

MARPOL VI and Fuels

MARPOL VI and the insufficiency of Residual Fuels with 1.5% Sulphur

According to published data and information from Refineries, Fuel Suppliers and Maritime issues, the total demand of Residual Marine Fuels in general, calculated by the balance of numbers of existing ships, new ships on order and estimated to be withdrawn, it is estimated to be in the area of 300 to 320 million tons per annum by the year 2010.

Out of this, the total yearly demand of Low Sulphur Residual Fuels of 1.5% by the year 2010, it is estimated to 150 million tons, if present SECA controlled areas of Baltic, North Sea and between European Ports, is extended to Mediterranean, North America and Canada. Already the Port of Calais imposed the European Directive EU/2005/33/EC to Ferries.

The over optimistic issues about sufficiency of Low Sulphur 1.5% Residual Fuel are far distant of the developing worldwide cost reality as mentioned below.

Cost of conversion of Residual Fuels to Fuels of low Sulphur 1.5%

For the conversion of regular Residual Fuels to Residual Fuels of low Sulphur 1.5%, in order to cope with European demands by 2010, according to Marpol VI and European Directive EU/2005/33/EC, the European Refineries must make new installations costing up to 15 billion dollars.

Something analogous is expected to happen in the States as soon as the damages from Katrina in the Oil Platforms and Storage Installations in the Gulf of Mexico are recovered.

It is estimated that the average cost for Low Sulphur 1.5% Residual Fuels after such new Refinery investments, it will be in the area of 35 dollars/ton.



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As a result, in order to amortize the initial cost for the new installations and make a profit, the Residual Fuels of 1.5% Sulphur must be sold at least 100-110 dollars on top of High Sulphur Residual Fuel Oils prices. We were recently informed of two cases of increased prices in the SECA areas by 68 and 75 dollars premium per ton from two different Ferry Companies.

Prompt installation of SCRUBBERS in the exhausts of ships

The SCRUBBERS in the exhausts of engines give a prompt solution. The best Technically, Economically and Environmentally.

Therefore, Shipowners or Ship Managers should not deviate from the decision to install the soonest

possible on their ships the SCRUBBER System, which will enable them to continue using the current Residual High Sulphur Fuels and comply with the rules by washing the exhaust gases from Sulphur Dioxide, Soot and Carcinogenic Particular Matter with seawater.

The cost of an installation on a ship under construction is in the area of 2%-4% of the cost of vessel. However, this is amortized in 3-4 years, and thereafter the Shipowner or Manager economizes millions of dollars by continuing to use the regular Fuels up today. And the most important, without disturbing the lubrication practice of their engines, originally designed to burn High Sulphur Residual Fuels.

Installing the SCRUBBER exhaust system without hesitation to all ships under construction, it would be a wise decision so as to avoid the extra cost of retrofitting it at a later date, because this equipment is going to be a basic term in the time charters.

Otherwise, the cost of 1.5% Sulphur Fuels will be almost equal to the cost of Diesel Oils. The blending of Fuels is not as simple as it sounds. Two Scandinavian Shipping Companies were forced to defuel the tanks of their ships due to wrong mixing of fuels.

Return of washing water from SCRUBBERS to the sea



«Ecosilencer»
An authentic Exhaust Gas Scrubbing System «Ecosilencer» made by Super-Austenitic Stainless Steel

IMO has already made a big progress by recognizing the installations of SCRUBBERS as the solution for the continuation of using current Residual Fuels, and as the safe and economical way to comply with MARPOL VI rules. At present, it studies the various elements in the returned water from the washing of the exhaust gases back to the sea, and the points of checking by the States Authorities.

In this regard, we would like to underline the following points:

1) Due to the physical ability and sufficiency of the sea to rejuvenate itself, we believe there is no need to check either the Alkaline or pH and the Chemical Oxygen Demand (COD) of the returned water to the sea from the SCRUBBERS.

2) Very rightly IMO Subcommittees endeavour to define the criteria of checking by the Port Authorities of the other basic components from the burned Residual Fuels in the return water, such as Nickel, Vanadium,

Copper, Lead, Total Hydrocarbons, which must be checked in order to verify that their limits do not create an ecological problem to the sea environment. However, based on previous test and very long term application experiences on SCRUBBER cleaning efficiency, we trust these will be of negligence amounts, they will eventually settle and soon degrade down to the bottom of the sea, and have no any influence in the sea life.

Checking the return water to sea and evaluation

In order to have a correct checking and evaluation of the returned water from the SCRUBBERS to the sea, it will be indispensable that:

1) The Port Authorities compare in parallel to the sample of SCRUBBER returned water with another sample of sea water taken ahead of the ship, about 20 m. from the bow.

Only this way it will be possible to make a correct comparison between the two samples, because if, for example, the sea water in the port, which is used by the SCRUBBER, already contains a greater percentage of one or more of the checked compounds than permitted to be included in the returned water from the SCRUBBER, the same percentage of these compounds must be permitted to be returned to the same sea area. Otherwise, without this comparison, the checking could not be either correct or just.

It is known that the shallow Port waters are excessively polluted. For this reason, the mud from port dredging is not permitted to be placed exposed anywhere on land surface or to be sank in a smaller distance than 50 nautical miles from the coast (Ref. Kaminco ECOCENTRE Study and Recommendation, 1972).

2) The Shipowners or Ship Managers must be permitted to employ and an independent, qualified Chemical Laboratory, so as they can have and their own checking for comparison with the checking of the Port Authorities in order to avoid cases of negligence or excessive zeal.

Note

Above information is given in good faith in the interest of fairness but with the proviso that the writer does not undertake any responsibility for whatever direct or consequential loss or damage or wounding or worse happening that could occur in reference with any part of this information.

George S. Kaminis introduced and applied the SCRUBBER Technology for the first time in 1978 to the Greek Shipping Industry with the introduction and application of Inert Gas Systems of Moss, Norway. He analyzed the Principle of their Operation in detailed 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 documents of education of Ships Officers in the School of Ministry of Merchant Marine KESEN.