

## COMPLIANCE WITH MARPOL Annex VI (Part B)

### *EcoSilencer® PROTECTS THE LIFE*

By George S. Kaminis

#### WOULD WORLD SUSTAIN 60% INCREASE OF LIVING COST?

Multi-challenged world stability, and particularly the European economy, would be jeopardized in the event that the cost of goods transportation by ships, (70-90% of world total), would be increased by up to 40-60%, should ships' diesel engines be converted to burn twice as costly distillate fuels, instead of using Scrubbers EcoSilencer® with today's fuels.

The time margins are minimal for preventing the entire destruction of our planet by choking it with enormous carbon dioxide (CO<sub>2</sub>) emissions from the distillation of fuels, and/or by triggering an imminent "World War III" because of uncontrolled, soaring living costs, which would inevitably follow an unfortunate doubling of ship fuel prices.

With peak fuel production in 2010, shipping should be better prepared to deal with dramatic supply fluctuations and price increases, which require more careful long-term planning compliance with MARPOL Annex VI, including the EcoSilencer®.

#### HOW MUCH WOULD IT COST WITHOUT ECOSILENCERS®?

The extra cost of a hypothetical operation of 50,000 ships with an average consumption of 10,000 tons per ship annually of distillate fuels, is calculated at an average minimum additional amount of US\$3 million with the current premium of distillate fuels at US\$300 per ton. On the top of this must be added about US\$800,000 for extra engine maintenance repairs, due to lack of sufficient sulphur in the distillate fuels and poor lubrication (see previous article, January 2008 issue).

Added to this cost should be the refineries' profits for amortizing their additional new installations for producing the 360 million tons that would be required annually – should there be an erroneous generalized use of distillate fuels – plus their profits for a periodical renewal of those installations within

certain periods.

The total additional amount - spread over 40 years, which is the approximate time for completion of refinery installations to produce the 360 million tons annually - is estimated to be three times the amortization cost per ton.

The amortization cost is estimated at \$14 per ton X 3 = \$42, to be added to the premium per ton of distillate fuels of e.g. \$300, with an extra cost per ship, per year of:

$\$342 \times 10,000 \text{ tons} = \$3,420,000 + \$800,000 = \$4,220,000$ , in addition to the current annual operating cost per ship.

This amount would far exceed the cost of an EcoSilencer®, which would last the entire life of a ship with only minor operational expenses, in full compliance with MARPOL Annex VI.

#### BURDENING LIVING COSTS AND ENVIRONMENT SAFETY

On the other hand, the extra yearly cost of US\$211 billion for the operation of an estimated 50,000 ships with distillate fuels, plus an unavoidable CO<sub>2</sub> "Environmental Responsibility Tax" on shipping, would burden consumers by 40-60% for goods transported by sea.

With the excuse that distillate fuels would be utilised by ships, it would be easy to tax them as responsible for the carbon dioxide produced by the distillation processes, whereas the disastrous results would negatively impact consumers and the environment – not to mention the hypothetical extra percent of such unreal taxation.

One could easily imagine the consequences of the social and political unrest resulting from such an iniquitous burdening of living costs due to the extra cost of distillate fuels, while the enormous accumulation of carbon dioxide from fuel distillation would radically reinforce the "greenhouse effect", remaining for thousands of years and thus accelerating its catastrophic effects on the earth.

#### AT THE CROSS-ROADS OF PRUDENT DECISIONS

Prudent shipowners, committee members and legislators have the advantage – as long as they remain at the cross-roads of decisions – of correctly assessing the above global risks and consequences before their respected thoughts and decisions are mature enough to properly evaluate the advantages of Abatement (Scrubber) Technology, using as their criterion well-intentioned benefits for humanity.

There is no doubt that the International Maritime Organisation (IMO), under the inspired leadership of its capable secretary-general, will do the right thing once again by ratifying MARPOL Annex VI.



**Modularized  
Prefab  
Pre-outfitted**



Hopefully, other state committees, environmental protection agencies and legislators throughout the world will also harmonize their respective decisions with the undisputable sustainability of MARPOL Annex VI, so as to withstand the various industrial and political influences and pressures for unilateral decisions, and contribute to high-

lighting the environment and global economy as worldwide priorities.

Alteration of rules would create misunderstanding and confusion for the maritime community, resulting in delays in the implementation MARPOL Annex VI, which would encourage opportunists, to the detriment of the environment and humanity as a whole.

**SHORE POWER CONNECTIONS OR “COLD IRONING”**

Instead of just “adopting recommendations”, a genuine demonstration of leadership and prompt environmental contribution by all legislators would be, for example, to convince all their member states to provide without delay alternative shore electricity facilities at their ports for visiting ships, which – for one reason or another – would not be able to use low sulphur fuels. The more so, as very low saline seawater in ports – being mostly heavily polluted – may not be sufficient to properly clean sulphur from ships emissions in some ports by Scrubbers (refer to our article in SHIPPING, October 2006).

No matter how long it takes and how costly it is to connect a shore power cable to a ship, this is worthwhile for the environment and people’s health in the surrounding areas, even if ships stay in port for only half a day. It is as easy as connecting a fuel or water supply hose.

It costs very little for a ship to provide a shore power plug connector, a simple or automatic switch breaker and a regular UPS, which already exist on ships, for the temporary protection of computers during the relay of the power from one supply source to the other.

“Cold Ironing” is included in the six mandates under the California Global Warming Solutions Act of 2006, (recently increased to nine). They already exist in Gothenburg and the major western ports of the United States.

It is worthwhile noting and congratulating the new Busan Port Authority for their decision to equip eight of their new berths with shore electric power connections by 2009, until the rest of a total 30 new berths will be ready by 2015, although there is not a general air quality problem in South Korea.

Shore electric power connections were available in the main US ports for the Liberties and T2 Tankers during World War II, and have been used thereafter.

It is improper for states to demand everything from ships on the excuse that they have cleaner electric power generation than land, given that power supply at ports from the shore would safeguard the good health of people in nearby areas from any oversights, and would eliminate the cost and delays of unnecessary inspections. It would also ease the difficulty for ships crews keeping generators in operation while in ports.

**30,000 SHIPS TO BE FITTED WITH SCRUBBERS BY 2018**

The ever-increasing enquiries for EcoSilencer® Scrubbing Technology by progressive shipowners from the global shipping community, as well as the willing cooperation by Far East shipyards to incorporate the EcoSilencer® into their current designs for new ships, are quite remarkable.

Consequent to anticipated extensions of SECA territories worldwide, it is estimated that there will be a minimum of 30,000 ships equipped with emission cleaning Scrubbers by 2018.

At present, and until MARPOL Annex VI is ratified by April 2008 and finalized by autumn 2008, it will be more convenient and eventually cheaper for shipowners if they provide for the installation of the Scrubber emission cleaning system during approval of designs for their newbuilding projects.

For retrofits, pre-engineering by us on the ships could facilitate the readiness of prefabricated and pre-fitted systems to be installed during a next dry docking.



George S. Kaminis introduced and applied the SCRUBBER Technology for first time in 1978 to the Greek Shipping with the introduction and application of Inert Gas Systems of Moss, Norway. He analyzed the Principle of their Operation in detailed technical articles published in the 5th Issue 1978, of MARINE TECHNOLOGY REVIEW, of the Hellenic Institute of Marine Technology, and in NAFTILIAKI of 26 September 1979, which thereafter became the document of education of Officers of the Ministry of Merchant Marine, of Inspectors of the Inspection of Merchant Ships, and of Ships Officers in the School of Ministry of Merchant Marine KESEN.