Document of P.R. China MSA

HWF [2018] No.555

Notice of China MSA under MOT on Standardizing the Implementation Work of Supervision and Administration on Ship Air Pollutants Emission Control Area

All MSA directly under China MSA,

In order to thoroughly implement and fulfill requirements in the Implementation Plan of Ship Air Pollutants Emission Control Area (JHF[2018] No.168, hereinafter referred to as "the Plan"), ensure that various policy requirements for ship air pollutants emission control areas are fulfilled effectively, it is hereby notified relevant matters concerning further clarification of relevant requirements for ship emission control area as well as standardizing the supervision and administration work as follows:

I. Further clarification on relevant requirements for ship emission control area (ECA)

(1) Fuel oil used by ship within ECA shall meet requirements of the Plan. Fuel oil used by inland-river ships and river-sea ships entered into inland river ECAs shall meet the current standards before national standards for marine fuel oil and diesel oil are amended and implemented.

(2) Ships that need to switch to low-sulfur fuel oil shall formulate and equip themselves with written fuel oil switch procedure. Ship shall finish low-sulfur fuel oil switch before entering into ECA, ensure that they have already been using low-sulfur fuel oil when entering into ECA; where a ship switches to high-sulfur fuel oil, she shall not begin the fuel oil switch operation until she has left the ECA; the ship shall record information such of the starting and ending time of fuel oil switch, longitude and latitude of ship's position, sulfur content of fuel oil used before and after the switch operation as well as remaining volume in fuel oil tank, quantity of low-sulfur

fuel oil used, etc. in corresponding record books such as the engine logbook.

(3) Ship NOx emission control shall conform to requirements in the MARPOL, the Technical Rules on Statutory Inspection for Ships and Offshore Facilities as well as the Plan. Where a ship's engine undergoes major conversion which affects her NOx emission level, she shall adopt measure to reach the same emission level before the conversion and apply for inspection from ship inspection institute.

(4) Where a ship uses shore power, she shall operate in accordance with relevant safe operation procedure, record information such as the starting and ending time of use of show power as well as the name of the operator in the engine logbook or other relevant books.

(5) Where a ship uses clean energy such as LNG, new energy or other alternative measures, safety for her navigation, berthing and operation shall not be affected, meanwhile, relevant safe operation procedures shall be met, and situation concerning such use shall be recorded in the engine logbook or other relevant record books. A double-fuel ship shall record such information as the quantity of various fuels used, time of fuel switch, longitude and latitude of ship's position and the name of operator in the engine logbook or other relevant books.

(6) Where a ship applies exhaust gas **after-**treatment device, she shall, as required, hold exhaust gas **after-**treatment device product certificate issued by ship inspection institute and keep such device operate in good condition. A ship that adopts Scheme B exhaust gas cleaning system in the *2015 Guidelines for Exhaust Gas Cleaning Systems* (MEPC.259(68) Resolution) shall install and use exhaust gas continuous monitoring system; ships adopting closed loop control Selective Catalytic Reduction (SCR) system and ships adopting open loop control SCR system that is unable to provide such indexes as the service life of catalyzer under the operating state of common use shall install and use NOx monitoring equipment. The ship shall record such information as the starting and ending time of use of exhaust gas **after-**treatment device, longitude and latitude of ship's position as well as the name of the operator to the engine logbook or other relevant books.

(7) The discharge and treatment of water pollutants generated by exhaust gas **after-**

treatment device used by a ship shall conform to requirements of relevant regulations. It is prohibited to discharge into Inland River ECAs, waters of ports in Coastal ECAs and Bohai sea waters the washing water generated from open exhaust gas cleaning system. Requirements for prohibiting the discharge into waters within other coastal ECAs the washing water generated from open exhaust gas cleaning system will be promulgated in due time for implementation. It is also prohibited to discharge into water or burn onboard the washing water residuals generated from exhaust gas cleaning system, the ship shall truthfully record the situation regarding the storage and disposal of washing water residuals generated from exhaust gas cleaning system.

(8) In any of the following situations, where a ship uses fuel oil that does not meet the requirements in the Plan, she shall apply with local MSA for immunity or exemption (please refer to Annex 4 *Supervision and Administration Guideline on Ship Air Pollutants Emission Control Area* for the details of Report Form for Situation of Immunity or Exemption):

1. The ship could not use fuel oil that meets the requirements until her structure and equipment undergo conversion, but such conversion shall be completed within one year after implementation of the Plan;
2. The ship could not obtain fuel oil that meets the requirements although she has made every possible effort;
3. The ship is unable to conform to requirements of the Plan within specified time limit due to breakdown or malfunction of her relevant equipment;
4. The ship could not conform to requirements of the Plan within specified time limit as she has to ensure the safety of the ship or renders salvage of life at sea.

II. Standardizing the supervision and administration work

(1) All MSAs directly under China MSA shall carry out supervision and administration work for ship ECAs in accordance with requirements in relevant laws, regulations and the Plan and with reference to the *Supervision and Administration Guideline on Ship Air Pollutants Emission Control Area* (see the Attachment).

All relevant MSAs shall provide support and cooperation to the Yangtze River Administration of Navigational Affairs, the Pearl River Administration of Navigational Affairs and the Shanghai Portfolio Port Management Committee Office to carry out administration for ship air emission control in according with their respective division of duties.

(2) Where a coastal prefecture-level city proposes to, with reference to requirements of ECAs in inland rivers, put in place control requirements for sulfur content of fuel oil used by sea-going ships entering into the navigable waters of inland river within its administrative jurisdiction, the corresponding local provincial MSA shall report to China MSA in advance.

This Notice will come into implementation as of January 1, 2019. The Notice of P.R. China MSA on Strengthen the Supervision and Administration for Ship Emission Control Area (HCJ [2016] No.46), the Notice of Notice of P.R. China MSA on Further Strengthen Quality Supervision and Administration for Marine Fuel Oil (HWF [2016] No.11) and the Notice of P.R. China MSA on Regulating the Supervision and Administration for Prevention and Control of Ship Air Pollution (HWF [2016] No.454) shall be simultaneously repealed.

Attachment: Supervision and Administration Guideline on Ship Air Pollutants Emission Control Area

P.R. China MSA (Seal)

December 29, 2018

Attachment

Supervision and Administration Guidelines on Ship Air Pollutants Emission Control Area

1. General Provisions

1.1 Purpose

These Guidelines are formulated for the purpose of implementing the Implementation Plan of Ship Air Pollutants Emission Control Area (hereinafter referred to as "the Plan") printed by the MOT and providing reference for MSAs to carry out supervision and administration on ship air pollutants emission control.

1.2 Basis

These Guidelines are compiled in accordance with laws, administrative regulations and rules such as the Law of PRC on the Prevention and Control of Atmospheric Pollution, the Regulations on Administration of the Prevention and Control of Marine Environment Pollution Caused by Vessels, the Regulations of PRC on Prevention and control of Marine Pollution caused by Vessels and their Relevant Operations, the Regulations on Prevention and Control of Pollution to Inland Rivers by Vessels, the Implementation Plan of Ship Air Pollutants Emission Control Area as well as standards and specifications such as the Marine Fuel Oils, the Technical Rules on Statutory Inspection for Ships and Offshore Facilities and the Technical Rules on Statutory Inspection of River-sea Ships in Certain Routes (2018), etc.

1.3 Subjects for Application

These Guidelines are applicable to ships navigating, berthing and operating within emission control areas (ECAs), excluding military vessels, boats for sports purpose and fishing boats.

1.4 Terminology and Definition

1.4.1 **"River-sea ship"** means a ship that meet definition in the Technical Rules on

Statutory Inspection of River-sea Ships in Certain Routes (2018).

1.4.2 **"Current ship" in Art.11 of Section V of the Plan** means a Chinese or foreign ship that has already in employment before July 1, 2019, including ships to be used for public service purpose.

1.4.3 **"Liquid cargo carrier"** means a ship that was built or converted to be suitable for carriage of bulk flammable liquid cargo, including oil tanker, chemical carrier and liquefied gas carrier.

1.4.4 **"Cruise"** means high-end passenger ship with tourism as purpose and sailing in fixed routes, including Chinese and foreign cruise, newly built cruise and current cruise.

1.4.5 **"Berthing" in Art.11, 12 and 13 of Section V of the Plan** means the period from the moment when the ship begins to berths firmly at certain berth till the moment when she unfastens from the berth, excluding anchoring and anchored through buoys; "moor at a berth stably" means a status that all ropes of the ship are completely fastened; "unlashes from such berth" means a status that all rope of the ship are cast off.

1.4.6 **"Exhaust gas after-treatment device"** means a marine equipment that enables the ship to obtain air pollution emission reduction effect equivalent to or better than implementation of the Plan by decreasing the content of SOx, NOx and particulate matter in exhaust gas of ship based on technical means of desulfurization and denitration.

1.4.7 **"Test unit holding specified qualification of the State"** means a laboratory affirmed by quality and technology supervision department of provincial level or above or recognized by the China National Accreditation Service for Conformity Assessment.

2. Check on use and supply of marine fuel oil

2.1 Check of use of marine fuel oil

2.1.1 Monitoring of ship exhaust gas

MSAs may, in combination with characteristics within their respective jurisdictions,

deploy ship exhaust gas monitoring equipment, to preliminarily screen out ships suspected of using fuel oil the sulfur content of which exceeds corresponding standard and whose NOx emission exceeds corresponding standard based on ship exhaust gas monitoring in combination with systems such as the AIS. Where the suspected ships does not moor within their respective jurisdictions, relevant information shall be circulated to the local MSA of the place where such ship proposes to moor. P.R. China MSA will gradually promote the incorporation of ship air pollutants monitoring work into the dangerous cargo control and pollution prevention information management system.

All MSAs shall take ships having records of illegal discharge/emission andships suspected of using fuel oil the sulfur content of which exceeds corresponding standard and whose NOx emission exceeds corresponding standard found based on exhaust gas monitoring as the prior targets to be checked.

2.1.2 Check documents

MSAs shall, in combination with on-site supervision and safety inspection work, check ship's materials such as the engine logbook, documents for supplying and receiving of fuel oil, fuel consumption information report. Specific content for such check is as followings:

2.1.2.1 **Engine Book:** check on whether the records of information concerning the starting and ending time of fuel oil switch, longitude and latitude of ship's position, sulfur content of fuel oil used before and after the switch operation as well as remaining volume in fuel oil tank, quantity of low-sulfur fuel oil used, name of operator, etc. are standardized and complete, verify on whether the ship's position at the time when the oil switch operation is finished meets requirements of the Plan.

2.1.2.2 **Documents for supplying and receiving of fuel oil:** check on whether the ship holds documents for supplying and receiving of fuel oil and keeps them for 3 years as required, whether fuel oil as recorded in such documents meets corresponding requirements, focusing on whether safety and environment protection indicators such as sulfur content, flash point, acidity, condensation

point, moisture, mechanical impurity, etc. conform to specified minimum limit value.

2.1.2.3 **Fuel oil switch procedure:** check on whether the ship holds written fuel oil switch procedure, whether such procedure is incorporated into ship's safety management system (in case of a ship subject to safety management system) or other operation procedures (in case of a ship not subject to safety management system), and whether the fuel oil switch operation records are standardized and complete.

2.1.2.4 **Receiving and investigation on malfunction information of ship using fuel oil that does not conform to corresponding provisions:** where a ship encounters malfunction to her machine/equipment due to use of fuel oil that does not conform to corresponding provisions, she shall report to at least the following information to the MSA at the place where such malfunction occurred: basic information of the ship and company, voyage plan, time and place for entering into or leaving from ECA, time and place of the malfunction, malfunction details, name and address of the supplier of the fuel oil used, time and place of bunkering, information specified on the document for supplying and receiving of fuel oil.

MSA shall conduct investigation on the ship that reported the malfunction information, verify on whether such malfunction to machine/equipment was caused by use of fuel oil that does not conform to corresponding provisions.

2.1.3 Check fuel oil

2.1.3.1 Check fuel oil sample

Check samples retained on board, whether such sample was sealed and signed by supplier's representative and the master or the officer responsible for bunkering operation after the completion of the bunkering operation; verify on whether the ship retained for at least 12 months from the time when fuel oil of such sample was basically exhausted.

2.1.3.2 Check fuel oil pipelines

Check on whether the layout of ship's fuel oil pipelines and drawings of fuel oil

pipelines meet requirements of corresponding provisions; whether fuel oil pipelines are consistent with fuel oil pipelines drawings; whether the valve of fuel oil pipelines stops at the low-sulfur level or high-sulfur level; verify on whether the ship actually carried out fuel oil switch operation.

2.1.3.3 Estimation on quantity of marine fuel oil used

Theoretically, low-sulfur fuel oil consumption after a ship enters into ECA may be estimated through the following formula: AX+BY+CZ (ton), amongst which, A is oil consuption rate of ship's main engine, with unit as ton/nautical mile (nm); B is oil consumption rate of ship's auxiliary engine, with unit as ton/hour; C is the oil consumption rate of boiler, with unit as ton/hour; X is the propulsion distance (navigation distance) of the ship in ECA, with unit as nm(nautical mile); Y is duration that ship's auxiliary engine is used in ECA, with unit as hour; Z is duration that ship's boiler is used in ECA, with unit as hour. The above parameters may be found from records such as logbook and engine logbook.

Verify the quantity of low-sulfur fuel oil refuelled on board and the actual quantity of low-sulfur fuel oil retained on board. Compare the theoretically calculated value with the actual quantity of low-sulfur fuel oil retained onboard, so as to preliminarily judge on whether the ship has, as required, switched to low-sulfur fuel oil (all fuel oil equipment on board, including main engine, auxiliary engine and boiler shall use low-sulfur fuel oil).

2.1.3.4 Check the temperature and viscosity of fuel oil

Check data such as the temperature and viscosity of fuel oil entry into the main engine and auxiliary engine, its history tendency chart (if any) as well as alarm records, etc., so as to further verify on whether the ship used low-sulfur fuel oil.

2.1.3.5 Check fuel oil loaded by the ship

By looking into the document for supplying and receiving of fuel oil, oil record book and remaining volume of fuel oil tank, check on whether ships that have not adopted alternative measures such as SOx and particulate matter control device as of March 1, 2020 only loaded fuel oil that she shall load as required. For a ship that navigates in and out of different ECAs, she shall be allowed to

load fuel oil that meets requirements for use in and out of related ECAs.

2.1.3.6 Sampling and test of fuel oil

For a ship that is found unqualified or having violation record during document check, or a ship that is found suspected of committing violation, MSA **shall** conduct random inspection for fuel oil of such ship; for a ship that is qualified and having no violation record after document check and not suspected of committing violation after check, MSA **may** conduct random inspection for fuel oil of such ship.

(1) fuel oil quick test

MSA may use quick testing equipment to conduct preliminary test for the sulfur content of fuel oil used on board. Based on the test result, judge preliminarily on whether the sulfur content of fuel oil exceeds corresponding standard (refer to Annex 1 for details). Where the preliminary test result indicates exceeding correpsonding standard by 10%, it is suggested that such fuel oil shall be sent to laboratory for test and require the ship to issue the Trust Deed (refer to Annex 2 for details).

For the sampling work involved in use of quick test equipment, see the Section "Fuel oil sampling".

(2) Fuel oil sampling

Take samples from the in-use fuel oil service tank or from downstream pipeline in-use fuel oil service tank, as close to the combustion system as safely feasible (such as fuel oil sampling point set up by the ship, the last filter on the fuel oil intake pipeline or the scavenging valve that is closest to device that uses fuel oil). Sampling may be carried out jointly by law enforcement officer and crew member, third party institute may also be entrusted for such work, samples may be collected with reference to the IMO's Guidelines for Sampling of Fuel Oil Used on Board Ships. At least 3 oil samples shall be taken for a same sampling point, each sample shall at least contains 400ml fuel oil, one to be handed over to the ship, one to be sent to lab for analysis and one to be retained by MSA. Fill up the fuel oil sample label, seal number. After signed by ship's

representative and two law enforcement officers, paste the label (refer to Annex 3 for details) on the bottles.

(3) Send samples to lab for analysis

Law enforcement officers seal up the samples at safe place of low temperature, sheltering from sunlight. After sampling, send samples timely to fuel oil test unit holding corresponding qualification, and the fuel oil test unit shall carry out test for the samples according to test procedure in Annex VI of Supplementary Provision VI of MARPOL as well as test method clarified in currently effective standard of the State. The test report shall indicate the sulfur content of the fuel oil, if conditions permit, carry out random test for safety and environment protection indicators of the fuel oil depending on actual situation, such as viscosity, flash point, acid value, pour point, moisture, ash content and "aluminium+ silicon", compare them with the requirements in national standards concerning marine fuel oil and marine diesel oil.

2.1.3.7 Standards for ship to use fuel oil

According to the principle of "if the ship is suitable to burn fuel oil, then she may use fuel oil; if the ship is suitable to burn diesel oil, then she be use diesel oil", pursuant to the matching extent of engine to fuel oil, when they are in ECA of inland rivers, large inland river ship and river-sea ship shall use fuel oil that meets requirements in the Marine Fuel Oil regarding fuel oil to be used by inland river ships, and other inland river ships shall use diesel oil that meets the Automobile Diesel Fuels.

River-sea ships shall use marine fuel oil with sulfur content not exceeds 0.50% m/m when they are in coastal ECAs.

2.1.4 Result verification

Upon receipt of the test report, maritime law enforcement officer shall verify on whether the fuel oil used by the ship meets requirements in the Plan and relevant conventions and standards.

2.1.5 Handling of result

2.1.5.1 For a ship that uses or loads fuel oil not meeting standards or requirements,

based on actual situation of violation, handle in accordance with laws, administrative regulations and rules such as the Law of PRC on the Prevention and Control of Atmospheric Pollution, the Regulations on Administration of the Prevention and Control of Marine Environment Pollution Caused by Vessels, the Regulations of PRC on Prevention and control of Marine Pollution caused by Vessels and their Relevant Operations, the Regulations on Prevention and Control of Pollution to Inland Rivers by Vessels as well as relevant international conventions acceded to by China. If the ship has left the port, local MSA may notify the MSA at the place of the ship's next port to assist for investigation.

2.1.5.2 Where a ship fails to retain document for supplying and receiving fuel oil or the fuel oil sample, impose punishment in accordance with Art.62 of the Regulations on Administration of the Prevention and Control of Marine Environment Pollution Caused by Vessels.

2.2 Check on unit supplying marine fuel oil

2.2.1 Content to be checked

Check on whether the unit supplying marine fuel oil provided the ship with document for supplying and receiving fuel oil and fuel oil sample; whether the document for supplying and receiving fuel oil includes the name of the ship, ship's ID number or IMO number, time and place of operation, the name, address and contact details of the fuel oil supplier, the type, quantity, density and sulfur content of fuel oil; whether the document for supplying and receiving fuel oil was retained for 3 years and whether fuel oil samples were properly retained for 1 year; whether the such unit holds test report for each batch of fuel oil; where the fuel oil that had already been tested was syncretized or mixed and loaded with other fuel oil, whether re-test was carried out for the same.

2.2.2 Handling of result

(1) Where a unit fails to truthfully filled up the document for supplying and receiving fuel oil, or fails to provide ship with document for supplying and receiving fuel oil or fuel oil sample in accordance with corresponding provisions, or fails to retain document for supplying and receiving fuel oil or

fuel oil sample in accordance with corresponding provisions, impose punishment in accordance with Art.62 of the Regulations on Administration of the Prevention and Control of Marine Environment Pollution Caused by Vessels.

(2) Where a unit supplying fuel oil failed to engage operation of supplying fuel oil in accordance with requirements in relevant regulations and norms concerning safety and prevention and control of pollution, or the marine fuel oil supplied by such unit exceeded corresponding standards, the MSA orders it to make rectification as required.

2.2.3 Joint quality supervision on supplying of fuel oil

MSAs and market regulation (quality inspection, industry & commerce) departments establish joint supervision and administration system for the circulation section of marine fuel oil. They may organize special treatment actions, conduct joint law enforcement activities; or they may establish joint supervision and administration information bulletin mechanism to share law enforcement information.

3. Check on ship NOx control

3.1 Check documents

MSAs shall, in combination with on-site supervision and safety inspection work, check ship's documents such as the Ship Air Pollution Prevention Certificate, Ship Engine Air Pollution Prevention Certificate, engine certificate and engine logbook, etc. Specific content for such check is as followings:

3.1.1 Check on the type and construction date of the ship, the situation of major conversion of ship's engine, confirm that the ship shall conform to NOx emission standard (refer to Annex 1 for details). Check relevant certificate documents such as the Ship Air Pollution Prevention Certificate, confirm on whether NOx emission level of engine (excluding emergency engine) is consistent with the standard that such shall meet.

3.1.2 Check the engine logbook, technical documents and parameter record book of ship's engine; whether actual parameter of engine is consistent with those listed in technical documents; whether change of components recorded in parameter record book is consistent with that listed in technical documents; confirm on whether engine has undergone conversion to its structure which affects the NOx emission level.

3.1.3 In respect of "displacement of a single cylinder of marine diesel engine ……is or above 30L" mentioned in Item (8), Para.2 of Art. V of the Plan, the "displacement of a single cylinder" data may be found from the data plate of the engine and the bench test materials; displacement of a single cylinder may also be calculated as per the following formula: $\pi D^2 \times S/4$, amongst which, D is the cylinder diameter, S is travel, they can be found from the engine data plate or technical documents; if the above parameter is unavailable, the "displacement of a single cylinder of marine diesel engine ……is or above 30L" may be treated as "power rating of marine diesel engine ……is or above 5000kw".

3.2 On-site inspection

3.2.1 Check the quantity of engines and their data plates; confirm on whether actual layout of ship's engine is consistent with the information specified in the Ship Air Pollution Prevention Certificate.

3.2.2 By inquiries into crew members and on-site patrol, confirm on whether the ship's emergency engine was used under non-emergency situation.

3.3 Handling of result

Where a ship's NOx emission control does not meet corresponding requirements, handle the same based on the actual situation of violation and in accordance with relevant provisions in the Law of PRC on the Prevention and Control of Atmospheric Pollution as well as international conventions acceded to by China.

4. Check on ship's volatile organic compounds (VOCs) control

4.1 Check documents

MSAs shall, in combination with on-site supervision and safety inspection work, check

ship's certificates and documents such as the VOCs Management Plan, the Ship Air Pollution Prevention Certificate, the Logbook and the Engine Logbook, etc. Specific content for such check is as followings:

4.1.1 Confirm the type, construction date and nationality of the ship; confirm on whether the ship shall be subject to the VOCs emission control requirements.

4.1.2 For a ship subject to Art.16 of the Plan, check on whether such ship has oil and gas recovery device that meets ship inspection specification; whether such ship equips with oil and gas recovery operation procedure; whether the situation for use of such oil and gas recovery device is recorded in the Logbook, Engine Logbook or other relevant record books.

4.2 Handling of result

For a ship subject to Art.16 of the Plan but does not have oil and gas recovery device that meets ship inspection specification, handle the same based on the actual situation of violation and in accordance with relevant provisions in the Law of PRC on the Prevention and Control of Atmospheric Pollution as well as international conventions acceded to by China.

5. Check on use of shore power and alternative measures

5.1 Check documents

MSAs shall, in combination with on-site supervision and safety inspection work, check ship's certificates and documents. Specific content for such check is as followings:

5.1.1 Check on use of shore power

5.1.1.1 Verify on whether the following ships have ship-borne appliance for shore power system: Chinese public service ships, inland river ships (excluding liquid cargo carrier) and river-sea ships built on or after January 1, 2019; Chinese container ships, passenger ro-ro ships, passenger ships of or above 3000GT and dry bulk cargo ships of or above 50000GT(DWT) engaged in domestic coastal voyage built on or after January 1, 2020. The aforesaid construction date means the date when the keels of ship are laid or are at a similar stage of construction.

5.1.1.2 As of July 1, 2019, check on whether current ships (excluding liquid cargo

carrier) equipped with ship-borne appliance for shore power system, as required, used shore power if they moor, without using other alternative measures of equivalent effects, for more than 3 hours at a berth in a Coastal ECA that is capable of supplying shore power or for more than 2 hours at a berth in Inland River ECA that is capable of supplying shore power. As of January 1, 2021, check on whether cruises, as required, used shore power if they moor, without using other alternative measures of equivalent effects, for more than 3 hours at a berth in a Coastal ECA that is capable of supplying shore power

5.1.1.3 As of January 1, 2022, for Chinese public service ships, inland river ships (excluding liquid cargo carrier) using marine diesel engines the output power of a single one exceeds 130kw and failing to meet the NOx emission limit of stage-2 in the MARPOL as well as Chinese container ships, passenger ro-ro ships, passenger ships of or above 3000GT and dry bulk cargo ships of or above 50000GT(DWT) engaged in domestic coastal voyage, if they moor, without using other alternative measures of equivalent effects, for more than 3 hours at a berth in a coastal ECA that is capable of supplying shore power or for more 2 hours at a berth in an ECA in inland river that is capable of supplying shore power, verify on whether they, as required, equipped with ship-borne appliance for shore power systems and whether they used shore power.

5.1.1.4 For a ship using shore power, check on whether the use of shore power conforms to relevant safe operation procedure; check on whether the record in ship's Engine Logbook regarding starting and ending time for use of shore power is complete; verify on whether the starting and ending time for use of shore power conforms to requirements in the Plan.

5.1.2 Check on use of clean energy or new energy

For a ship using clean energy or new energy, check on whether corresponding remark that such ship uses clean energy was made in her Ship Air Pollution Prevention Certificate. Amongst which, for a double-fuel ship, check on whether the record for the time of switch of fuel is complete and normative, whether the record for longitude and latitude of ship's position at the time of fuel switch is

complete and normative, whether the ship's position at the time of fuel switch meets requirements in the Plan, and whether the record for the quantity of clean energy, new energy and fuel oil used is complete and normative.

Check on whether a double-fuel ship can provide maintenance and information for all devices relating to gas; whether the ship can provide operation procedure which shall include a fuel operation manual enabling personnel who underwent training to operate refuelling, storage and transmission system safely for fuel; whether the ship is equipped with proper emergency response procedure.

5.1.3 Check on use of exhaust gas after-treatment device

For a ship using exhaust gas **after-**treatment device, check on whether the ship holds relevant product certificate for such exhaust gas **after-**treatment device; whether corresponding endorsement was made in the Ship Air Pollution Prevention Certificate. Check on whether the record in the ship's Engine Logbook regarding the starting and ending time for use of exhaust gas **after-**treatment is complete and normative; whether the record for longitude and latitude of ship's position at the starting and ending time of use of such device is complete and normative; and whether the ship's position at the starting and ending time of use of such device meets requirements in the Plan.

5.1.3.1 Check on use of exhaust gas cleaning system

For a ship that adopts exhaust gas cleaning system, check on whether the ship holds Certificate of Compliance for NOx Emission, exhaust gas cleaning system technical manual, onboard monitoring manual and exhaust gas cleaning system record book. For a ship that adopts Scheme B exhaust gas cleaning system, also check on whether the ship is installed with exhaust gas continuous monitoring system. Washing water residuals generated from exhaust gas cleaning system of the ship shall be managed as operating waste in the category of ship garbage. Look into the ship's exhaust gas cleaning system record book and garbage record book, check on whether washing water residuals generated from exhaust gas cleaning system of the ship were received by unit receiving ship pollutants or were discharged to onshore receiving facility; whether there was any scenario of discharging into water or burning onboard the washing water residuals generated

from exhaust gas cleaning system of the ship.

5.1.3.2 Check on use of SCR(Selective Catalytic Reduction) system

For a ship that adopts SCR system, check on whether the ship holds SCR system technical files and the Material Safety Data Sheet (MSDS) of reductant; whether the ship formulated measure for reducing the leakage of reductant; check on whether the quantity, components and density of reductant loaded onboard each time was recorded; look into technical files for the quantity of reductant supplied as well as running time of SCR system in relevant record books, estimate the quantity of reductant that shall have been consumed, make comparison between the estimated quantity of reductant that shall have been consumed and the quantity of reductant loaded onboard, so as to verify on whether the ship run the SCR system as required; for closed loop control SCR system and open loop control SCR system that is unable to provide such indexes as the service life of catalyzer under the operating state of common use, check on whether NOx monitoring equipment was installed at the exit of such system; for open loop control SCR system with no NOx monitoring equipment installed at the exit of such system, check on whether the ship can provide materials such as the information regarding service life of catalyzer under the operating state of common use, instruction for maintenance catalyzer.

5.2 On-site inspection

For a ship that is found unqualified upon documents check or having records of violation or suspected of committing violation, MSA shall carry out on-site inspection on the ship regarding the use of shore power, the use of clean energy or new energy and the installation of exhaust gas **after-**treatment device. Verify on whether the ship meets corresponding emission control requirement.

5.2.1 Check on use of exhaust gas cleaning system

For a ship that adopts Scheme B exhaust gas cleaning system, look into the running situation of ship's exhaust continuous monitoring system, check on whether the monitoring data was retained for 18 months as required, whether the SO_2/CO_2 ratio meets the requirement in the *2015 Guidelines for Exhaust Gas Cleaning Systems*

(MEPC.259(68) Resolution), and verify the conformity of exhaust gas emission of exhaust cleaning system.

Check on whether the ship installs washing water continuous monitoring system, look into the running situation of such system, check on whether monitoring data was retained for 18 months as required, whether recorded parameters such as the PH value, PAH value and turbidity meet requirements in the *2015 Guidelines for Exhaust Gas Cleaning Systems*. MSA may further collect samples of the washing water and send the same for lab test, so as to verify on whether discharge of such washing water meets requirements in the *2015 Guidelines for Exhaust Gas Cleaning Systems*. Check on whether the ship discharged into waters of Inland River ECAs, ports in Coastal ECAs and Bohai sea waters the washing water generated from open exhaust gas cleaning system.

5.2.2 Check on use of SCR system

For a ship that adopts SCR system, check on whether the ship's electronic control system has the data recording function, whether such electronic control system recorded automatically certain quantity of latest running data of the SCR system, whether abnormal status during the system running such as alarming and malfunction(breakdown) was memorized, and whether recorded data was retained as least for 18 months.

Check on whether the NOx monitoring equipment at the exit of SCR system runs at normal status, make comparison between the NOx density so monitored and the NOx density of corresponding mode of diesel engine at the time certificate issuance after initial test, so as to verify on whether the SCR system has sufficient NOx reduction capability, and whether it meets requirements in the *2011 Guidelines Addressing Additional Aspects to the NOx Technical Code 2008 with regard to Particular Requirements Related to Marine Diesel Engines Fitted with Selective Catalytic Reduction (SCR) Systems* (MEPC.291(71) Resolution).

5.3 Handling of result

Where a ship adopting alternative measures fails to meet requirements in the Plan, handle the same based on the actual situation of violation and in accordance with

relevant provisions in the Law of PRC on the Prevention and Control of Atmospheric Pollution as well as international conventions acceded to by China.

6. Putting forward and handling of immunity or exemption

6.1 Putting forward immunity or exemption

Where a ship put forward immunity or exemption, it shall provide local MSA with corresponding proof materials. Amongst which, if the ship cannot use fuel oil that meets corresponding requirement until it undergoes conversion to its structure or equipment, it shall provide proof materials such as proof material issued by ship inspection institute, ship's relevant certificates and documents, ship's conversion plan and the completion date of such plan, etc.; where the ship is unable to obtain fuel oil that meets corresponding requirements, it shall, at least 24 hours prior to arrival at port (prior to departure if the voyage is less than 24 hours), report at least the following information to the MSA at the port of destination: basic information of the ship and company, voyage plan, time and place for entering into or leaving from ECA, and it shall also provide evidence proving that it had tried and attempted to purchase fuel oil meeting corresponding regulations, evidence proving that it had tried to find source of alternative fuel oil as well as proof materials that it made plan to obtain fuel oil meeting corresponding regulations.

6.2 Handling of immunity or exemption

MSA shall timely verify the ship that put forward immunity or exemption, if it is true, enforcement of relevant control requirements in the Plan may by suspended temporarily. Once the ship is found not qualified for immunity or exemption, or the any material provided by the ship is false, the ship shall not be granted with immunity or exemption and shall be handled in accordance with corresponding provisions.

7. Information reporting and submission

The MSA that receives malfunction information of ship using fuel oil that does not conform to corresponding provisions and information that the shall is unable to

obtain fuel oil meeting corresponding requirements shall, through MSA directly under P.R. China MSA that such MSA is subordinate to or through local provincial MSA, report and submit on a quarterly basis to P.R China MSA the receiving, investigation and verification situation.

Annex 1

Control Requriement for Sulfuar Content of Fuel Oil Used by Ships

Type of ship		ECA			Non-ECA	
		Coastal ECAs		ECAs in inland rivers	Coastal waters	Waters of inland rivers
		Hainan waters	Other waters			
Sea-going ship		As of Jan.1, 2019, ≤0.50%; As of Jan.1, 2022, ≤0.10%;	As of Jan.1, 2019, ≤0.50%; As of Jan.1, 2025, ≤0.10% (to be assessed)	As of Jan.1, 2019, ≤0.50%; As of Jan.1, 2020, ≤0.10%;	As of Jan.1, 2012, ≤3.50%; As of Jan.1, 2020, ≤0.50%;	As of Jan.1, 2012, ≤3.50%; As of Jan.1, 2020, ≤0.50%;
Inland river ship	Large inland river ship	——	——	As of Jan.1, 2019, use fuel oil meeting the newly ameded standard of Marine Fuel oil.	——	As of Jan.1, 2019, use fuel oil meeting the newly ameded standard of Marine Fuel oil.
	Other inland river ship	——	——	As of Jan.1, 2019, use diesel oil meeting national standard for Diesel Oil.	——	use diesel oil meeting national standard for Diesel Oil.
River-sea ship		As of Jan.1, 2019, ≤0.50%	As of Jan.1, 2019, ≤0.50%	As of Jan.1, 2019, use fuel oil meeting the newly ameded standard of Marine Fuel oil.	As of Jan.1, 2012, ≤3.50%; As of Jan.1, 2020, ≤0.50%;	As of Jan.1, 2019, use fuel oil meeting the newly ameded standard of Marine Fuel oil.

Control Requirement for Ship NOx

<table>
<tr><th colspan="2" rowspan="3">Type of ship</th><th colspan="3">ECA</th><th rowspan="3">Non-ECA</th></tr>
<tr><th colspan="2">Coastal ECAs</th><th rowspan="2">ECAs in inland rivers</th></tr>
<tr><th>Hainan waters</th><th>Other waters</th></tr>
<tr><td colspan="2">Ship engaged in international voyage</td><td colspan="4">On or after Jan.1, 2000, power above 130kw, ≤limit value of international stage-1
On or after Jan.1, 2011, power above 130kw, ≤limit value of international stage-2</td></tr>
<tr><td rowspan="2">Ship engaged in domestic voyage</td><td>Chinese ship</td><td>On or after March 1, 2015, power above 130kw, ≤limit value of international stage-2;
On or after Jan 1, 2022, displacement as 30L or above, ≤limit value of international stage-3.</td><td>On or after March 1, 2015, power above 130kw, ≤limit value of international stage-2;
On or after Jan 1, 2025, displacement as 30L or above, ≤limit value of international stage-3 (to be assessed).</td><td>On or after March 1, 2015, power above 130kw, ≤limit value of international stage-2;
On or after Jan 1, 2022, displacement as 30L or above, ≤limit value of international stage-3.</td><td>On or after March 1, 2015, power above 130kw, ≤limit value of international stage-2;</td></tr>
<tr><td>Foreign ship</td><td colspan="4">——</td></tr>
</table>

Annex 2

Trust Deed

Re: _____

TO:_____

I hereby entrust you to settle down the qualification test of fuel oil used on board with_____Maritime Safety Administration on behalf of me, if any problems, please hand them for my ship’ s company.

The name and the phone number of the Designated person:

Ship’ s Name:

Captain Signature:

Date:

Annex 3

_____海事局燃油样品标签

_____MSA FUEL SAMPLE IDENTIFICATION LABEL

样品编号 Sample No.		取样日期和时间 Date & Time	
样品名称 Sample Description	☐国际船舶 ☐沿海船舶 ☐内河船舶		
规格等级 Product Grade	☐柴油 Diesel Oil ☐180#RMG ☐380#RMK ☐500#RMK ☐其他（请写明）：		
取样船名 Ship Name		取样位置 Sampling Location	
执法人员（2 人） Officers		船方代表签字 Captain/Person in Charge	
密封号 Seal No.			

Annex 4

Report Form for Immunity or Exemption

Ship name:	Nationality/ port of registry:
Gross tonnage:	IMO No./ Identification No.:
Type of ship:	Date of construction:
Last port:	Next port:
Owner:	Operator:
Berthing dock:	Date and time of berth:
Agency company:	
Reasons:	
List of evidential materials: Date: (seal)	