INTERNATIONAL MARITIME ORGANIZATION

E

4 ALBERT EMBANKMENT
LONDON SE1 7SR
Telephone: +44 (0)20 7735 7611 Fax: +44 (0)20 7587 3210

MEPC.1/Circ.794
9 October 2012

ON-SHORE POWER SUPPLY

General

1 On-shore Power Supply (OPS) technology is known by a variety of names: "Alternative Maritime Power (AMP)", "Cold Ironing", "Shoreside Electricity" and "On-shore Power Supply". OPS is considered a measure to improve air quality in ports and port cities, to reduce emissions of air pollutants and noise and, to a lesser extent, to reduce carbon dioxide through ships at berth replacing onboard generated power from diesel auxiliary engines with electricity supplied by the shore.

2 The International Association of Ports and Harbours (IAPH) provided information to MEPC 61 on the World Ports Climate Initiative (MEPC 61/INF.12) and the establishment in spring 2010 of an On-shore Power Supply (OPS) website (http://www.ops.wpci.nl/) to provide practical information about OPS for seagoing vessels and shore installations. The website is targeted particularly at port authorities, terminal operators and shipping companies considering introduction or expansion of the technology. It provides information on numerous issues connected with OPS such as power generation, voltage and frequency, safety and health, costs, implementation, ports utilizing OPS, etc.

Provision of on-shore power supply

3 The World Ports Climate Initiative (WPCI) website (http://wpci.iaphworldports.org/) identifies that there is an increasing provision of on-shore power systems in North America and Europe for seagoing ships. Information for ports at which on-shore power supply is available or under development is set out in the annex.

International Standard

4 The international standard "ISO/IEC/IEEE 80005-1:2012 Utility connections in port – Part 1: High Voltage Shore Connection (HVSC) Systems – General requirements" was published on 13 July 2012 and addresses the connection between ship and shore and the procedures for safe operation.

5 This standard revises "IEC/PAS 60092-510:2009 Electrical installations in ships – Special features – High Voltage Shore Connection Systems (HVSC-Systems)".

Industry guidance

6 Noting the development and increasing availability of OPS systems, guidance has been published by classification societies as follows:

Guidelines	Classification Society	can be downloaded at:
High Voltage Shore Connection	American Bureau of Shipping (ABS)	http://www.eagle.org/eagleExternalPortalWEB/ShowProperty/BEA%20Repository/Rules&Guides/Current/182_HighVoltage/Guide
High-Voltage Shore Connection System	Bureau Veritas (BV)	http://www.veristar.com/content/static/veristarinfo/images/4707.21.557NR_2010-01.pdf
Guidelines for High-Voltage Shore Connection System	ClassNK	https://www.classnk.or.jp/account/en/Rules_Guidance/ssl/guidelines.aspx

***

ANNEX

CURRENT LIST OF PORTS PROVIDING ON-SHORE POWER SUPPLY

Source: http://wpci.iaphworldports.org/onshore-power-supply/ops-installed/ports-using-ops.html, as at 9 October 2012

Port	Country	High Voltage	Low voltage	Frequency
Antwerp	Belgium	6.6 kV		50 Hz/60 Hz
Goteborg	Sweden	6.6 kV/10 kV	400 V	50 Hz
Helsingborg	Sweden		400 V/440 V	50 HzV
Stockholm	Sweden		400 V/690 V	50 Hz
Piteå	Sweden	6 kV		50 Hz
Kemi	Finland	6.6 kV		50 Hz
Oulu	Finland	6.6 kV		50 Hz
Kotka	Finland	6.6 kV		50 Hz
Lübeck	Germany	6.6 kV		50 Hz
Zeebrugge	Belgium	6.6kV		50 Hz
Los Angeles	U.S.A	6.6 kV/11 kV		60 Hz
Long Beach	U.S.A	6.6 kV	480 V	60 Hz
San Francisco	U.S.A	6.6 kV/11 kV		60 Hz
San Diego	U.S.A	6.6 kV/11 kV		60 Hz
Seattle	U.S.A	6.6 kV/11 kV		60 Hz
Juneau	U.S.A	6.6 kV/11 kV		60 Hz
Pittsburgh	U.S.A		440 V	60 Hz
Vancouver	Canada			
Oslo	Norway	6.6 kV		50 Hz
Rotterdam	Netherlands	6.6 kV		50 HZ

Recent developments

Several ports are currently implementing OPS, thus extending the scope of its application. These include:

- the Port of Le Havre (France)
- the Port of Marseille (France)
- the Port of Civitavecchia (Italy)