TECHNICAL CIRCULAR No. 690 of 6th July 2021

To	All Surveyors/Auditors. All flags
Title	**Cold ironing**
Reference	Shore connection

Cold ironing

Cold ironing is known as *shore connection*, or *shore-to ship power* provides shoreside electrical power to a ship on berth.

When a ship docks, it no longer needs energy for propulsion. However, it still consumes some energy in order to operate certain necessary operations, such as: ventilation, heating, cooling, pumps, control systems, cargo handling systems.

As a result, the generators keep running, producing local noise and air emissions. In order to prevent that, instead of letting the generators on board make the electricity, this can come from shore power.

Shore power can be installed for all types of vessel and for all ages with need for power in harbor.

Requirements

In order for a port to be considered as eligible to accommodate cold ironing, it must fulfill certain requirements. On the land side, the high power cold ironing system consists of the following:

- High voltage grid to the port
- Frequency and voltage convertors/transformes
- Control panels and connection boxes
- Cable reel and connectors

Help shipping

If applied correctly, this technology can contribute greatly to air quality improvement.

Due to the "limiting emissions facilities" in lower plants, cold ironing coud save more than 30% of CO_2 emissions and more than 95% of nitrogen oxide.

Another important factor is that this system also allows to reduce noise pollution.

Other positive impacts are:

- Better onboard comfort while in port
- Green profiling for ship owners and customers
- Reduced lifecycle cost by reduced fuel consumption and maintenance cost

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Barriers

The most important barriers is the cost.The consumption of electricity can be enormous because of the size of the ships.

Contributing to high costs is the necessary infrastructure at marine terminals.

These terminals must have extra electrical capacity, conduits and the plug infrastructure, in order to accept power cables from a vessel.

Not every ship is compatible and suitable for the process of alternate marine power. Some vessels will have to be equipped with the necessary technology, in order to be able to receive shore to ship power.

Cold ironing offers a great solution to further reducing shipping's emissions. However, in order to be truly considered as an effective solution, it has to show that it can be applied widely, as well as economically.

REFERENCES:

- Shore to ship electrical power.

ATTACHMENTS: No

Kindest Regards,
CONARINA Technical Office

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