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TECHNICAL INFORMATION

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Subject: Early Implementation of the requirement for using low sulphur fuel oil(0.5%) at all ports in Yangtze River Delta ECA (from 1st September 2017)

The new ECA regulation published by the Ministry of Transport of China, Regulatory guidance and prior implementation of Yangtze River Delta and Shenzhen port have been introduced with KR's technical information <u>2015-ETC-12</u>, <u>2016-ETC-1</u>, <u>2016-ETC-2</u> and <u>2016-ETC-05</u>.

According to the Chinese ECA implementation regulation for the Pearl river delta, Yangtze river delta and Bohai gulf areas, all ships berthed at any ports within the ECA shall use compliant fuel which the sulphur content of the fuel oil not exceeding 0.5% m/m from 1st Jan. 2018. However, it was notified that the <u>regulations which will be enforced on 1st Jan. 2018 in Yangtze river delta ECA is to be required to advance to 1st <u>Sep. 2017</u>, four months ahead of the time by the Ministry of Transport of the People's Republic of China. Therefore, all ships should be required to use low sulfur fuel, shore electricity, exhaust gas after treatment or other alternative measures from one hour after berthing to one hour before unberthing.</u>

It is understood that the Yangtze River Delta ECA has firstly implemented the ship's fuel regulation less than 0.5% sulphur contents at the core ports since 1st April 2016. Through more than a year experience, the environmental protection department monitoring data show that the Yangtze River Delta air quality has been improved around the port area of sulfur dioxide concentration decreased significantly, in 2016 compared with the same period in 2015, the concentration of sulfur dioxide in Shanghai Donggaoqiao monitoring station decreased by 52%; the concentration of sulfur dioxide in Xinjiangwan City monitoring station decreased by 23%. In the first half of 2017, the concentration of sulfur dioxide in Ningbo Zhenhai air quality monitoring point decreased by 31% year on year; the concentration of sulfur dioxide in Beilun air quality monitoring point decreased by 21% year on year.

Please refer to the below link for information (Chinese only) http://www.mot.gov.cn/jiaotongyaowen/201709/t20170904_2911172.html

In this regard, Zhejiang and Jiangsu MSA and provincial department of Transportation have issued a formal notice that ships are required to use fuel with sulphur contents not

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exceeding 0.5% m/m when berthing (from one hour after berthing to one hour before departure) at all ports within Yangtze River Delta ECA, parts of their provinces. Please refer to attachments for details.

Additionally regarding ECA boundaries of the "ECA implementation regulation for the Pearl river delta, Yangtze river delta and Bohai gulf areas", please refer to the attached area boundaries for reference on implementation ECA regulation from 1st Jan. 2019 which will apply to all ships within the ECA waters.

- * Attachment: 1. Zhejiang Notification for use of low sulphur fuel
 - 2. Jiangsu Notification for use of low sulphur fuel

3. Boundaries of Chinese ECAs - END -

Executive Vice President Statutory Division

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Distributions: KR surveyors, Ship owners, Ship builders, Other stakeholders

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Attachment 1

Implementation of low sulphur fuel regulations in all ports in Zhejiang ECA (2017.9.1.~)

Zhejiang Provincial Department of Transportation 2017.8.29.

In order to improve air quality, promote the development of Zhejiang province and conduct 'People's Republic of China Air Pollution Prevention Law', emission control for sulphur has been implemented at the core ports in Ningbo-Zhousan since 1st April 2016 in accordance with the 'New ECA regulation for the Pearl River Delta, Yangtze River Delta and Bohai Gulf areas' and 'Implementation work plan for Zhejiang ECA'. Based on the assessment of early implementation and relevant regulation of the Ministry of Transport, it is determined that ships are required to use fuel with sulphur contents not exceeding 0.5% m/m when berthing (from one hour after berth to one hour before departure) at any ports within Zhejiang ECA which is a part of Yangtze River Delta ECA from 1st Sep. 2017, and the requirements are as below;

1. Area applicable

Sea and inland water areas defined in Chinese new ECA regulation

- (1) Sea area: within the lines connecting including Jiaxing, Ningbo-Zhoushan, and Taizhou ports
 - 1) 12 nautical miles away from the junction point of Zhejiang province and Shanghai
 - 2) 12 nautical miles away from the junction point of Taizhou and Wenzhou
- (2) Inland water area: Navigable area under the administrative jurisdiction including Hangzhou, Jiaxing, Huzhou, Shaoxing, Ningbo and Taizhou

2. Requirements

- (1) Ships are required to use fuel with sulphur contents not exceeding 0.5% m/m when berthing at any ports within areas applicable as above from 1st Sep. 2017, except warship, naval auxiliary or fishing vessels.
- (2) Inland water ships and river-sea navigating ships have to use diesel oil which meet the relevant regulation. Sea navigating ships are required to use satisfied fuel in accordance with the international convention which China ratified and Chinese new ECA regulation.
- (3) It is allowed to use alternatively shore power, clean energy, and exhaust gas after treatment system as equivalent effect instead of using low sulphur fuel.

Supervision of the implementation for ships and management ECAs will be enhanced by China MSA and relevant department.

Please refer to this link: http://www.cnzjmsa.gov.cn/ZJ/ggfw/ywdt/wfgl/201709/t20170920_511008.html [The Chinese version shall prevail in case of a dispute or discrepancy of interpretation]

Attachment 2

Implementation of low sulphur fuel regulations in all ports in Jiangsu ECA (2017.9.1.~)

Jiangsu Provincial Department of Transportation 2017.9.4.

In order to promote the development of Jiangsu green shipping, energy saving, and emission reduction, the Provincial Department of Transportation and the Provincial Environmental Protection Department and the Jiangsu MSA determined that ships are required to use fuel with sulphur contents not exceeding 0.5% m/m when berthing (from one hour after berth to one hour before departure) at any ports within Jiangsu ECA which is a part of Yangtze River Delta ECA from 1st Sep. 2017, and the requirements are as below;

1. Area applicable

Sea and inland water areas defined in Chinese new ECA regulation

- (1) Sea area: within the lines connecting
 - 1) 12 nautical miles away from the junction point of Jiangsu province and Shanghai
 - 2) 12 nautical miles away from the junction point of Nantong and Yancheng
- (2) Inland water area: Navigable area under the administrative jurisdiction including
 Nanjing, Zhenjiang, Yangzhou, Taizhou, Nantong, Changzhou,
 Wuxi, Suzhou

2. Requirements

- (1) Ships are required to use fuel with sulphur contents not exceeding 0.5% m/m when berthing at any ports within areas applicable as above from 1st Sep. 2017, except warship, naval auxiliary or fishing vessels.
- (2) In the light of preparation time for fuel system change or alternative measures, four months period could be designated for correction on breach ships, however Suzhou and Nantong which have been implemented on 1st April 2016 are excluded.
- (3) Sea and coastal navigating ships are required to use satisfied fuel in accordance with the international convention which China ratified and Chinese new ECA regulation. Inland water ships and river-sea navigating ships have to use diesel oil which meet the regulation GB252 and not allowed to use residual fuel such as HFO.
- (4) It is allowed to use alternatively shore power, clean energy, and exhaust gas after treatment system as equivalent effect instead of using low sulphur fuel.

Please refer to this link: http://www.jscd.gov.cn/art/2017/9/4/art_18070_1387059.html

[The Chinese version shall prevail in case of a dispute or discrepancy of interpretation]

Boundaries of Chinese ECA

Pearl River Delta ECA



Sea boundaries: Inside of the lines connecting the points of A, B, C, D, E and F (excluding the waters of Hong Kong and Macau) as sketched above.

Point A: The coastline intersecting point of Huizhou and Shanwei

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Point B: 12 nautical miles away from Zhentouyan

Point C: 12 nautical miles away from Jiapeng Archipelago

岩例 Pearl River Delta

Point D: 12 nautical miles away from Weijia Island

Point E: 12 nautical miles away from Dafanshi Island

Point F: The coastline intersecting point of Jiangmen and Yangjiang

Inland water areas: Navigable inland waters under administrative jurisdiction of 9 cities including Guangzhou, Dongguan, Huizhou, Shenzhen, Zhuhai, Zhongshan, Foshan, Jiangmen and Zhaoqing.

Yangtze River Delta ECA



Sea boundaries: Inside of the lines connecting the points of A, B, C, D, E, F, G, H, I and J.

Point A: The coastline intersecting point of Nantong and Yancheng

Point B: 12 nautical miles away from Wai Ke Jiao Island

Point C: 12 nautical miles away from Sheshan Island

Point D: 12 nautical miles away from HaiJiao

Point E: 12nautical miles away from Southeast Reef

Point F: 12nautical miles away from Two Brothers Reef

Point G: 12 nautical miles away from Yushan Archipelago

Point H: 12 nautical miles away from Taizhou Islands (2)

Point I: 12 nautical miles away from coastline intersecting point of Taizhou and shoreline

of Wenzhou

Point J: Coaseline intersecting point of Taizhou and shoreline of Wenzhou

Inland water areas: Navigable waters under the administrative jurisdiction of 15 cities including Nanjing, Zhenjiang, Yangzhou, Taizhou, Nantong, Changzhou, Wuxi, Suzhou, Shanghai, Jiaxing, Huzhou, Hangzhou, Shaoxing, Ningbo, Zhoushan and Taizhou.

Bohai Gulf ECA



Sea boundaries: Inside of the lines between the coastline intersecting point of Dandong-Dalian and Yantai-Weihai.

Inland water areas: Navigable inland waters under the administrative jurisdiction of 13 cities including Dalian, Yingkou, Panjin, Jinzhou, Huludao, Qinghuangdao, Tangshan, Tianjin, Cangzhou, Binzhou, Dongying, Weifang, Yantai.