

Theme 6 – Industrial Impact

Presentation: The Shipping World and Protection of the Sea

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I often find it difficult to reconcile my position as an individual and citizen of this planet with my position as a businessman and company operative. Showing respect for the environment and combating pollution are undoubtedly the main challenges of our times on a scientific, political and ethical level. This I fully acknowledge as an individual. As a businessman I have to abide by the rules of the global market place and global competition if I am to remain in business.

The shipping industry was the first mode of transportation to acknowledge the need to address the environmental impact of its activities. As early as 1954 the international shipping community through the International Maritime Organisation (IMO, formerly IMCO) adopted the OILPOL Convention. This was subsequently replaced by the MARPOL 73/78 Convention, the International Convention for the Prevention of Pollution from Ships.

There are two ways in which ships can pollute the environment: as the result of normal operations and as the result of an accident.

Operational pollution principally involves oil - in various forms - entering the sea. Ship design has played an important part in contributing to this problem. Traditional tanker designs rely on sea water carried in cargo tanks to stabilise the vessel while sailing empty. Imperfect cleaning of cargo tanks combined with the carriage of oil and then water in the same tanks constituted a major problem in the 1960s and 1970s when the number and the size of vessels increased dramatically. Since then, crude oil washing methods and the use of segregated ballast tanks have reduced this problem dramatically and tar balls, a frequent sight on beaches and coasts ten to 15 years ago, are now a rarity.

The other form of marine pollution is one which follows an accident, either a collision, grounding, fire or explosion. In 1990 the United States National Academy of Sciences estimated that tanker and non-tanker accidents accounted for 121,000 tons of oil entering the sea per annum compared with 411,000 tons entering the sea from operational discharges. According to IMO's Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP), normal sea operations appear to be responsible for approximately 70% of the total oil pollution originating from ships, compared with 21% due to accidents.

The efforts of the shipping industry and the development of navigational aids reduced the number of accidental spills dramatically in the period from 1976 to 1995. New tanker designs and operational measures have reduced the quantity of oil spilled in cases of accidents even further. According to statistics collected during this period by the International Tanker Owners Pollution Federation, for larger spills (over 700 tons of oil spilled), the number of incidents per annum has dropped from 25 to three, and for small spills (below 700 tons), from 68 to 20.

Operational pollution has been diminishing at the same time. According to the United States Academy of Sciences, the oil entering the sea from maritime transport fell from 2.13 million tons in 1973 to 0.411 million tons in 1990. This is 100,000 tons less every single year for the 16 year period covered by the statistics. In the same period the tanker fleet increased its capacity from 186 million dwt to 232 million dwt. This is an achievement. In 1973 there was operational pollution to the tune of 11.4 litres per dwt per annum. In 1990 the figure had gone down five times to 2.4 litres per dwt per annum, and continues to decrease.

In terms of volume, oil pollution is by far the greatest form of marine pollution caused by ships. It is not, however, the only one and oil pollution by hydrocarbons, especially crude oil, is essentially non-toxic in contrast to other forms of pollution and there is evidence that ecological balance is restored - or even enhanced - within a few years. Yet this type of pollution attracts enormous media attention. Other forms are caused by: chemicals; dangerous goods (in bulk and packaged form); garbage; sewage; ballast water and anti-fouling paints. For each one of these categories of pollution there is international legislation extant or in progress.

While shipping has been addressing the environmental concerns of marine pollution in a systematic way for which the industry and the IMO should be commended, there is no doubt that more can be done especially in terms of fuller and universal application of existing requirements, particularly the provision of adequate reception facilities for oil-contaminated water in ports. This matter is the responsibility of signatory states to the MARPOL Convention and has been of concern for 20 years. The developed world has little or no excuse for the continued lack of proper facilities, and while the recent involvement of the European Commission and the possibility of a useful European network that will serve both public concerns and ships at an affordable cost are welcome steps forward, a European network alone is not enough.

Pollution of the sea can be prevented by other means. Vessel Traffic Systems - if properly operated - contribute to fewer vessel strandings and collisions. Modern navigation technology can provide superior assistance to bridge and pilots.

Pollution from ships also results from the fact that ships are powered by thermal engines which, like all internal combustion engines, produce emissions. IMO has been active in preparing specifications for cleaner air, targeting

atmospheric pollution, and government representatives in IMO are currently completing the new Annex VI of MARPOL which deals with atmospheric pollution from ships. The far-reaching provisions of this Annex, which covers exhaust emissions, cargo vapour emissions, ozone damaging substances and noise, will, it is hoped, successfully address the concerns of those states which have been pressing for the designation of their regions as 'special areas' affected by air pollution from shipping. The other big area for potential improvements is atmospheric inputs. The main areas where improvements are expected following the application of the new Annex VI of MARPOL are in sulphur dioxide and nitrogen oxide contained in exhaust fumes. The former will come from improvements in fuel quality, the latter from improvements in engine designs. It remains to be seen if these improvements will be matched by the main protagonists of atmospheric pollution, road, air and rail transportation, and of equal importance, factories, power stations and oil-fired domestic heating installations. Improvements in one category of polluters can easily be neutralised or even offset by deteriorations in another category.

This is a formidable array of legislation, the application of which will soon be subject to checks by the Port State Control authorities, and one might legitimately ask if the problems of marine pollution are on their way to becoming resolved. The answer is, sadly, not, and that is because shipping is only one and in reality the least offensive of the contributors to environmental pollution. Shipping is responsible for 12% of marine pollution. Even if shipping were successful in totally eliminating its own contribution, the problem would remain unresolved as long as land-based discharges (44%), atmospheric inputs (33%) and dumping (10%) are not brought under control.

Land-based discharges are of particular importance to the Black Sea due to the practice of using the big rivers as sewers and recipients of all kinds of industrial and other toxic waste, including agricultural runoff made toxic by extensive use of chemical fertilisers. The reason this happens is that it can be done and remain undetected. Even when it is detected, the consequences are still negligible in most countries. The river then takes the problem away from the polluter and places it into the defenceless sea. Some elementary discipline on the part of riverside states is necessary in order to prevent it. However, whereas the problem of controlling individuals who pollute the rivers can be resolved, preventing state-owned or run enterprises and organisations from polluting is a good deal more difficult to achieve.

It is commonly thought that dumping at sea is a problem that originates from shipping. However, although ships are used for dumping, it is a governmental activity and should be dealt with as such. Dumping takes place on issue by a country of a licence against compensation to a party to dump a certain quantity of waste into the sea.

There are specific international arrangements in force today for the compensation of the victims of oil pollution following a ship accident. The two IMO Conventions, CLC (International Convention on Civil Liability from Oil Pollution Damages) and FUND (International Convention on the Establishment of an International Fund for the Compensation for Oil Pollution Damage), provide compensation to victims via a complex system whereby the ship pays up first - up to a limit - and the cargo owners take up the balance. This unique system, which has been in force since the late 1970s and whose liability limits were enhanced by the 1992 protocol, has been running successfully for 18 years. It is disappointing to see that only one of the Black Sea states, the Russian Federation, is a signatory of the FUND Convention.

The International Convention on Liability from Hazardous and Noxious Substances (HNS) adopts the same principles in providing compensation to victims of ship generated pollution other than oil in the event of an accident. In view of the new sensitivity of the Black Sea states regarding marine pollution matters - so clearly exemplified by the Interparliamentary Conference on the Environmental Protection of the Black Sea in Istanbul in June 1997, and the International Conference on the Ecological Safety of the Black Sea in Gelendzik, Russia, in October 1996, I would strongly recommend that the Black Sea states re-examine the advantages of participation in the CLC/FUND and HNS Conventions. This is especially relevant after the withdrawal by the industry of its voluntary schemes, the TOVALOP and the CRISTAL which were set up 25 years ago to facilitate the compensation of oil pollution victims and the costs of oil spill clean-up until such time as the CLC and FUND Conventions assumed broad support.

Greek shipowners and crews have put together their own association, HELMEPA, the Hellenic Marine Environment Protection Association. This association deals mainly with environmental education for the industry's personnel. The success of this scheme has raised considerable interest in other parts of the world, and Turkey has now formed a similar association, TURMEPA. Such initiatives, based as they are on voluntary commitment, are as important, if not more so, than regulatory regimes and are to be wholeheartedly acknowledged and encouraged.

There is no doubt that there are still areas requiring attention and, unfortunately, accidents at sea cannot be totally eradicated. I genuinely believe, however, that international shipping is living up to its obligations to the public at large and that Greek shipping in particular can show remarkable progress in the areas of pollution prevention and response. IMO has been addressing the problems in such a comprehensive manner that very few industries can claim to offer comparative coverage.

However, unless the requirements for the control of pollution are universal, competitive distortions and inequities will always set in, fostering resistance and hindering progress. Though pollution itself has no ideological affiliations, it is a known fact that state produced or tolerated pollution is the hardest to eradicate. Pressure from environmental organisations, the scientific community and common citizens does have an effect, albeit limited, and that is why conferences such as this are vital.