Indian Register of Shipping

Report No.:

Report of MARPOL 73/78, Annex VI Survey
"Regulations for the Prevention of Air Pollution from Ships"

Type of Survey: Initial Survey/Annual Survey/Intermediate Survey/Periodical Survey/ Renewal Survey/Change of Flag Survey*

Name of ship: ……..…… I. R. No.: ……

Port of Survey: …… Report No.: ……

Use "Y" for yes or satisfactory; "N" for not satisfactory/see remarks in continuation sheet; "–" for not applicable.

Plans referred during Initial Survey:

1		
2		
3		
4		
5		
1. GENERAL		
1.1	Have any changes been made or new equipment been installed which would affect the validity of the International Air Pollution Prevention Certificate or International Energy Efficiency Certificate?	…
1.2	All instructions and/or notices including Operating Manuals are posted in the appropriate language as required and to the Master's satisfaction.	…
1.3	Checking the validity of all Statutory Certificates and the Class Certificate	…
1.4	Checking that the Ship's complement complies with the Minimum Safe Manning Document	...
1.5	Checking that the Master, officers and ratings are certificated as required by the STCW Convention	...
1.6	The Ship is provided with Ship Energy Efficiency Management Plan (SEEMP) in compliance with Regulation 22.	…
1.7	**For ships of 5,000 gross tonnage and above**	
1.7.1	The ship is provided with Ship Energy Efficiency Management Plan (SEEMP) Part II and Confirmation of Compliance. Confirmation of Compliance No. : …… Issued by …… on …….	…
1.7.2	Confirmation that Fuel oil consumption data is being collected based on methodology stated in the SEEMP Part II.	…
2. OZONE-DEPLETING SUBSTANCES		
2.1	Does the ship have Ozone Depleting Substances on board? (e.g. Fire Fighting Installation, Air Conditioning / Refrigeration Installations containing followings but not limited to: • Fire extinguishing agents: Halon 1211, Halon 1301, Halon 2402 (also known as Halon 114 B2); • Refrigerating gases: CFC–R11, CFC–R12, CFC–R113, CFC–R114, CFC-R115, HCFC-R22)	…
2.2	For existing ships, plans, manuals and documents indicating the location on board and the details of systems equipment, including portable fire extinguishers, insulation or other material containing ozone depleting substances (Ozone Depleting Substances Record Book), if any, have been examined and identified in Record of Construction and Equipment (Form No. Annex VI Record) correctly (Reg. 12).	…
2.3	Are there procedures to prevent and/or mitigate deliberate emission of ODS including emissions occurring in the course of maintenance, servicing, repairing or disposing of systems or equipments. Document identification detail……	…
2.4	Are there procedures to indicate that ODS, when removed from ship are to be delivered to appropriate reception facility. Document identification detail……	…
2.5	Confirmation that no new installation or equipment, which contain ODS other than HCFCs, have been fitted on ships constructed after 19 May 2005 (reg. 12.3.1 of Annex VI). (Installations which contain HCFCs may be fitted on ships constructed before 1 January 2020) (reg. 12.3.2 of Annex VI).	…

2.6	Results of external examination of installation or equipment containing ODS indicate satisfactory maintenance to ensure that there are no emission of ozone-depleting substances.	…
2.7	Result of examination of record of periodic leak tests and consumption of ODS indicates leak free operation. (Deliberate emissions do not include minimal releases associated with the recapture or recycling of ODS).	…

3. REGULATION 13 - NITROGEN OXIDES

3.1	Does Regulation 13 apply to any diesel engine on the ship? (if no, this section of the checklist may be skipped.)	…
3.2	Confirm that there are Engine International Air Pollution Prevention (EIAPP) Certificates for each marine diesel engine, required to be certified, as described in Regulation 13 of MARPOL 73/78, Annex VI(Chapter 2.1 of the NOx Technical Code).	…
3.3	Confirm that there is on board an approved technical file for each marine diesel engine required to be certified. The particulars are as follows:	

	Tech. File Document No.	Engine Type	Engine No.	Application
i	…	…	…	…
ii	…	…	…	…
iii	…	…	…	…
iv	…	…	…	…
v	…	…	…	…
vi	…	…	…	…
vii	…	…	…	…

3.4	Confirm that there is a record book of engine parameters for each marine diesel engine required to be certified in the case where the engine parameter check method is used as a mean of onboard NOx verification (NOx Technical Code paragraph 6.2.3).	…
3.5	*If engine parameter check method is used:*	
3.5.1	*Review of Documentation*	
3.5.1.1	Result of review of engine documentation contained in the technical file and the record book of engine parameters to check, as far as practicable, engine rating, duty and limitation/restrictions as given in the technical file have been maintained. *Note: Check that the followings have been included in the Technical File:* • *Identification of Nox emission influencing engine components;* • Identification of Nox emission related adjustable engine settings	…
3.5.1.2	Confirmation from the Engine record book that the engine has not undergone any component / part replacement, modifications or adjustments outside the options and ranges permitted in the technical file since the last survey (Engine record books must contain details in chronological order of all changes / adjustments made relative to engines' components, settings or operating values, part replacement, part modification).	…
3.5.2	*Actual inspection of NOx influencing engine components*	
3.5.2.1	Confirmation that each NOx influencing component carries the required component identification number cross-referenced in the Engine Technical File.	…
3.5.3	*Verification of NOx influencing engine adjustable features*	
3.5.3.1	Confirmation that engine adjustable features are within the limits specified in the engine technical file (e.g. fuel cam position, injection valve opening, compression ratio etc.) *(Note the following extracts from NOx Technical Code* *2.3.10 The Administration may, at its own discretion, abbreviate or reduce all parts of the survey on board, in accordance with this Code, to an engine which has been issued an EIAPP Certificate. However, the entire survey on board must be completed for at least one cylinder and/or one engine in an Engine Family or Engine Group, if applicable, and the abbreviation may be made only if all the other cylinders and/or engines are expected to perform in the same manner as the surveyed engine and/or cylinder. As an alternative to the examination of fitted components, the Administration may conduct that part of the survey on spare parts carried on board provided they are representative of the components fitted.* *6.2.3.2 The surveyor shall have the option of checking one or all of the identified components, settings or operating values to ensure that the engine with no, or minor, adjustments or modifications complies with the applicable NOx emission limit and that only components of the approved specification, as given by 2.4.1.7 of Nox technical code, are being used. Where adjustments and/or modifications in a specification are referenced in the Technical File, they must fall within the range*	…

	recommended by the applicant for engine certification and approved by the Administration.)	
3.6	*If the simplified method is used:*	
3.6.1	Review of engine documentation contained in the approved technical file.	…
3.6.2	Has the test procedure been approved by the Administration or its R.O.?	…
3.6.3	Confirmation that the analyzers, engine performance sensors, ambient condition measurement equipment, span check gases and other test equipment are of the correct type and have been calibrated in accordance with the NOx Technical Code.	…
3.6.4	Confirmation that the correct test cycle, as defined in the engine's technical file, is used for this on-board confirmation test measurements.	…
3.6.5	Ensuring that a fuel sample is taken during the test and submitted for analysis.	…
3.6.6	Witnessing the test and confirmation that a copy of the test report has been submitted for approval on completion of the test.	…
3.7	*If the direct measurement and monitoring method is used:*	
3.7.1	Review of technical file of engine to verify that the direct measurement and monitoring method is approved by the Administration.	…
3.7.2	Documentation / Approval of the installed measuring equipment.	…
3.7.3	Confirmation that the procedures to be checked in the direct measurement and monitoring method and the data obtained as given in the approved onboard monitoring manual has been followed.	…
3.7.4	Verification of logged measurement results in order to ensure that the engine comply with the NOx Technical Code and Reg. 13.	…
3.7.5	Confirmation that record with reference to – 'The tier and on/off status of marine diesel engines installed on board a ship to which Nox Tier III emission limit applies, which are certified to both Tier II and Tier III or which are certified to Tier II' are maintained in logbook as prescribed by the Administration at entry into and exit from an ECA, or when on/off status changes within an ECA together with the date, time and position of the ship.	…
3.8	**For marine diesel engine of an output more than 5,000 kW and a per cylinder displacement at or above 90 litres/ cylinder installed on ship constructed between 1 January 1990 and 31 December 1999**	
3.8.1	Does approved method exist?	...
3.8.1.1	If yes,	
3.8.1.1.1	Is the approved method not commercially available; or	...
3.8.1.1.2	If commercially available, has the approved method been installed and that approved method file is on board	...
3.8.1.2	Verifications have been done in accordance with the procedures given in the approved method file	...
	OR	
3.8.2	Checking that the engine has been certified, confirming that it operates within the limits set forth for Tier I, Tier II or Tier III	...
3.9	**Additional verification for ships fitted with Selective Catalytic Reduction (SCR) device to reduce NOx**	...
3.9.1	Verification that SCR including chamber, storage tank for SCR and associated piping arrangements have been installed as per approved plan. (Applicable for initial survey)	...
3.9.2	Confirmation that approved Technical File is available onboard and SCR is recorded as a component of the engine in the Technical File and EIAPP certificate	...
3.9.3	Confirmation that SCR including chamber, storage tank for SCR and associated piping arrangements have not undergone any modifications since previous survey and found in satisfactory condition. (Not applicable for initial survey)	...
3.9.4	Verification that venting arrangement, heating and/or cooling system for storage tank are in satisfactory condition.	...
3.9.5	Where the storage tank for SCR is installed in a closed compartment, verification that the ventilation system for the compartment is in good working condition and operable from outside the compartment.	...
3.9.6	Verification that the audible and visual alarm of ventilation system for area containing storage tank initiate on failure of ventilation system.	...
3.9.7	Verification that low and high temperature and low and high level monitoring alarms for storage tank containing SCR tested satisfactorily.	...
3.9.8	Verification that personnel protective equipment, eyewash and safety showers are provided as per arrangement plan.	...

3.9.9	Confirmation that if reductant using aqueous ammonia (28% or less concentration of ammonia) or anhydrous ammonia (99.5% or greater concentration of ammonia by weight) is used, it has been approved based on risk analysis	...
3.9.10	For Scheme A	
3.9.10.1	Verification as per procedure stated in Technical File that NOx emission measurements of Engine & SCR comply with the applicable NOx emission limit in regulation 13	...
3.9.11	For Scheme B	
3.9.11.1	Confirmation that for engine system fitted with SCR an initial confirmation test is performed onboard based on reviewed test protocol and found satisfactory. (Note: Confirmation test is to be undertaken as close as possible to 25%, 50% and 75% of rated power)	...
3.9.11.2	Verification that the engine system fitted with the SCR is as per description given in the Technical File	...
3.9.11.3	Verification of the operating values at each mode point of the confirmation test as per technical file.	...
3.9.11.4	Confirmation that NOx emission concentrations are measured at the inlet and outlet of the SCR chamber and the calculated NOx reduction rate is not less than the corresponding values as given in the Technical File by more than 5%.	...
3.9.12	Verification of record to confirm that the OEM's recommendations for the exchange criteria for SCR catalyst blocks and recommended exchange time of SCR catalyst blocks have been adhered to. (Not applicable for initial survey)	...
3.9.13	Verification of record to confirm that the ship has assessed catalyst NOx reduction efficiency based on periodical spot checks or monitoring at periodicity specified by the OEM but not more than 12 months. (Not applicable for initial survey)	...
3.9.14	Verification that calibration of measuring instrument, and maintenance of SCR equipment has been done as per OEM's recommendations	...
3.9.15	Verification that calibration, zero and span checks for the have been carried out at periodicity specified by OEM (Not applicable for initial survey)	...
3.9.16	Confirmation that any residues generated by the SCR unit are delivered ashore to adequate reception facilities and record maintained	
3.10	**Additional verification for ships fitted with Exhaust Gas Recirculation (EGR) to reduce NOx**	
3.10.1	Confirmation that the following documents are available on board: • Manual for EGR bleed-off discharge system; • Certificates for type approval of oil content meters (15 ppm alarm); • Operating and maintenance manuals of oil content meters (15 ppm alarm); and • EGR record book. Inspection report / certificates for the EGR equipment	...
3.10.2	Confirmation that approved Technical File is available onboard and EGR is recorded as a component of the engine in the Technical File and EIAPP certificate	...
3.10.3	Verification that the principal components of the EGR equipment and bleed-off discharge system have been installed in accordance with the approved plans (Applicable only for initial survey)	...
3.10.4	Confirmation that components of EGR equipment and bleed-off discharge system have not undergone any modifications since previous survey and found in satisfactory condition. (Not applicable for initial survey)	...
3.10.5	Confirmation that the measuring instruments have valid calibration status	...
3.10.6	Confirmation that hot surfaces of EGR systems which are likely to come into contact with the crew during operation are suitably insulated	...
3.10.7	Verification as per procedure stated in Technical File that NOx emission measurements of Engine & EGR comply with the applicable NOx emission limit in regulation 13	...
3.10.8	Confirmation that the EGR system is checked for proper operation including alarms and shutdowns	...
3.10.9	Verification from EGR record book that discharge of EGR bleed-off water is as per conditions stated in MEPC 307(73) and that the vessel has recorded the storage and disposal of bleed-off water, including the date, time and location of such storage and disposal (Not applicable for initial survey)	...

4. REGULATION 14 - SULPHUR OXIDES		
4.1	Result of review of bunker delivery notes for the use of the correct sulphur content† fuel for the area of operation.	…
4.2	Confirmation that where modification of fuel oil system storage and/or piping system have been done to accommodate separately, fuels for SOx Emission Control Areas and fuels for outside SOx Emission Control Areas†, the relevant plans have been approved. Drawing No……..approved by …….	…
4.3	Confirmation that the vessel uses single fuel complying with the requirements of SOx Emission Control Area†	…
4.4	Confirmation that where there are tanks fitted for fuels for SOx Emission Control Areas and fuels for outside SOx Emission Control Areas† that fuel switching arrangement and written procedures are provided and arrangement is in operational condition.	…
4.5	Confirmation that ship staff is familiar with operating procedures associated with demonstrating compliance within a SOx Emission control area.	…
4.6	Confirmation that fuels for SOx Emission Control Areas had been stored separately from fuels for outside SOx Emission Control Areas† (Oil record book)	…
4.7	If the ship has traded in SOx Emission Control Area(s) there is record of fuel change over in ship's log book or equivalent document as described by the Administration, e.g. ship's positions and time at the start and completion of change-over to and from fuels for SOx Emission Control Area† together with the details of the tanks involved and fuel used (regulation 14.6 of Annex VI).	…
4.8	Confirmation that record of consumption of bunker for SOx Emission Control Area† within the SOx Emission Control Area matches with that estimated (log book entries).	…
4.9	Are onboard navigation charts upgraded with respect to SOx Emission Control Area borders?	…
4.10	Confirmation that where technological methods other than EGCS (equivalent devices as per MARPOL Annex VI reg.4) are fitted, required approved operating procedure is being followed.	…
4.11	Confirmation that where technological methods other than EGCS (equivalent devices as per MARPOL Annex VI reg.4) are fitted, that it is in a satisfactory condition.	…
4.12	**Additional verification for ships fitted with Exhaust Gas Cleaning System (EGCS) to reduce SOx**	…
4.12.1	Confirmation that the following reviewed documents are available onboard: a. SECP (SOx emission compliance plan) b. SECC (SOx emission compliance certificate) (Only for Scheme A) c. Exhaust Gas Cleaning System Technical manual (ETM) d. OMM (onboard monitoring manual)	…
4.12.2	Confirmation that all EGCS installation on combustion units are as listed in the ETM	…
4.12.3	Verification that the arrangement of EGCS – the scrubber, piping connections, bypass, washwater treatment as per the reviewed ETM	…
4.12.4	Confirmation that the EGCS has not undergone any modifications since the previous survey. (Not applicable for initial survey)	…
4.12.5	Confirmation that EGC record book is available onboard. If it is in electronic form, confirmation that it is approved.	…
4.12.6	Verification that EGC units fitted to single main propulsion engines are installed with an exhaust bypass arrangement and operation is satisfactorily	…
4.12.7	For wet type EGC units, confirmation that arrangements are provided to prevent the ingress of scrubber washwater into the fuel oil combustion unit.	…
4.12.8	Monitoring, alarm, and shutdown arrangements provided to prevent an abnormal rise of washwater level in the scrubber reaction chamber are tested satisfactorily	…
4.12.9	Confirmation that piping materials used after the SOx scrubber unit are of a corrosion resistant material (such as stainless steel) as per approved plan	…
4.12.10	Confirmation that the isolation and bypass valves are arranged in an interlocked, fail safe manner, such that free flow of exhaust gas to the atmosphere is possible at all times, either through the scrubber unit or through the bypass. Operation verified satisfactorily	…

† Note for permissible sulphur content.

Time Limit	Inside Sox Emission Control Area	Time Limit	Outside Sox Emission Control Area
Prior to 1 July 2010	1.5% m/m	Prior to 1 January 2012	4.5% m/m
After1 July 2010	1.0% m/m	After1 January 2012	3.5% m/m
After 1 January 2015	0.1% m/m	After 1 January 2020	0.5% m/m

4.12.11	Confirmation that suitable insulation provided where the surface temperatures are likely to exceed 220°C (428°F) and where any leakage, under pressure or otherwise, of fuel oil, lubricating oil, or other flammable liquid is likely to come into contact with the EGC unit or exhaust pipes.	…
4.12.12	Verification that the SO2 and CO2 analysers' model/type, measurement range, probe locations are as per the reviewed ETM	…
4.12.13	Confirmation that valid calibration record of SO2 and Co2 analysers is available	…
4.12.14	Confirmation from gas analysis certificate that zero and span gases are within date of expiry	…
4.12.15	Confirmation that the sampling line is heated / maintained at a temperature to avoid condensation and the wash out (loss) of SO2 as described in the OMM	…
4.12.16	Performed exhaust gas leakage check satisfactorily according to procedures given in OMM	…
4.12.17	For closed loop systems, confirmation that chemical storage tank, EGC residue/ chemical overflow tank, drip trays, and any other components which may come into contact with the chemical solution or sludge is of a suitable grade of stainless steel or other corrosion-resistant material.	…
4.12.18	For dry type EGCS, confirmation that Consumable Handling Equipment and details of the granulate supply and discharge systems are as per reviewed ETM	…
4.12.19	Verification that Filling, Vents, and Overflows for chemical Tank and EGC Residue/ chemical Overflow Tank are as per approved plan	…
4.12.20	Verification that the chemical storage and EGC residue/ chemical overflow tanks is served by an effective mechanical exhaust ventilation system as per approved plan	…
4.12.21	Verification that the position, model, measurement range of instruments for pH, PAH and turbidity is as per the ETM	…
4.12.22	Confirmation that that valid calibration record is available for instruments for pH, PAH and turbidity	…
4.12.23	Verification that the sensor measurement range corresponds with data logger's measurement range	…
4.12.24	Verification that the pH electrode and pH meter have a resolution of 0.1 pH units.	…
4.12.25	Confirmation that data recording and processing device is in satisfactory condition, and data recoded are in UTC format for time and global navigational satellite system is used for position, copy of downloaded reports verified satisfactorily (Note-Record of data to be retained for not less than 18 month)	…
4.12.26	For scheme B, confirmation that the recording frequency is 0.0035 Hz (i.e. every 4.76 min)	…
4.12.27	Confirmation that valid calibration record is available or successful calibration is witnessed for: • Pressure sensor at EGC unit washwater inlet • Flow sensor at EGC unit washwater inlet • Exhaust gas pressure sensor before and after EGC unit • Exhaust gas temperature sensor before and after EGC unit	…
4.12.28	Confirmation that emission testing carried out in accordance with agreed test protocol and parameters recorded For Scheme A: EGC unit tested satisfactorily to meet Certified Value at load points as below: a. 25% to 100% of the load range for main propulsion diesel engines b. 10 to 100% of the load range for auxiliary diesel engines c. 10 to 100% of the load range (steaming rates) for Boilers Emission measurement done atleast at four load points. (One load point at 95 to 100% of the max. exhaust gas mass flow rate, one within ± 5% of the minimum exhaust gas mass flow rate, other two load points equally spaced between the maximum and minimum exhaust gas mass flow rates) For Scheme B: Exhaust gas composition in terms of SO2(ppm)/CO2(%) is measured at load points as mentioned above and recorded onto a data recording and processing device	…
4.12.29	Confirmation that the following operational parameters are recorded in accordance with agreed test protocol: i. Ships Position ii. UTC iii. SO2 after scrubber iv. CO2 before or after scrubber (depending on system, verify as per ETM) v. Calculated SO2 to CO2 ratio # vi. Washwater pressure at EGC unit inlet # vii. Washwater Flow rate # viii. Exhaust Pressure before EGC Unit	…

	ix. Exhaust Pressure drop across EGC Unit # x. Engine / Boiler Load xi. Exhaust Temperature before EGC Unit # xii. Exhaust Temperature after EGC Unit # xiii. pH of discharge water # xiv. PAH of inlet water (if applicable) xv. PAH of discharge water (if applicable) xvi. PAH difference reading # xvii. Turbidity of inlet water (if applicable) xviii. Turbidity of discharge water (if applicable) xix. Turbidity difference reading # xx. Temperature of Discharge Water For parameters marked with # above, verified satisfactorily that readings are within the limit as specified in ETM	
4.12.30	Confirmation that EGC is performing as per the operating values or settings mentioned in the verification procedure.	…
4.12.31	For Scheme B Units, Confirmation that record of daily spot check of the exhaust gas quality in terms of So2(ppm)/Co2(%), where continuous exhaust gas monitoring system is not fitted is recorded and used for verification of EGC unit along with parameter check method. (Note- Parameter of washwater pressure and flow rate at the EGC unit's inlet connection, exhaust gas pressure before and pressure drop across the EGC unit, fuel oil combustion equipment load, and exhaust gas temperature before and after the EGC unit). (Not applicable for initial survey)	…
4.12.32	For Scheme B units, confirmation that daily spot checks of wash water pressure and flow rate at the EGC unit's inlet connection, exhaust gas pressure before and pressure drop across the EGC unit, fuel oil combustion equipment load, and exhaust gas temperature before and after the EGC unit, are recorded in the EGC Record Book or in the engine-room logger system. (Not applicable for initial survey)	…
4.12.33	Confirmation that calibration and maintenance have been carried out in accordance with OMM	…
4.12.34	Confirmation that the maintenance, servicing and adjustments are recorded in the EGC Record Book (Not applicable for initial survey)	…
4.12.35	Verification that the condition of the data recording device is satisfactory and that data is retained for a period of atleast 18 months from the date of recording. (Not applicable for initial survey)	…
4.12.36	Confirmation that report generated from the data recording device for a specified time period obtained and compliance found satisfactory.	…
4.12.37	Confirmation that nitrate discharge data is to be available in respect of sample overboard discharge drawn from each EGC system within the previous three months prior to the survey (Applicable only for Renewal Survey)	…
4.12.38	Confirmed from EGC record book or Electronic Logging System that washwater residues generated by the EGC unit are delivered ashore to adequate reception facilities (including the date, time and location of such storage and disposal) (Not applicable for initial survey)	…
5. REGULATION 15 - VOLATILE ORGANIC COMPOUNDS (Applicable for oil tankers, chemical tankers and gas carriers only)		
5.1	Is the tanker (if carrying crude oil) provided with approved VOC Management Plan Approval number…….., Approved by ……	...
5.2	Is the ship fitted with Volatile Organic Compound Collection (VOC) System? **(If no, this section need not be filled further.)**	...
5.3	Plan and design of Volatile Organic Compound Collection System, if fitted, is shown in Drawing / Document No……and has been approved by …….. dated……. taking into account MSC/Circ 585 "Standards for Vapour Emission Control Systems". (Reg. 15 and MSC/Circ.585)	...
5.4	There is a transfer procedure for the VOC collection system. Document identification no……...	...
5.5	Confirmation from general examination that vapour collection piping is in a satisfactory condition;	...

5.6	Confirmation that there is a means provided to eliminate the collection of condensation in the system, such as drains in low points of the line end. *(The drains should be checked to ensure they function correctly.)*	**...**
5.7	Confirm that the piping is electrically bonded to the hull and that the bonding is intact;	**...**
5.8	Confirmation that the isolation valves at the vapour manifolds are operational and that the valve position indicators operate correctly;	**...**
5.9	Confirmation that the ends of each line are properly identified as vapour collection lines.	**...**
5.10	Confirmation that the vapour collection flanges are in accordance with the IMO guidelines and industrial standards;	**...**
5.11	Confirmation that where portable vapour lines are provided that they are in good condition.	**...**
5.12	Confirmation that the closed gauging system is operational and the readouts in the cargo control area are functional;	**...**
5.13	Confirmation that there is an overflow control system provided and that it is operational.	**...**
5.14	Confirmation that the safety alarm system, (as shown in the technical manual) both audible and visual is operational:	**...**
5.14.1	the alarms are properly labeled;	**...**
5.14.2	the power failure alarm operates; and	**...**
5.14.3	there is means to test the operation of the alarms and that it is operational.	**...**
5.15	Confirmation that there are high and low pressure alarms provided for each main vapour line and that these alarms operate at the correct set points;	**...**
5.16	Confirmation that the high level and high high level (overfill) alarms in the cargo tanks act independently of each other.	**...**
5.17	Confirmation that the ship staff is familiar with the regulation of emissions of volatile organic compounds (VOCs), when the ship is in ports or terminals under the jurisdiction of a Party to the 1997 Protocol to MARPOL 73/78 in which VOCs emissions are to be regulated, and are familiar with the proper operation of a vapour collection system approved by the Administration (in case the ship is a tanker as defined in regulation VI/2(21)).	**...**
5.18	**For Gas Carriers Only** Where fitted, does the type of loading and containment systems allow safe retention of non-methane VOCs on board, or their safe return ashore?	**...**
6. REGULATION 16 - SHIPBOARD INCINERATION		
6.1	Are there procedure to prohibit onboard incineration outside an incinerator except incineration of sewage sludge and sludge oil in boilers and auxiliary power plants which is permitted only when the vessel is not in ports, harbors and estuaries?	**...**
6.2	Are there procedures / instructions prohibiting incineration of (a) Annex I, II and III cargo residues, (b) PCBs (Polychlorinated biphenyles), (c) garbage containing more than traces of heavy metals and (d) refined petroleum products containing halogen compounds?	**...**
6.3	Are there procedures / instructions prohibiting incineration of PVCs (polyvinyl chlorides) except in shipboard incinerators type approved in accordance with resolution MEPC.59 (33) / MEPC.76 (40) / MEPC.244 (66)?	**...**
6.4	Is there an incinerator installed on board? **(If no, this point to be reported not applicable (-) and this section need not be filled further.)**	**…**
6.5	The Shipboard Incinerator, if installed	
6.5.1	Installed on or after 1 January 2000 that complies with	**…**
6.5.1.1	Resolution MEPC.76(40) as amended***	**...**
6.5.1.2	Resolution MEPC.244(66)	**...**
6.5.2	Installed on or before 1 January 2000 which complies with	**…**
6.5.2.1	Resolution MEPC.59(33) as amended****	**...**
6.5.2.2	Resolution MEPC.76(40) as amended***	**...**
6.5.3	is approved in accordance with national standard not based upon above two standards	**...**
6.5.4	is not approved	**...**

*** As amended by resolution MEPC.93 (45)

**** As amended by resolution MEPC.92 (45)

6.6	Plan and arrangement of the above Shipboard Incinerator is shown in Drawing / Document No……..and the installation is in general conformance with the Drawing / Document.	...
6.7	If fitted after 01. 01. 2000, there is IMO Type Approval Certificate to MEPC.76(40) for incinerator onboard (for the incinerators with capacities up to 1,500 kW) and MEPC.244(66) (for capacity up to 4000kW)	...
6.8	There is an instruction manual for each incinerator fitted to Resolution MEPC.76(40) / MEPC.244(66) in order to operate the incinerator within the limits provided in appendix IV to Annex VI (regulation 16(7) of Annex VI); *(Note: Incinerators approved to MEPC.59 (33) or with no type approval at all do not require training, as per Reg. 16, although prudent owners may wish to provide and document such training as part of their ISM Procedures, even if only to ensure that prohibited substances are not disposed of as per paragraphs 7.6 to 7.8 above).*	...
6.8.1	Records documenting training of crew in operating each incinerator is available on board.	...
6.9	Verification of garbage record book, oil record book and maintenance record.	...
6.10	External examination to ensure that each incinerator is in a generally satisfactory condition and free from leaks of gas or smoke.	...
6.11	Verification that the warning and instruction plates are legible and secured in prominent positions on or near the incinerator.	...
6.12	Confirmation that the manufacturers name, incinerator model number/type and capacity in heat units per hour is permanently marked on the incinerator.	...
6.13	Condition of the incinerator casing insulation arrangements.	...
Incinerators (if installed on or after 1 January 2000)		
6.14	Confirmation as far as it is practicable by simulated test or equivalent, that the following alarms and safety devices are in good condition and fully operational.	...
6.14.1	flue gas high temperature alarms and shut downs.	...
6.14.2	combustion temperature controls and shut downs.	...
6.14.3	combustion chamber negative pressure.	...
6.14.4	flame safeguard control, alarms and shutdowns;	...
6.14.5	all alarms both visual and audible are functioning and they indicate the cause of their failure;	...
6.14.6	power loss alarms and auto shut down arrangements;	...
6.14.7	charging arrangements;	...
6.14.8	low fuel oil pressure alarm/shut down;	...
6.14.9	emergency stop switch and electrical isolating arrangements;	...
6.14.10	interlocks;	...
6.14.11	Confirming the satisfactory installation of drip trays under each burner, pump, and strainer.	...
6.15	Condition of flue gas outlet temperature monitoring system	...
7. REGULATION 18 - FUEL OIL QUALITY		
7.1	Is there a Company procedure in place to obtain fuel oil compliant with Regulation 14 and Regulation 18 of MARPOL 73/78, annex VI? *(Note: It is recognized that it may not always be possible to obtain fuel oil compliant with Reg. 14 and Reg. 18 since many Governments have not yet ratified MARPOL 73/78, Annex VI. However, it is important to verify that Ship operator has a procedure in place to obtain Annex VI compliant fuel oil and ensures compliance as far as possible)*	...
7.2	There are bunker delivery notes on board and fuel oil samples are kept under the ships control (regulation 18 of Annex VI).	...
7.3	Is there a procedure to retain such notes for at least three years and stored in a manner to be readily available.	...
7.4	Is there a procedure to take fuel oil sample, (at least 400 ml) seal it and retain it on board for a minimum period of 1 year all generally as per Resolution MEPC.96(47) – Guidelines for the Sampling of Fuel Oil for Determination of Compliance with Annex VI of MARPOL 73/78?	...
7.5	Is the above procedure being followed?	...
7.6	Confirmation that Master and ship staff are familiar with bunker delivery procedures in respect of bunker delivery notes and retained samples as required by Reg. 18.	...
7.7	Does the ship have sampling equipment?	...
7.8	Is the Bunker Supplier's sampling equipment used?	...

7.9	Are the sampling bottles generally filled up to 90%?	**...**
7.10	Does the label on the sealed sample contain following information:	**...**
7.10.1	Location at which and the method by which the sample was drawn;	**...**
7.10.2	Date of commencement of delivery	**...**
7.10.3	Name of bunker tanker / bunker installation;	**...**
7.10.4	Name and IMO number of the receiving ship;	**...**
7.10.5	Signature and names of supplier's representative and the ship's representative;	**...**
7.10.6	Detail of seal identification;	**...**
7.10.7	Bunker grade.	**...**
7.11	Are the samples stored in a safe storage location, not subjected to elevated temperature, away from direct sunlight in a sheltered location, outside the ship's accommodation where personnel would not be exposed to vapours which may be released from the sample?	**...**
7.12	Is there a system to keep track of the retained samples?	**...**
7.13	Confirmation that documentation in lieu of above-mentioned documentation required with respect to BDN and MARPOL Samples, is available onboard.	**...**

8. **SPECIAL FEATURES/OBSERVATIONS**

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Surveyor(s) to Indian Register of Shipping

Date: ……..

Place: ……..