

Implementation Plan on Domestic Emission Control

Areas in Waters of the Pearl River Delta, the Yangtze River Delta

and Bohai Rim (Beijing, Tianjin, Hebei)

I. Objectives

The Domestic Emission Control Areas (hereinafter referred to as DECAs) are designated to control the emissions of SO_x, NO_x and particulate matter from vessels and to improve the air quality of coastal areas and regions along the rivers, and in particular, of port cities in China.

II. Principles

The DECAs are designated following the principles of:

- (I) Focusing on key areas for joint control of air pollution;
- (II) Maintaining fair competition among the ports in the areas, and encouraging earlier implementation of DECAs by major ports;
- (III) Taking into account ship traffic density and economic development level; and
- (IV) Complying with international and domestic laws

III. Applicable vessels

The Plan applies to vessels navigating, anchoring or operating in the DECAs, excluding military vessels, sport vessels and fishing boats.

IV. Geographic Scope of DECAs

(I) Pearl River Delta DECA

The Pearl River Delta DECA includes:

- (a) the seas enclosed by geodesic line connecting the 6 points of A, B, C, D, E, F (excluding waters under the jurisdiction of Hongkong and waters administered by Macao);
 - A: The joining point of coastlines of Huizhou and Shanwei
 - B: The point where the seaward extension of 12 nautical miles from Zhentouyan terminates
 - C: The point where the seaward extension of 12 nautical miles from Jiapengliedao terminates
 - D: The point where the seaward extension of 12 nautical miles from Weijiadao terminates
 - E: The point where the seaward extension of 12 nautical miles from Dafanshi terminates
 - F: The joining point of coastlines of Jiangmen and Yangjiang

- (b) navigable waters of the rivers under the jurisdiction of 9 cities including Guangzhou, Dongguan, Huizhou, Shenzhen, Zhuhai, Zhongshan, Foshan, Jiangmen, and Zhaoqing.

The core ports within this DECA are Shenzhen, Guangzhou and Zhuhai.

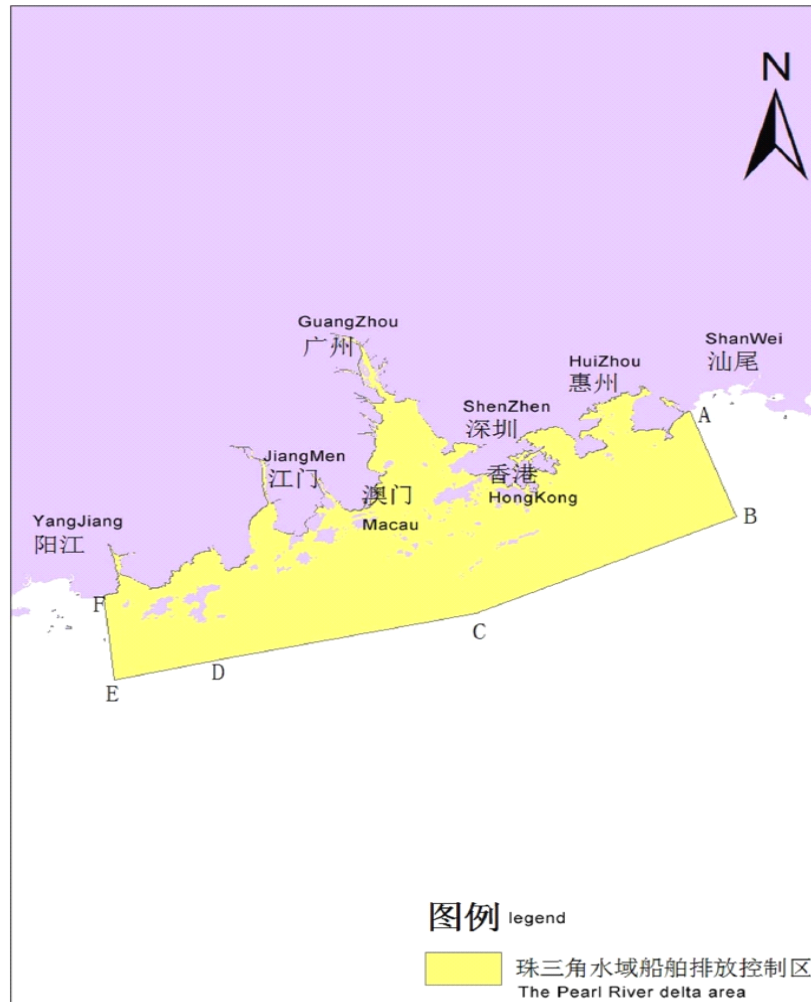


Figure 1: Pearl River Delta DECA

(II) Yangtze River Delta

The Yangtze River Delta DECA includes:

- (a) the waters enclosed by geodesic line connecting the 10 points of A, B, C, D, E, F, G, H, I and J;
- A: The joining point of coastlines of Nantong and Yancheng
 - B: The point where the seaward extension of 12 nautical miles from Waikejiao terminates
 - C: The point where the seaward extension of 12 nautical miles from Sheshandao terminates
 - D: The point where the seaward extension of 12 nautical miles from Haijiao terminates

- E: The point where the seaward extension of 12 nautical miles from Dongnanjiao terminates
 - F: The point where the seaward extension of 12 nautical miles from Liangxiongdiyu terminates
 - G: The point where the seaward extension of 12 nautical miles from Yushanliedao terminates
 - H: The point where the seaward extension of 12 nautical miles from Taizhouliedao (2) terminates
 - I: The point where the seaward extension of 12 nautical miles from the joining point of coastlines of Taizhou and Wenzhou terminates
 - J: The joining point of coastlines of Taizhou and Wenzhou
- (b) navigable waters of the rivers under the jurisdiction of 16 cities including Nanjing, Zhenjiang, Yangzhou, Taizhou, Nantong, Changzhou, Wuxi, Suzhou, Shanghai, Jiaxing, Huzhou, Hangzhou, Shaoxing, Ningbo, Zhoushan and Taizhou.
- The core ports within this DECA are Shanghai, Ningbo-Zhoushan, Suzhou and Nantong.

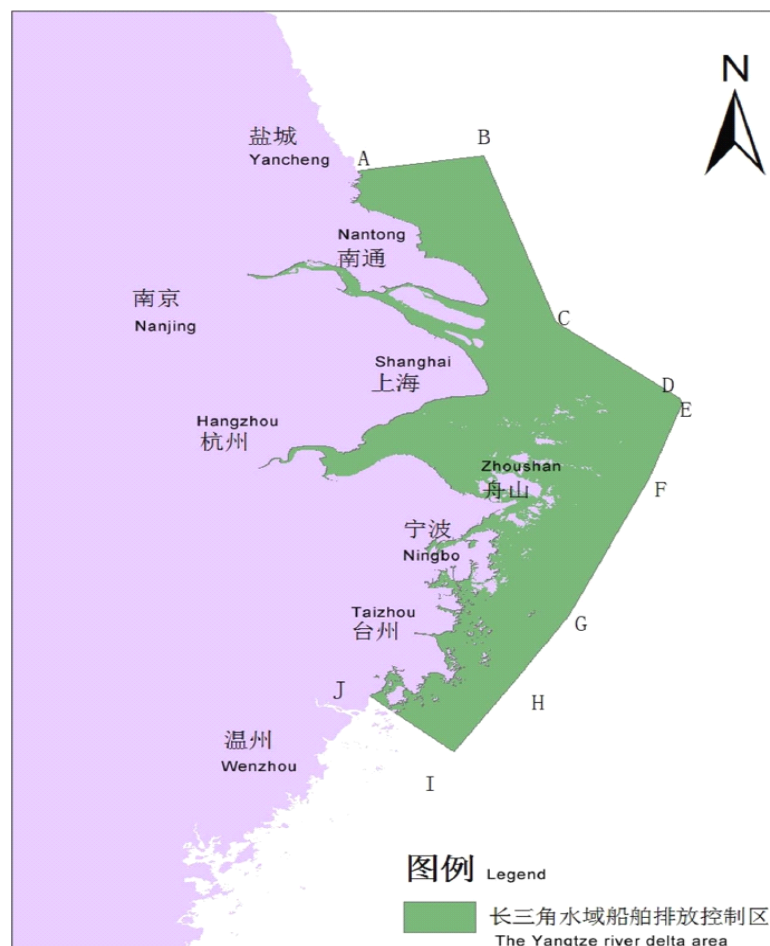


Figure 2:Yangtze River Delta DECA

(III) Bohai Rim (Beijing, Tianjin, Hebei) DECA

The Bohai Rim (Beijing, Tianjin, Hebei) DECA includes:

- (a) the waters within the line connecting the joining point of coastlines of Dalian and Dandong and the joining point of coastlines of Yantai and Weihai; and
- (b) navigational waters of the rivers under the jurisdiction of 13 cities including Dalian, Yingkou, Panjin, Jinzhou, Huludao, Qinhuangdao, Tangshan, Tianjin, Cangzhou, Binzhou, Dongying, Weifang and Yantai.

The core ports within this DECA are Tianjin, Qinhuangdao, Tangshan and Huanghua.

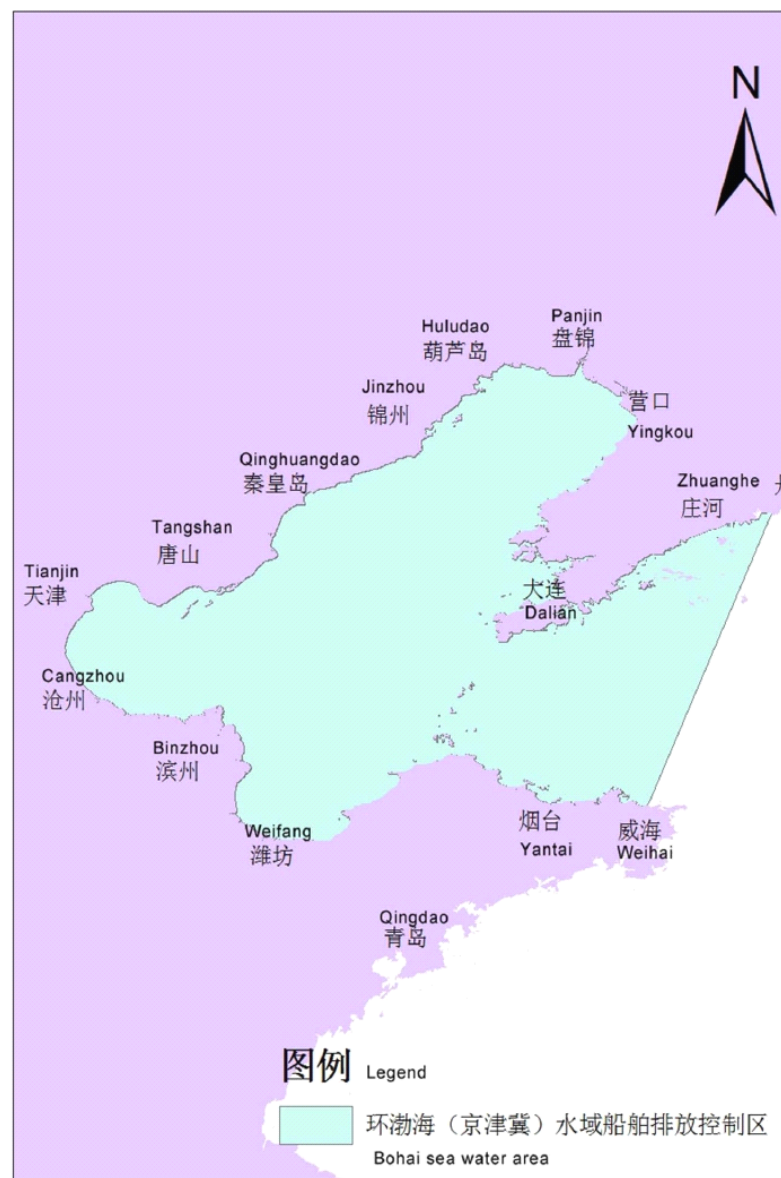


Figure 3: Bohai Rim (Beijing, Tianjin, Hebei) DECA

V. Implementation Arrangements

(I) All vessels shall meet the requirements of international conventions and domestic laws and regulations of China on emission control of SO_x, NO_x and particulate matter on and after 1 January 2016. Where appropriate, the ports within the DECAs may

impose higher requirements including requiring vessels to use fuel of not more than 0.5% m/m sulphur content while berthing.

(II) The sulphur content of any fuel oil used on board vessels berthing at the core ports in the DECAs (excluding the first hour after arrival and the last hour before departure) shall not exceed 0.5% m/m on and after 1 January 2017.

(III) The sulphur content of any fuel oil used on board vessels berthing at all ports in the DECAs shall not exceed 0.5% m/m on and after 1 January 2018.

(IV) The sulphur content of any fuel oil used on board vessels entering the DECAs shall not exceed 0.5% m/m on and after 1 January 2019.

(V) An assessment on the effect of the aforementioned control measures will be conducted before 31 December 2019 to decide whether:

1. to introduce the requirement of 0.1% m/m sulphur content in the DECAs.
2. to extend the geographical scope of DECAs.
3. to introduce other control measures.

(VI) Vessels can take alternative measures equivalent to the aforementioned control measures, such as, using shore power and clean energy, and treatment of exhaust gas.