

Requirements for the Use of Shore Power in Chinese Ports

Ingosstrakh's P&I Correspondent in China Messrs. Huatai Insurance Agency & Consultant Service Ltd., keeps us in loop of update concerning the policies of the ship's use of shore power.

Huatai recently received inquiries from some Insurers and Shipowners, inquiring the specific situation and relevant policies of the ship's use of shore power (Alternative Maritime Power (AMP), Cold Ironing¹, Onshore Power Supply (OPS)) in Chinese ports. In response to this topic of general concern, we will explain the relevant situation in the following article, hoping to provide useful information and reference to the insured persons.

Background of Ships' Using Shore Power in Chinese Ports

The use of shore power on ships at port refers to the suspension of the use of ship diesel generators, and replace the ship's diesel engine with shore-based power facilities to directly supply power supplies to ships to meet the electricity needs of ships during the berthing period. As a clean and efficient way of energy supply, the use of shore power, which forms an important part of the ship's greenhouse gas emission reduction strategy, can reduce fuel consumption, reduce the amount of air pollutants and greenhouse gas emissions, and would be conducive to promote the development of a green and low-carbon shipping industry.

The major ports in China have made remarkable achievements in promoting shore power technology. Many ports, especially those in the Yangtze River, have been equipped with shore power service facilities and continue to optimize related services. In order to promote the wider application of shore power, the Chinese government and relevant institutions are implementing a series of policies, including financial subsidies, tax reductions and exemptions and technological assistance, to encourage ports and the shipping industry to adopt the shore power technology. On the other hand, despite the obvious environmental advantages of shore power technology, the promotion and use of shore power is still facing certain difficulties and challenges due to the fact that the installation of onboard devices for the use of shore power is not mandatory at present, coupled with other practical challenges, including the unification of technical standards, infrastructure construction, Shipowners and governments' consideration of the cost on facility installation/modification and the compatibility between ship and port devices.

Ships that should Use Shore Power during Berthing in Chinese Ports

The following domestic laws and statutes have regulated the ships that should use shore power during berthing in Chinese ports.

¹ **Cold ironing** or shore connection, shore-to-ship power (SSP) or alternative maritime power (AMP), is the process of providing shoreside electrical power to a ship at berth while its main and auxiliary engines are turned off. Cold ironing permits emergency equipment, refrigeration, cooling, heating, lighting and other equipment to receive continuous electrical power while the ship loads or unloads its cargo. Shore power is a general term to describe supply of electric power to ships, small craft, aircraft and road vehicles while stationary.

Cold ironing is shipping industry term the first come into use when all ships hard coal-fired engine. When a ship tied up at port there was no need to continue to feed the fire and the iron engines would literally cool down, eventually going completely cold, hence the term cold ironing.

1. Marine Environmental Protection Law of the People's Republic of China

Article 88

.....

When reaching a port, a vessel with good conditions for the use of shore power, other than one that uses clean energy, shall use shore power in accordance with the relevant provisions issued by the state.

.....

2. Measures for the Administration of Port and Ship on the Shore Power

Article 11 Except in the cases such as temporary malfunctions of ship's devices or shore power facilities, or under the emergency situations like adverse weather or exceptional accidents, which rendered the use of shore power is impracticable, ships (except for tankers) equipped with onboard devices for the use of shore power should use shore power when berthing at berths with shore power supply capabilities in the coastal ports for more than 3 hours, or berthing at berths with shore power supply capabilities in the inland ports for more than 2 hours without using effective alternative measures (refer to the use of new energy such as LNG, clean energy, or adopt other equivalent measures for example shutdown the auxiliary engines, etc.).

The use of shore power is encouraged for the ship whose berthing period is less than the time specified in the preceding paragraph.

3. Implementation Scheme of the Domestic Emission Control Areas (DECA) for Atmospheric Pollution from Ships

From 1 July 2019, the existing ships (except for tankers) with onboard devices for the use of shore power should use the shore power when berthing at berths with shore power supply capabilities inside the coastal emission control area for more than 3 hours, or inside the inland river emission control area for more than 2 hours without using other alternative or equivalent measures (including the use of clean energy, new energy, onboard UPS (uninterruptible power supply) or auxiliary engine shutdown, similarly hereinafter).

From 1 January 2021, cruise ships should use the shore power when berthing at a berth with shore power supply capabilities inside the DECA for more than 3 hours without using other alternative or equivalent measures.

Ships Failing to Use Shore Power as required will Face Penalties

1. In accordance with the "Marine Environmental Protection Law of the People's Republic of China", When reaching a port, a ship with the conditions for the use of shore power fails to use shore power in accordance with the provisions issued by the state is punishable by a fine of not less than 10,000 yuan nor more than 100,000 yuan, or if the circumstances are serious, a fine of not less than 100,000 yuan nor more than 500,000 yuan.

2. Article 84 of the "Yangtze River Protection Law of the People's Republic of China" regulates that a ship with the conditions for the use of shore power fails to use shore power in accordance with the relevant provisions issued by the state is punishable by a fine of not less than 10,000 yuan but not more than 100,000 yuan, or a fine of not less than 100,000 yuan but not more than 500,000 yuan, if the circumstances are serious.

3. Additionally, for ships berthing in ports in the Yangtze River, the "Measures for the Administration of Port and Ship on Shore Power" further details the penalty amount which stipulated in the "Yangtze River Protection Law of the People's Republic of China" based on the aggregated rated power of the generator sets of the ships that violate the regulations:

(1) If the aggregated rated power of a ship's generator set is less than or equal to 2,000 KW, a fine of not less than 10,000 yuan but not more than 20,000 yuan shall be imposed; If the circumstances are serious, a fine of not less than 100,000 yuan but not more than 200,000 yuan shall be imposed;

(2) If the aggregated rated power of a ship's generator set is between 2,000 KW and 8,000 KW (inclusive), a fine of not less than 20,000 yuan but not more than 50,000 yuan shall be imposed; If the circumstances are serious, a fine of not less than 200,000 yuan but not more than 300,000 yuan shall be imposed;

(3) If the aggregated rated power of a ship's generator set is more than 8,000 KW, a fine of not less than 50,000 yuan but not more than 100,000 yuan shall be imposed; If the circumstances are serious, a fine of not less than 300,000 yuan but not more than 500,000 yuan shall be imposed.

Circumstances that may be Exempted from Punishment

Ships or berths may be exempted from penalties if temporary malfunction occurred on the shore power facilities either aboard or ashore, or under emergency situations such as adverse weather conditions, exceptional accidents, which renders the use of shore power impracticable. In addition, those who are recognized by the MSA as first-time offenders with minor circumstances and have made timely corrections may not be subject to administrative penalties, and shall be educated and corrected by the MSA.

Precautions for Using Shore Power

1. In accordance with the requirements of the management of data collection on shipboard energy consumption, ships should record the use of shore power facilities truthfully in their engine logbooks and retain such records for at least two years. Main contents of the record should include name of the ship and berth, time of mooring and unmooring, duration of using shore power, and electricity consumption, etc. For ships and shore power facilities that fulfill the conditions for the use of shore power, any temporary failures of onboard devices or shore facilities, or other objective reasons such as adverse weather or accidents that lead to the inability to use shore power should be recorded truthfully, the record should include information such as the failure time, content of the failure, the time of repair, and the specific objective reason, etc.

2. During berthing, if there is a malfunction on the ship's shore power receiving device, repairs should be arranged as soon as possible to restore its function, otherwise the MSA may impose penalties on the ship.

3. Ships shall formulate an emergency plan for accidents, clarify the emergency response process of various accidents during the use of shore electricity, and conduct regular drills and revise them in time to ensure the safety use of shore power both aboard and ashore during the mooring period.

Huatai Suggestions

A ship equipped with onboard devices for the use of shore power should communicate with her agent before entering the Chinese port in order to ascertain whether the targeted berth is capable to provide shore power to ship. If the berth has a power supply facility, the ship equipped with shore power receiving device

should make corresponding preparations for the use of shore power, and provide the necessary technical parameters of the onboard device to the berth operator, so that the berth staff have sufficient time to make necessary preparations for the smooth supply of shore power to avoid any adverse impact on the ship's schedule.

The use of shore power by ships in Chinese ports is an important environmental protection measure which has received strong support from the Chinese government and a positive response from the shipping industry through the implementation of relevant policies and management methods, combined with practical regulatory and incentive measures, the green and sustainable development and environmental protection of ports have been effectively promoted.

Full text of the Circular is available via the [link](#).