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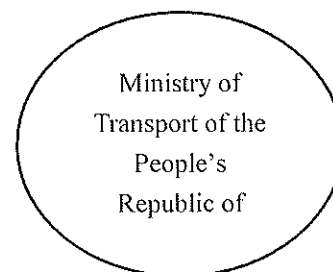
Notice of the Ministry of Transport about Printing and Distribution of the Implementation Proposal for Ship-generated Air Pollutant Emission Control Areas

To the Department (Committee/Bureau) of Transportation of all provinces, autonomous regions and municipalities under the jurisdiction of the Central government, all subordinate maritime safety administrations, Yangtze River Administration of Navigational Affairs and Pearl River Administration of Navigational Affairs,

The *Implementation Proposal for Ship-generated Air Pollutant Emission Control Areas* is printed and distributed to you now, please implement it with much care.

Ministry of Transport
November 30, 2018

(This document is released to the public.)



Implementation Proposal for Ship-generated Air Pollutant Emission

Control Areas

In order to thoroughly apply and implement the deployment of the Party Central Committee and the State Council on accelerating to promote the construction of ecological civilization, winning the battle for pollution control and blue sky and promoting the development of green shipping, energy conservation and emission reduction of ships, based on the implementation of the "Implementation Plan for Ship Emission Control Areas in Pearl River Delta, Yangtze River Delta and Circum-Bohai (Beijing-Tianjin-Hebei) Waters" (JHF [2015] No. 177), the implementation plan is developed in accordance with the *Law of the People's Republic of China on Air Pollution Prevention and Control* and the relevant international conventions that China has joined.

1. Work target

The air quality of coastal cities and inland ports will be continuously improved by establishing the ship-generated air pollutant emission control areas (hereinafter referred to as the "emission control area") and reducing the emission of ship-generated air pollutants such as sulfur oxides, nitrogen oxides, particulate matters and volatile organic compounds etc.

2. Principles for establishment of the emission control area

- (1) Promote the improvement of environmental quality and coordinated development of the shipping economy;
- (2) Strengthen the control on ship-generated air pollutant emission;
- (3) Comply with the requirements specified in international conventions and Chinese legal standards; and
- (4) Implement step by step and carry out the "Early and Pilot Implementation".

3. Applicable object

This plan is applicable to the ships that are sailing, parked and operated in the emission control area.

4. Scope of emission control area

The "emission control areas" referred in this plan include coastal control areas and inland river control areas.

The scope of coastal control area is the waters within the line formed by 60 points listed in Table 1, where the scope of the Hainan water is the water within the line formed by 20 points listed in Table 2.

The scope of inland river control area is navigable waters of the Yangtze River trunk line (from Shuifu in Yunnan to Liuhekou in Jiangsu) and the Xijiang trunk line (from Nanning in Guangxi to Zhaoqing in Guangdong). The coordinates of the starting and ending points are shown in Table 3.

Table 1 Coordinates of water boundary control points in coastal control areas

No.	Longitude	Latitude	No.	Longitude	Latitude
1	124°10'06.00"	39°49'41.00"	31	112°50'52.80"	21°22'25.68"
2	122°57'14.40"	37°22'11.64"	32	112°29'20.40"	21°17'12.48"
3	122°57'00.00"	37°21'29.16"	33	111°27'00.00"	19°51'57.96"
4	122°48'18.00"	36°53'51.36"	34	111°23'42.00"	19°46'54.84"
5	122°45'14.40"	36°48'25.20"	35	110°38'56.40"	18°31'10.56"
6	122°40'58.80"	36°44'41.28"	36	110°37'40.80"	18°30'24.12"
7	122°24'36.00"	36°35'08.88"	37	110°15'07.20"	18°16'00.84"
8	121°03'03.60"	35°44'44.16"	38	110°09'25.20"	18°12'45.36"
9	120°12'57.60"	34°59'27.60"	39	109°45'32.40"	17°59'03.12"
10	121°32'24.00"	33°28'46.20"	40	109°43'04.80"	17°59'03.48"
11	121°51'14.40"	33°06'19.08"	41	109°34'26.40"	17°57'18.36"
12	122°26'42.00"	31°32'08.52"	42	109°03'39.60"	18°03'10.80"
13	123°23'31.20"	30°49'15.96"	43	108°50'42.00"	18°08'58.56"
14	123°24'36.00"	30°45'51.84"	44	108°33'07.20"	18°21'07.92"
15	123°09'28.80"	30°05'43.44"	45	108°31'40.80"	18°22'30.00"
16	122°28'26.40"	28°47'31.56"	46	108°31'08.40"	18°23'10.32"
17	122°07'30.00"	28°18'58.32"	47	108°28'44.40"	18°25'34.68"
18	122°06'03.60"	28°17'01.68"	48	108°24'46.80"	18°49'13.44"
19	121°19'12.00"	27°21'30.96"	49	108°23'20.40"	10°12'47.16"
20	120°42'28.80"	26°17'32.64"	50	108°22'45"	20°24'05"
21	120°36'10.80"	26°04'01.92"	51	108°12'31"	21°12'35"
22	120°06'57.60"	25°18'37.08"	52	108°08'05"	21°16'32"
23	119°37'26.40"	24°49'31.80"	53	108°05'43.7"	21°27'08.2"
24	118°23'16.80"	24°00'54.00"	54	108°05'38.8"	21°27'23.1"
25	117°50'31.20"	23°23'16.44"	55	108°05'39.9"	21°27'28.2"
26	117°22'26.40"	23°03'05.40"	56	108°05'51.5"	21°27'39.5"
27	117°19'51.60"	23°01'32.88"	57	108°05'57.7"	21°27'50.1"
28	116°34'55.20"	22°45'05.04"	58	108°06'01.6"	21°28'01.7"
29	115°13'01.20"	22°08'03.12"	59	108°06'04.3"	21°28'12.5"
30	114°02'09.60"	21°37'02.64"	60	Centerline of Beilun River main channel End to the sea	

Table 2 Coordinates of water boundary control points in the Hainan waters

No.	Longitude	Latitude	No.	Longitude	Latitude
A1	108°26'24.8"	19°24'06.50"	33	111°27'00.00"	19°51'57.96"
A2	109°20'00"	20°07'00"	34	111°23'42.00"	19°46'54.84"
A3	111°00'00"	20°18'32"	35	110°38'56.40"	18°31'10.56"
			36	110°37'40.80"	18°30'24.12"
			37	110°15'07.20"	18°16'00.84"
			38	110°09'25.20"	18°12'45.36"
			39	109°45'32.40"	17°59'03.12"
			40	109°43'04.80"	17°59'03.48"
			41	109°34'26.40"	17°57'18.36"
			42	109°03'39.60"	18°03'10.80"
			43	108°50'42.00"	18°08'58.56"
			44	108°33'07.20"	18°21'07.92"
			45	108°31'40.80"	18°22'30.00"
			46	108°31'08.40"	18°23'10.32"
			47	108°28'44.40"	18°25'34.68"
			48	108°24'46.80"	18°49'13.44"
			49	108°23'20.40"	19°12'47.16"

Table 3 Coordinates of the starting and ending points in inland river waters

Inland river control area	Boundary name	Place name	Detailed description about points	Point No.	Longitude	Latitude
Yangtze River trunk line	Starting point	Shuifu in Yunnan	Xiangjiaba Bridge	B1	104°24'30.60"	28°38'22.38"
				B2	104°24'35.94"	28°38'27.84"
	Ending point	Liuhekou in Jiangsu	Line between Liuheiwu in the lower reaches of the Liuhekou and Shixingan in the lower reaches of the Shiqiao River in Chongming Island	B3	121°18'54.00"	31°30'52.00"
				B4	121°22'30.00"	31°37'34.00"
Xijiang trunk line	Starting point	Nanning in Guangxi	Minsheng Pier in Nanning	B5	108°18'19.77"	22°48'48.60"
				B6	108°18'26.72"	22°48'39.76"
	Ending point	Zhaoqing in Guangdong	Line between Jinli Xiatie Xianjiao of Xijiang main stream and the upper of Wudinggang water gate	B7	112°48'30.00"	23°08'45.00"
				B8	112°47'19.00"	23°08'01.00"

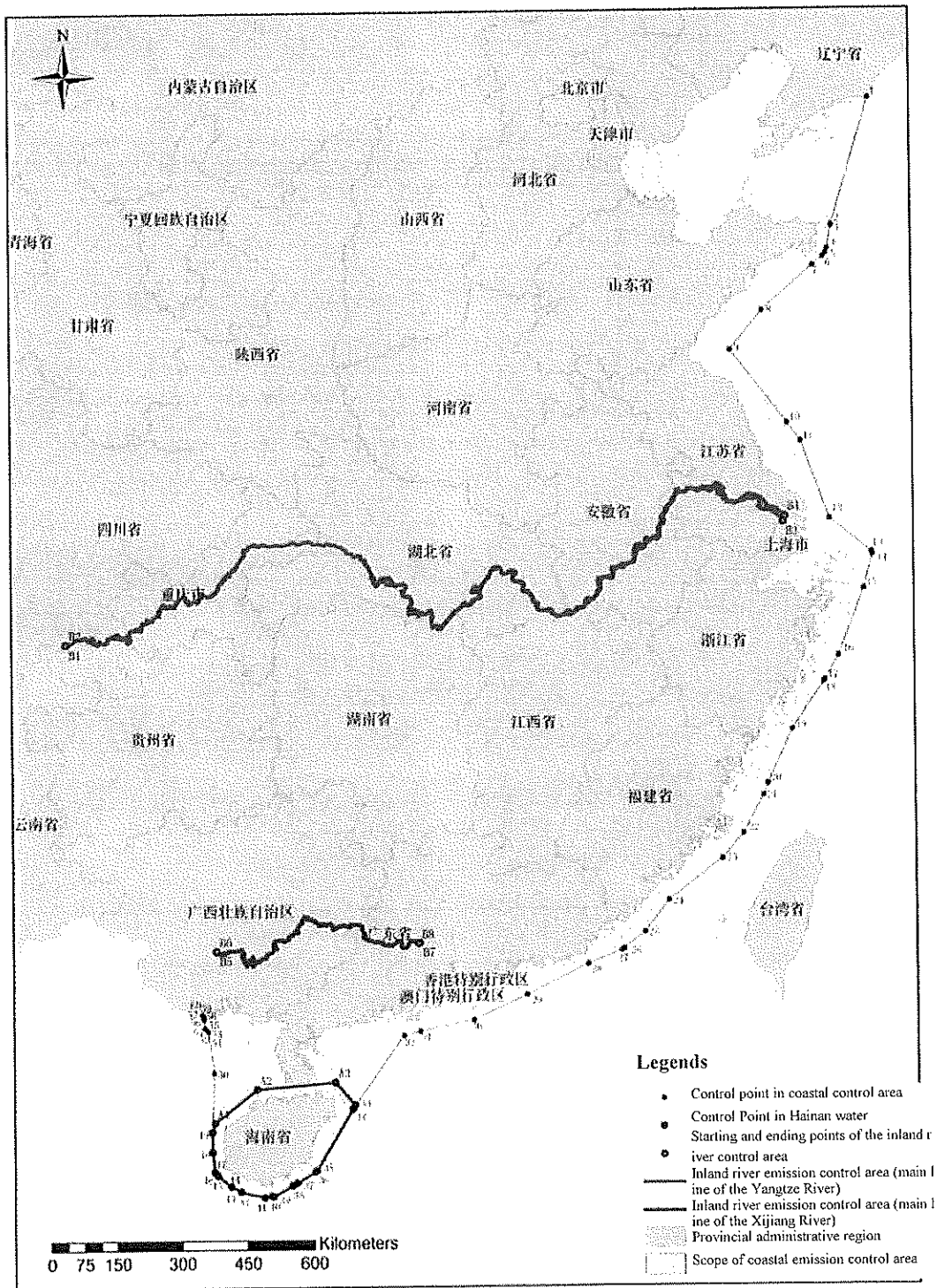


Figure 1 Diagram of scope of emission control areas

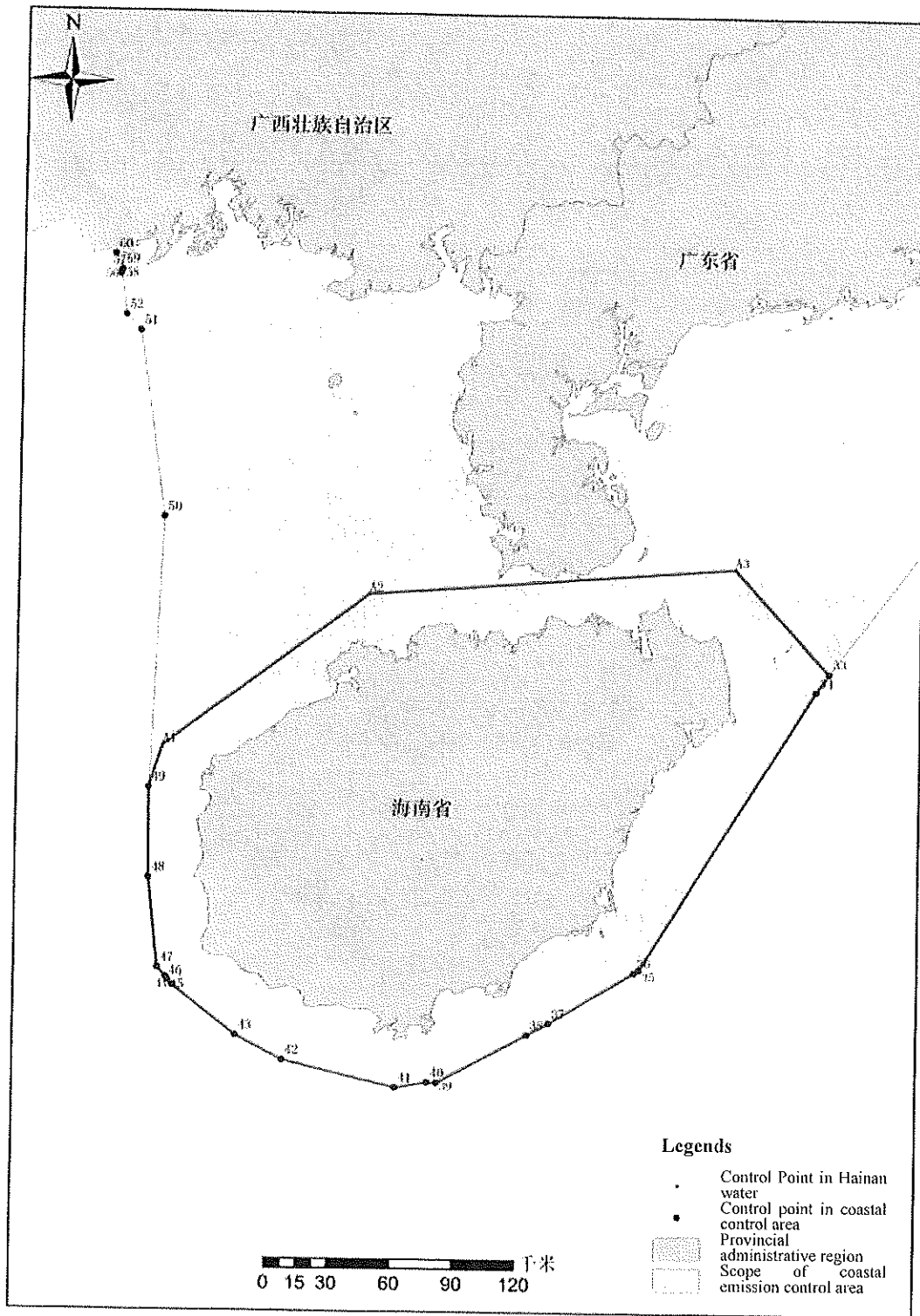


Figure 2 Diagram of scope of the Hainan water in coastal control area

5. Control requirements

(1) Emission control requirements for Sulfur oxides and particulate matters

- 1) From January 1, 2019, the ships entering the emission control areas shall use marine fuel oil with a sulfur content no more than 0.5% m/m. Large-scale river ships and river-sea ships

shall use the fuel oil that meets the newly revised requirements specified in the national standards for marine fuel oils, while other river ships should use the diesel fuel that meets national standards. From January 1, 2020, the ships entering the inland river control areas shall use the marine fuel oil with a sulfur content no more than 0.1% m/m.

- 2) From March 1, 2020, the ships entering the emission control areas without any alternative measures such as sulfur oxides and particulate pollution control devices can only load and use the marine fuel oil that should be used in accordance with this plan.
- 3) From January 1, 2022, the ships entering the Hainan water in the coastal control areas shall use the marine fuel oil with a sulfur content no more than 0.1% m/m.
- 4) The feasibility of using the marine fuel oil with a sulphur content no more than 0.1% m/m shall be evaluated in a timely manner to determine whether it is required that the ships entering the coastal control areas shall use the marine fuel oil with a sulfur content no more than 0.1% m/m from January 1, 2025.

(2) Emission control requirements for nitrogen oxides

- 5) For the international navigation ships that are built (based on the date of laying the keel, the same below) or are subject to the major modification of marine diesel engines on or after January 1, 2000, where the output power of a single marine diesel engine used exceeds 130kW shall meet the requirements for the NOx emission limits in the first phase specified in the *International Convention for the Prevention of Pollution from Ships*.
- 6) For the international navigation ships that are built or are subject to the major modification of marine diesel engines on or after January 1, 2011, where the output power of a single marine diesel engine used exceeds 130kW shall meet the requirements for the NOx emission limits in the second phase specified in the *International Convention for the Prevention of Pollution from Ships*.
- 7) For the domestic navigation ships with Chinese nationality that are built or are subject to the major modification of marine diesel engines on or after March 1, 2015, where the output power of a single marine diesel engine used exceeds 130kW shall meet the requirements for the NOx emission limits in the second phase specified in the *International Convention for the Prevention of Pollution from Ships*.
- 8) For the domestic navigation ships with Chinese nationality that are built or are subject to the major modification of marine diesel engines on or after January 1, 2022 for entering the Hainan water in coastal control area and inland river control areas, the marine diesel engine with the single cylinder displacement greater than or equal to 30 liters shall meet the requirements for the NOx emission limits in the third phase specified in the *International Convention for the Prevention of Pollution from Ships*.
- 9) The feasibility of the implementation of the requirements for the NOx emission limits in the third phase specified in the *International Convention for the Prevention of Pollution from Ships* shall be evaluated in a timely manner to determine whether it is required that the domestic navigation ships with Chinese nationality that are built or are subject to the major modification of marine diesel engines on or after January 1, 2025 for entering the Hainan water in coastal control area and inland river control areas, the marine diesel engine with the single cylinder displacement greater than or equal to 30 liters shall meet the requirements for the NOx emission limits in the third phase specified in the *International Convention for the Prevention of Pollution from Ships*.

(3) Requirements for the use of shore power by ships on port

- 10) The Chinese civil ships, inland ships (excluding liquid cargo ships) and sea-river ships built on or after January 1, 2019 shall be equipped with ship-borne device for shore power systems, while the Chinese domestic coastal navigation container ships, cruise ships, passenger rolling ships with 3,000T capacity or above and dry bulk carriers with 50,000T capacity built on or after January 1, 2020 shall be provided with ship-borne device for shore power systems.
- 11) From July 1, 2019, where the existing ships (excluding liquid cargo ships) equipped with ship-borne device for shore power systems park for more than 3 hours in the berths with shore power supply capacity in coastal control areas or park for more than 2 hours in the berths with shore power supply capacity in inland river control areas and other equivalent alternatives (including the use of clean energy, new energy, ship-borne power storage device or shutdown of auxiliary equipment etc.) are not used, they shall use shore power. From January 1, 2021, where the cruise ships park for more than 3 hours in the berths with shore power supply capacity in emission control areas and other equivalent alternatives are not used, they shall use shore power.
- 12) From January 1, 2022, the Chinese civil ships and inland river ships (excluding liquid cargo ships) with the single marine diesel engine output power more than 130kW, Chinese domestic coastal navigation container ships, Ro-Ro passenger ships, passenger rolling ships with 3,000T capacity or above and dry bulk carriers with 50,000T capacity that fail to meet the requirements for the NOx emission limits in the second phase specified in the *International Convention for the Prevention of Pollution from Ships* shall be equipped with ship-borne device for shore power systems. Where the above ships park for more than 3 hours in the berths with shore power supply capacity in coastal control areas or park for more than 2 hours in the berths with shore power supply capacity in inland river control areas and other equivalent alternatives are not used, they shall use shore power.
- 13) Chinese shipping companies and operators are encouraged to install ship-borne device for shore power systems on the ships other than those specified in Article 12 and use shore power during they park in the berths with shore power supply capacity in emission control areas.

(4) Others

- 14) Ships may use alternative measures such as the use of clean energy, new energy, ship-borne power storage device or post-treatment of tail gas to meet ship emission control requirements. Where the post-treatment of tail gas is used, the emission monitoring device shall be installed and the generated waste water and waste liquid shall be treated in accordance with relevant regulations.
- 15) The people's governments in local areas where other inland waters are located are encouraged to refer to the requirements for the inland river control areas for the purpose of imposing control requirements for the fuel sulfur content used by sea ships entering the waters.
- 16) Where the domestic oil tankers with 150T capacity and above built on or after January 1, 2020 enter in the emission control areas, they shall have the conditions for recovery of oil and gas on pier and they shall be encouraged to recycle oil and gas when the safety requirements are met. International navigation ships shall comply with the emission control requirements for volatile organic compounds specified in the *International Convention for the Prevention of Pollution from Ships*.
- 17) Ships should strictly meet emission control requirements for atmospheric pollutants specified in other existing international conventions, domestic laws and regulations as well as standards.

6. Supporting measures

(1) Strengthen organizational leadership

All provincial-level transportation authorities, all subordinate maritime safety administrations, Yangtze River Administration of Navigational Affairs and Pearl River Administration of Navigational Affairs shall strengthen organizational leadership and coordination, refine tasks and measures, clarify the division of responsibilities and improve the safeguard mechanism. In addition, they shall evaluate the effect of implementing the aforementioned control measures in a timely manner to determine whether the implementation plan for the emission control areas is adjusted.

(2) Strengthen coordinated supervision

All provincial-level transportation authorities and all subordinate maritime safety administrations shall conscientiously implement the *Guiding Opinions of the 13 Departments including the Ministry of Transport on Strengthening the Guarantee and Joint Supervision on Low-Sulphur Fuel for Ships* (JHF [2017] No. 163) and other documents, establish a joint supervision mechanism, ensure the supply of low-sulphur fuel for qualified ships and strengthen the supervision and management on air pollution prevention and control.

(3) Focus on policy guidance

All provincial-level transportation authorities and all subordinate maritime safety administrations shall take initiative to coordinate with the local people's governments to issue relevant incentive policies and supporting measures, increase investment in law enforcement equipment, personnel training and other law enforcement supporting measures and take financial subsidies, convenient access and other incentives and measures by using low-sulfur fuel, clean energy, post-treatment of tail gas, oil and gas recovery, shore power, on-line monitoring and early elimination of old ships etc.

(4) Play a supporting role of science and technology

All provincial-level transportation authorities, all subordinate maritime safety administrations, Yangtze River Administration of Navigational Affairs and Pearl River Administration of Navigational Affairs shall take initiative to guide and support relevant scientific research organizations, port and shipping enterprises and equipment manufacturers to carry out research on ship-generated air pollution control and supervision technologies, organize the development of technical standards and promote the transformation of scientific and technological achievements.

CC: Ministry of Foreign Affairs, National Development and Reform Commission, Ministry of Industry and Information Technology, Ministry of Public Security, Ministry of Finance, Ministry of Ecology and Environment, Ministry of Commerce, Ministry of Emergency Management, General Administration of Customs, State Administration of Taxation, General Administration of Market Supervision, National Energy Administration, China National Petroleum Corporation, China Petrochemical Corporation, China National Offshore Oil Corporation, China Ocean Shipping Group Co., Ltd., China Merchants Group Co., Ltd., all major port enterprise groups, China Shipowners' Association, China Ports & Harbors Association, Marine Fuel Professional Committee of China Petroleum Circulation Association, all organizations affiliated to all ministries and departments, all divisions of ministries and departments

General Office of the Ministry of Transport

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