utilized was >0.10% sulfur. The master provided the proper documentation that efforts were made to procure compliant fuel oil and that the appropriate notifications to the United States (FONAR) and the vessel’s flag administration were made prior to entering the North American ECA IAW Annex VI Regulation 18;</p>		<p>Foreign Vessel:</p> <p>While ships are operating within an emission control area (ECA), the sulfur content used on board ships shall not exceed 0.10%. The PSCO discovered that the vessel has been operating within the (Designate ECA – North American ECA) from DD/MM/YY to DD/MM/YY² utilizing fuel oil that does not comply with the MARPOL Annex VI ECA sulfur limits.</p> <p>U.S. Domestic Vessel:</p> <p>The MI discovered that the vessel has been operating within the (Designate ECA – North American ECA) from DD/MM/YY to DD/MM/Y utilizing fuel oil that does not comply with the MARPOL Annex VI ECA sulfur limits.</p>	<p>MARPOL Annex VI, Reg. 14.4</p> <p>40 CFR 1043.60</p>	<p>U.S. and Foreign Vessel: Issue a Code 17 -Prior to departure</p> <p style="text-align: center;">Actions / Clear the Deficiency:</p> <ul style="list-style-type: none"> • Review records of actions taken and evidence submitted to Flag/USCG; conduct a more detailed inspection with respect to the applicable portion of the vessel’s SMS • If the vessel has received compliant fuel oil prior to or during USCG exam, obtain a copy of the BDN – amend with Code 10; or • Request a corrective action plan signed by the master stating that compliant fuel oil is: <ul style="list-style-type: none"> • scheduled to be received prior to departure - Upon receipt of a corrective action plan and copy of receipt & BDN clear the deficiency – Issue code 10 • At the next U.S. port (if compliant fuel is unavailable at current US port) (request a copy of the receipt & BDN be sent to the issuing unit); amend with a Code 15; clear the Code 15 when receipt/BDN received – Issue Code 10 • (AFTER 01 MARCH 2020) If non-compliant fuel is above 0.50%, then vessel should provide a plan for offloading fuel at current port; once offloaded then amend with Code 10 <ul style="list-style-type: none"> • <u>if not practical</u>, subject to the discretion of the USCG COTP, then the vessel’s company must request permission to offload fuel at subsequent port (regardless of destination) from their flag administration and subsequent port’s Port State prior to requesting authorization from the USCG Captain of the Port to depart port. Non-compliant fuel should be prohibited for use by the flag administration prior to departure. Amend w/ Code 50

² MI/PSCO’s may need to review the bridge log or other relevant documents for determining entry and time in the ECA.

MARPOL Annex VI Regulation 14 Deficiency Matrix Continued:

For Vessels within an ECA (North American or U.S. Caribbean Sea ECA)				
Observation	Code	Description	Cite	Code/Action Taken
<p>VESSELS UTILIZING LOW SULFUR F/O TO COMPLY WITH REG. 14 (Continued):</p> <p>Vessel did not have compliant fuel oil onboard for operating in the ECA; the F/O utilized was >0.10% sulfur: The master could provide the proper documentation that efforts were made to procure compliant fuel oil but that notifications to the United States and the vessel's flag administration were not made prior to entering the North American ECA IAW Annex VI Regulation 18.</p>		<p>Foreign Vessel:</p> <p>While ships are operating within an emission control area (ECA), the sulfur content used on board ships shall not exceed 1%. The PSCO discovered that the vessel has been operating within the (Designate ECA – North American ECA) from DD/MM/YY to DD/MM/YY³ utilizing fuel oil that does not comply with the MARPOL Annex VI ECA sulfur limits.</p> <p>U.S. Domestic Vessel:</p> <p>The MI discovered that the vessel has been operating within the (Designate ECA – North American ECA) from DD/MM/YY to DD/MM/Y utilizing fuel oil that does not comply with the MARPOL Annex VI ECA sulfur limits.</p>	<p>MARPOL Annex VI, Reg. 14.4</p> <p>40 CFR 1043.60</p>	<p>U.S. and Foreign Vessel: Issue a Code 17 -Prior to departure Actions / Clear the Deficiency:</p> <ul style="list-style-type: none"> • Request the master/operator provide notification to the Administration; • Request the master/operator of the vessel to submit a FONAR to the cognizant Captain of the Port; • Review records of actions taken and evidence for submittal to Flag Administration • If the vessel has received compliant fuel oil prior to or during USCG exam, obtain a copy of the BDN – amend with Code 10/U.S. Vsl Clear; or • Request a corrective action plan signed by the master stating that compliant fuel oil is: <ul style="list-style-type: none"> • Scheduled to be received prior to departure - Upon receipt of a corrective action plan and copy of receipt & BDN clear the deficiency – code 10/ U.S. Vsl Clear; • At the next U.S. port (request a copy of the receipt & BDN be sent to the issuing unit); amend with a Code 15; clear the Code 15 when receipt/BDN received – Code 10/ U.S. Vsl Clear; • Not scheduled for purchase, nor does the owner/operator intend to purchase compliant fuel oil – Code 50/ U.S. Vsl 30 days <ul style="list-style-type: none"> • If the latter two are chosen, inform the master that the Owner/operator is subject to a separate MARPOL Annex VI violation for each day of operation not in compliance with Annex VI. All ECA related deficiencies are referred to the EPA. The EPA may take enforcement action to include administrative penalties, and judicial action.

³ MI/PSCO's may need to review the bridge log or other relevant documents for determining entry and time in the ECA.

MARPOL Annex VI Regulation 14 Deficiency Matrix Continued:

For Vessels within an ECA (North American or U.S. Caribbean Sea ECA)				
Observation	Code	Description	Cite	Code/Action Taken
<p>VESSELS UTILIZING LOW SULFUR F/O TO COMPLY WITH REG. 14 (Continued):</p> <p>Vessel did not have compliant fuel oil onboard for operating in the ECA; the F/O utilized was >0.1% sulfur: The master could not provide the proper documentation that efforts were made to procure compliant fuel oil and that notifications to the United States and the vessel's flag administration were not made prior to entering the North American ECA IAW Annex VI Regulation 18.</p>		<p>Foreign Vessel:</p> <p>While ships are operating within an emission control area (ECA), the sulfur content used on board ships shall not exceed 1%. The PSCO discovered that the vessel has been operating within the (Designate ECA – North American ECA) from DD/MM/YY to DD/MM/YY⁴ utilizing fuel oil that does not comply with the MARPOL Annex VI ECA sulfur limits.</p> <p>U.S. Domestic Vessel:</p> <p>The MI discovered that the vessel has been operating within the (Designate ECA – North American ECA) from DD/MM/YY to DD/MM/Y utilizing fuel oil that does not comply with the MARPOL Annex VI ECA sulfur limits.</p>	<p>MARPOL Annex VI, Reg. 14.4</p> <p>40 CFR 1043.60</p>	<p>Foreign vessel – Detain⁵ Code 30. U.S. Vessel – Detain Code 30. Actions / Clear the Deficiency:</p> <ul style="list-style-type: none"> Request the master/operator provide notification to the Administration; Request the master/operator of the vessel to submit a Non-Availability Report to the cognizant USCG COTP; Review records of actions taken and evidence for submittal to Flag Administration Conduct a more detailed inspection including review of the applicable portion of the vessel's SMS If the vessel has received compliant fuel oil prior to or during USCG exam, obtain a copy of the BDN – amend with Code 10/ U.S. Vsl Clear; or Request a corrective action plan signed by the master stating that compliant fuel oil is: <ul style="list-style-type: none"> scheduled to be received prior to departure - Upon receipt of a corrective action plan and copy of receipt & BDN clear the deficiency – code 10/U.S. Vsl Clear; At the next U.S. port (request a copy of the receipt & BDN be sent to the issuing unit); amend with a Code 15; clear the Code 15 when receipt/BDN received – Code 10/ U.S. Vsl Clear; Not scheduled for purchase, nor does the owner/operator intend to purchase compliant fuel oil – Code 50/ U.S. Vsl 30 days <ul style="list-style-type: none"> If the latter two are chosen, inform the master that the Owner/operator is subject to a separate MARPOL Annex VI violation for each day of operation not in compliance with Annex VI. Utilize <u>USCG/EPA Enforcement protocols</u> to determine appropriate course of action for enforcement

⁴ MI/PSCO's may need to review the bridge log or other relevant documents for determining entry and time in the ECA

⁵ To be effective, it is important that the Coast Guard's application of the targeting regime remains consistent. In addition to focusing USCG resources, the *PSC Safety and Environmental Protection Compliance Targeting Matrix* serves to place the onus for maintaining vessels to accepted standards on those entities most responsible, including ship management, Recognized Organizations, and flag States. Linking targeting decisions to the performance records of the ship, the ship's management, Recognized Organizations and flag State helps ensure accountability.

MARPOL Annex VI Regulation 14 Deficiency Matrix Continued:

For Vessels within an ECA (North American or U.S. Caribbean Sea ECA)				
Observation	Code	Description	Cite	Corrective Action
<p>LOGBOOK (minor discrepancies):</p> <p>Crew did not properly document in the logbook (as prescribed by the Administration for recording ECA items); the volume of low sulfur fuel oils in each tank; or date & time; or the position of ship when fuel oil changeover operation was completed (prior to entry or after exit from the ECA).</p>		<p>Foreign Vessel:</p> <p>Ships utilizing separate fuel oils to comply with the (Designate ECA – North American ECA) sulfur content shall record the required change-over operations in the logbook as prescribed by the Administration. While operating in the North American ECA, the vessel’s master/crew did not properly document (the volume of low sulfur fuel oils in each tank and/or date, time and position of ship when fuel oil changeover operation is completed prior to entry or after exit from the ECA) in the XXXX (e.g., oil record book, bridge log, engine room log, Annex VI logbook, etc...) which is the required logbook designated by the Administration.</p> <p>U.S. Domestic Vessel:</p> <p>While operating in the North American ECA, the vessel’s master/crew did not properly document (the volume of low sulfur fuel oils in each tank and/or date, time and position of ship when fuel oil changeover operation is completed prior to entry or after exit from the ECA) in the XXXX (e.g., oil record book, bridge log, engine room log, Annex VI logbook, etc...) which is the required logbook designated by the Coast Guard.</p>	<p>MARPOL Annex VI, Reg. 14.6</p>	<p>U.S. and Foreign Vessel - Issue a Code 17: Prior to departure <i>(Use deficiency code 14699 to ensure data consistency)</i></p> <p align="center">Actions / Clear the Deficiency:</p> <ul style="list-style-type: none"> • Advise the Master that the discrepancy regarding the logbook entry must be corrected prior to the departure and that the entries entered must reflect the events as they actually occurred. Amend deficiency with Code 10 once completed. • Conduct a more detailed inspection including review of the applicable portion of the vessel’s SMS

MARPOL Annex VI Regulation 14 Deficiency Matrix Continued:

Observation	Code	Description	Cite	Corrective Action
<p>LOGBOOK (major discrepancies):</p> <p>Entries in the logbook as recorded by the crew indicate that the change-over procedures for switching from 0.50% to 0.10% sulfur content occurred prior the ECA; Or, after exiting the ECA. However, the MI/PSCO has discovered/determined that the change-over occurred after entering or before exiting the ECA (how determined - reviewing of multiple logs showing inconsistencies or due to a report received) which conflict with the change-over operations as recorded in the (what is the title of the logbook) as prescribed by the Administration</p>		<p>U.S. & Foreign Vessel:</p> <p>Ships utilizing separate fuel oils to comply with the (Designate ECA – North American ECA) sulfur content shall record the change-over operations in the logbook prescribed by the Administration. During review of the xxxx (e.g., oil record book, bridge log, engine room log, Annex VI logbook, etc...) designated by the Administration for recording fuel oil change-over operations, the PSCO noted inconsistencies regarding the XXXX (volume of low sulfur fuel oils in each tank; date; time; position of ship) recorded when the fuel oil changeover operation was completed. This/these inconsistencies as recorded conflict with the (bridge log, crew statements, etc..) which indicate the completion of the fuel oil change-over occurred after entering (or before departing) the (Designate ECA – North American ECA). The PSCO questions the authenticity of the (name the log book) as presented and the crew’s compliance with MARPOL Annex VI regarding the prevention of pollution by emissions.</p>	<p>MARPOL Annex VI, Reg. 14.6</p> <p>33 U.S.C. 1907</p>	<p align="center">U.S. and Foreign vessel - Detain Code 30.</p> <ul style="list-style-type: none"> • Conduct a more detailed inspection including review of the applicable portion of the vessel’s SMS • Utilize USCG/EPA Enforcement protocols to determine appropriate course of action for enforcement

MARPOL Annex VI Regulation 14 Deficiency Matrix Continued:

For all vessels subject to USCG jurisdiction outside of an ECA (Guam, Western Alaska, etc.) – AFTER 01 JANUARY 2020 UNTIL 01 MARCH 2020				
Observation	Code	Description	Cite	Code/Action Taken
<p>VESSELS UTILIZING LOW SULFUR F/O TO COMPLY WITH REG. 14</p> <p>Vessel did not have compliant fuel oil onboard; the F/O utilized was >0.50% sulfur.</p>		<p>Foreign Vessel:</p> <p>The sulfur content of any fuel oil used onboard ships shall not exceed 0.50%. The PSCO discovered that the vessel has been utilizing fuel oil that does not comply with the MARPOL Annex VI sulfur limits.</p> <p>U.S. Domestic Vessel:</p> <p>The MI discovered that the vessel has been utilizing fuel oil with sulfur content that exceeded 0.50%. Vessel must provide plan to OCMI in order to come into compliance prior to departure.</p>	<p>MARPOL Annex VI, Reg. 14.1</p> <p>40 CFR 1043.60</p>	<p>U.S. and Foreign Vessel - Issue a Code 17 -Prior to departure</p> <p align="center">Actions / Clear the Deficiency:</p> <ul style="list-style-type: none"> • Review records of actions taken and evidence submitted to Flag/USCG <ul style="list-style-type: none"> • Direct notification to flag administration if it has not been done • If the vessel has received compliant fuel oil prior to or during USCG exam, obtain a copy of the BDN – amend with Code 10; or • Request a corrective action plan signed by the master stating that compliant fuel oil is: <ul style="list-style-type: none"> • scheduled to be received prior to departure - Upon receipt of a corrective action plan and copy of receipt & BDN clear the deficiency – Issue code 10 • At the next U.S. port (if compliant fuel is unavailable at current US port) (request a copy of the receipt & BDN be sent to the issuing unit); amend with a Code 15; clear the Code 15 when receipt/BDN received – Issue Code 10 • Not scheduled for purchased, nor does the owner/operator intent to purchase compliant fuel oil – Amend to Code 30; then amend to Code 10 to allow departure after flag administration and RO (as applicable) address deficiency subject to the discretion of the COTP. • If the latter two are chosen, inform the master that the Owner/operator is subject to a violation for each day of operation (subject to U.S. jurisdiction) of noncompliance with MARPOL Annex VI.

For all vessels subject to USCG jurisdiction (Foreign Vessels w/in U.S. Waters and all U.S. Vessels) – AFTER 01 MARCH 2020

Observation	Code	Description	Cite	Code/Action Taken
<p>VESSELS UTILIZING LOW SULFUR F/O TO COMPLY WITH REG. 14.1 (Global carriage ban/ 0.50% sulfur content)</p> <p>Vessel has fuel oil containing more than 0.50% sulfur content onboard. This should be based on BDNs, statements by Master and/or fuel sampling(only when necessary);</p>		<p>Foreign Vessel:</p> <p>The sulfur content of fuel oil used or carried for use on board a ship shall not exceed 0.50% m/m. The vessel has fuel oil onboard with X.XX% sulfur content.</p> <p>U.S. Domestic Vessel:</p> <p>The MI discovered sulfur content of fuel oil used or carried for use on board exceeded 0.50% m/m. The vessel has fuel oil onboard with X.XX% sulfur content. Vessel must present a plan to the OCMI/COTP for proper removal of the non-compliant fuel.</p>	<p>MARPOL Annex VI, Reg. 14.1</p> <p>40 CFR 1043.60</p>	<p>U.S. and Foreign Vessel: Issue at a <i>minimum</i> a Code 17 -Prior to departure</p> <p>Consider DETENTION – Code 30 for the following:</p> <ul style="list-style-type: none"> • Condition was not reported to USCG • Based on objective evidence, there was an insufficient effort made to utilize/offload non-compliant fuel prior to 01 March 2020 • Repeat occurrences of non-compliance (within U.S and globally) <p align="center">Actions / Clear the Deficiency:</p> <ul style="list-style-type: none"> • Conduct a more detailed inspection including review of the applicable portion of the vessel’s SMS • Vessel should provide a plan for offloading fuel at current port; once offloaded then amend with Code 10 • <u>if not practical</u>, subject to the discretion of the USCG COTP, then the vessel’s company must request permission to offload fuel at subsequent port (regardless of destination) from their flag administration and subsequent port’s Port State prior to requesting authorization from the USCG Captain of the Port to depart port. Non-compliant fuel should be prohibited for use by the flag administration prior to departure. Amend w/ Code 50. • If onboard a U.S. Vessel in a foreign port, then coordination with local port state control authorities is required prior to clearing deficiency.

For all vessels utilizing a EGCS as an equivalency to meeting MARPOL Annex VI

Observation	Code	Description	Cite	Code/Action Taken
<p>VESSELS UTILIZING EGCS AS AN EQUIVALENT TO COMPLY WITH REG. 14</p> <p>Vessel's EGCS is malfunctioning (emission exceedances) or crew is unable to demonstrate that EGCS is functioning as designed other than short term exceedances.</p> <p><i>NOTE: Short Term Exceedances: Short term exceedances as defined by MEPC.1/Circ.883 are acceptable (less than 1 hour). Other exceedances and long term exceedances/are unacceptable other than the duration of the voyage after EGCS failure occurs until the vessel arrives in port (MARPOL VI/3.1.2.2)</i></p>		<p>Foreign Vessel:</p> <p>The Administration of a Party may allow any fitting, material, appliances, or apparatus to be fitted in a ship if arrangement is at least equivalent to the emissions reduction of MARPOL Annex VI. The EGCS installed onboard is not functioning as designed. (or the PSCO cannot verify that the EGCS is functioning as designed due to lack of crew familiarity with the system).</p> <p>U.S. Domestic Vessel:</p> <p>The MI discovered (or <i>Vessel's master reported</i>) that the vessel's EGCS installed for an equivalent level of compliance for MARPOL Annex VI is inoperable.</p>	<p>MARPOL VI/4 (MARPOL VI/10, <i>if crew is unable to verify proper operation of system</i>)</p> <p>40 CFR 1043.60</p>	<p align="center">U.S. and Foreign Vessel: Issue a Code 17 -Prior to departure</p> <p>Consider DETENTION – Code 30 for the following:</p> <ul style="list-style-type: none"> • Vessel does not have compliant fuel (<0.10.% within ECA or <0.50% outside of an ECA) onboard • Condition was not reported to USCG and/or; • Long term exceedances not reported to Flag/RO • It is determined that lack of ECGS maintenance was the cause of the failure <p align="center">Clear the Deficiency:</p> <ul style="list-style-type: none"> • Review records of actions taken and evidence submitted to Flag/USCG • Conduct a more detailed inspection including review of the applicable portion of the vessel's SMS • Request a corrective action plan signed by the master stating how the vessel intends to comply or portion of their SMS prescribing steps to be taken for inoperable EGCS <ul style="list-style-type: none"> • Verify compliant fuel is onboard or will be loaded to comply w/ Annex VI; ensure condition is reported to Flag and RO – amend deficiency w/ Code 16 (rectify w/in 14 days) allowing compliant fuel to be utilized in lieu of EGCS for short period. • If compliant fuel cannot be loaded onboard (insufficient capacity for next voyage), then vessel should be held in port until EGCS is fully operational or fuel transfers (offloading/onloading) are conducted to allow for compliant fuel to be utilized in lieu of EGCS for short period; amend with Code 16.

SPECIAL NOTE EXAMPLE:

<p align="center">SPECIAL NOTE FOR non-availability report received (5.a.i.(2))</p>				<p>DDMMYY (e.g., 01Dec19) (Unit name – Sector New Orleans) received a report from the (master, agent, etc.) notifying the US that the vessel was not able to receive 0.10% ECA compliant fuel oil. The vessel reported the issue to the unit, and that submittal and or receipt of this notification does not serve as a waiver or exemption from the requirements of Annex VI Regulation 14. The vessel claimed it was unable to acquire compliant fuel in the following port areas: (list port areas CITY/COUNTRY).</p>