would progressively be reduced to 0.1% (1,000 ppm) from January 1, 2015.

**NOx Emissions**

The MEPC also agreed on amendments that solidify the three tier structure for new marine diesel engines with more stringent NOx emission standards depending on the dates of installation for the engines. The following emissions levels apply when the rated engine speed (crankshaft revolutions per minute) is less than 130 rpm; lower emissions levels will apply to rated engine speeds of 130 rpm or greater.

- Tier I – standard will continue to be 17 g/kWh
- Tier II – limit would progressively be reduced to 0.1% (1,000 ppm) from January 1, 2015.

**SOx Emissions**

A substantial number of these proposed amendments involve significant reductions in SOx emissions from vessels. Some of the major changes include the following:

- the global sulfur cap would be reduced from 4.5% (45,000 ppm) to 3.5% (35,000 ppm) on January 1, 2012; this cap would progressively be reduced to 0.5% (5,000 ppm) effective January 1, 2020, subject to a feasibility review to be completed no later than 2018.
- the sulfur limit applicable in Sulfur Emission Control Areas (“SECAs”) would be reduced from 1.5% (15,000 ppm) to 1.0% effective March 1, 2010; this SECA limit would progressively be reduced to 0.1% (1,000 ppm) from January 1, 2015.

**Background**

The MARPOL Annex VI regulations on ship emissions of sulfur oxide (“SOx”), nitrogen oxide (“NOx”), particulate matter, and certain ozone depleting substances entered into force on May 19, 2005. As of March 31, 2008, the regulations were adopted by 49 countries, which represent 79.3% of the gross tonnage of the world’s merchant shipping fleet. The following discusses the most important elements of the proposed amendments to Annex VI.

**New Development**

At the 57th session of the IMO Marine Environment Protection Committee (“MEPC”), which took place between March 31, 2008 and April 4, 2008, the MEPC approved a number of proposed amendments to the MARPOL Annex VI regulations, which deal with the reduction of harmful air emissions from vessels. It is expected that these amendments will be formally adopted by the MEPC at its 58th session, which takes place October 6-10, 2008. Once adopted by MEPC 58, the amendments would enter into force in February 2010.
• Tier II – standard will be reduced to 14.4 g/kWh
  – This will be the NOx emissions level for diesel engines installed on vessels built after January 1, 2011
• Tier III – standard will be further reduced to 3.4 g/kWh
  – If a vessel is operating in a designated Emission Control Area, this will be the NOx emissions level for diesel engines installed on vessels built after January 1, 2016
  – If the vessel is not operating within a designated Emission Control Area, Tier II limits (14.4 g/kWh) will continue to apply

The MEPC also agreed to a NOx emissions limit of 17 g/kWh when the engine is operating at less than 130 rpm (with lower levels set for engines operating at 130 rpm or greater) for existing large diesel engines for vessels constructed between January 1, 1990 and January 1, 2000. Furthermore, MEPC approved a revised NOx Technical Code.

Other Matters under MEPC Consideration

The MEPC also made further progress on a number of other emissions-related issues as follows:

• Exhaust Gas Cleaning Systems – The MEPC also agreed for future adoption by an MEPC resolution on draft revised guidelines for Exhaust Gas Cleaning Systems
• Halons – The MEPC approved a draft MSC/MEPC circular decreasing the availability of Halons and forwarded it to the Maritime Safety Committee for Consideration
• Volatile Organic Compounds (VOCs) – The MEPC agreed on draft guidelines for the development of a VOC Management Plan to minimize VOC emissions from tankers
• Fuel Oil Specification Standard – The MEPC instructed the IMO Secretariat to invite the International Organization for Standardization to consider the development of fuel oil specifications for future consideration by IMO
• Green House Gas (GHG) Emissions – The MEPC agreed to expedite work on GHG emissions to develop short and long term measures to address CO2 emissions from ships
• Reception Facilities – The MEPC agreed to require that each Annex VI party ensure that it provides adequate facilities for the reception of ozone depleting substances and exhaust gas cleaning residues

Conclusions and Recommendations

These amendments are expected to be formally adopted at MEPC 58 in October of this year and will enter into force in early 2010. Vessel owners, shipmanagers, shipyards and other interested parties in the maritime industry need to review these amendments in detail in order to prepare for these amendments to MARPOL Annex VI.

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