

THE MARPOL AGREEMENT IN A NUTSHELL

WITH SPECIFIC REFERENCE TO SLOP OILS AND THEIR ENVIRONMENTAL IMPACT ON SOUTH AFRICAN PORTS

1 INTRODUCTION

The first international agreement towards protecting the marine environment was concluded in 1954 as “The International Convention for the Prevention of Pollution of the Sea by Oil”. This followed an international drive to completely eliminate the intentional pollution of the marine environment by oil and other harmful substances as well as the accidental discharge of such substances. This in turn led to the International Convention for the Prevention of Pollution from Ships, which was signed in London on the 2nd of November 1973. It was subsequently amended by the protocol of 1978 and again in 2004. South Africa embraced this protocol through the implementation of the Marine Pollution Act No. 2 of 1986 (Prevention of Pollution from Ships). This was subsequently superseded by Section 9 of Act No 66 of 1996. This Convention in effect applies to all vessels registered or operating under the authority of a country which is party to the Convention, or operating within such party’s waters.

Harmful Substances are defined as “Any substance which, if introduced into the sea, is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate users of the sea”.

Discharge is defined as “any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying”.

The South African-controlled waters also include the Prince Edward Islands. Countries party to the agreement and hosting ships from countries not party to the agreement are not allowed to host them under conditions more favourable than if they were party to the agreement. In effect, all ships entering the waters of a party to the agreement are bound by the agreement. The hosting party is bound to ensure that no ship shall proceed to sea if it presents an unreasonable threat of harm to the marine environment. It furthermore has the authority to inspect any ship to determine whether it has discharged any harmful substances in violation of the provisions of the Act and to ensure that no harmful substances leave the port aboard the vessel. Unfortunately the level to which these rights are being policed in South Africa is questionable.

Article 11 of the Convention rules that “the parties to the Convention undertake to communicate relevant information to the Organisation” (read Marpol Administration). Over and above the party’s laws and regulations, “a list of reception facilities, including their location, capacity and available facilities and other characteristics” must be provided to the Organisation. This implies that every harbour shall provide facilities for vessels to dispose of their oil slops and record and communicate each and every discharge.

Furthermore, the parties shall promote (as per article 17):

- The training of scientific and technical personnel,
- The supply of necessary equipment and facilities for reception and monitoring (of harmful substances),
- The facilitation of other measures and arrangements to prevent or mitigate pollution of the marine environment by ships, and
- The encouragement of research (into marine pollution issues).

Oil tankers and other vessels in excess of 400 ton dead weight are to be surveyed on regular intervals for acceptance of an "International Oil Pollution Prevention Certificate" by an authorised organisation or person. The valid duration of such a certificate will be determined and specified by the administration, but will not exceed a period of 5 years. At least one intermediate inspection (within 6 months before or after half way towards expiry is reached) is also required to maintain such a certificate (Regulation 8 of Annex 1). Certificates will cease to be valid if any significant changes or modifications have been made to the ship without the sanction of the administration or if the ship has been transferred to the flag of another State. If a ship is found without such a certificate, or the inspection has failed, the government of the Port State shall ensure that such a ship is not allowed to proceed to sea unless the situation has been corrected, but shall also offer all assistance to enable the situation to be corrected.

Regulation 9 of Chapter II of the Marine Pollution Act No. 2 of 1986 (Prevention of Pollution from Ships) actually allows for the discharge of oil into the ocean under certain conditions. For example, an oil carrier is allowed to discharge oil or oil mixtures if **all** of the following conditions are satisfied:

- The tanker is not within a "Special Area" (Mediterranean Sea, Baltic Sea, Red Sea, the Gulf area, the Gulf of Aden or the Antarctic);
- The tanker is more than 50 nautical miles from the nearest land;
- The tanker is proceeding en route;
- The Instantaneous Rate of Discharge of oil content (which is defined as the rate of discharge of oil in litres per hour at any instant, divided by the speed of the ship in knots at the same instant) does not exceed 30 litres per nautical mile;
- The total quantity of oil discharged does not exceed 1/30 000 of the total quantity of the particular cargo;
- The tanker has in operation an oil discharge and control system and slop tank arrangement as required by Regulation 15 of the agreement.

However, in spite of these concessions, no visible oil slick is allowed upon such a discharge.

Regulation 12 of Annexure 1 is very specific in stating that, as signatories to the Convention, each government undertakes to ensure that sufficient discharge facilities for slops or harmful substances are put in place at all Ports. Ships are also compelled to have sufficient slops as well as segregated clean and dirty ballast tanks with specific rulings on the sizing thereof to accommodate their waste for the duration of voyages in order to discharge at a receiving Port. For ships above

certain tonnages, specific oily residue (sludge) holding tanks are specified, which can discharge to shore reception facilities.

Any oil tanker in excess of 150 tons gross tonnage and any ship in excess of 400 tons gross tonnage is required to keep an Oil Record Book for completion on a list of activities involving the handling of oil and / or which could result in oil spillages and to have this record book readily available for inspection at all reasonable times.

Slop and oil reception facilities are sadly lacking in South African ports and are largely left to private industry to install, operate and maintain.

2 GOVERNMENT'S ROLE

Every co-signing government has committed itself to ensuring that specific functions and obligations regarding the Marpol Agreement are carried out. Control over ships in its waters to prevent pollution by oily substances is of paramount importance if any meaningful improvement is to be effected. Frequent and regular inspections to ensure ships are adequately equipped to prevent or minimise oily spillages while also recording all their activities are a precondition. Government is required to ensure that reception facilities are established and maintained in all ports and that the information relating thereto is distributed to the Marpol Administration and updated regularly for forwarding to all interested and affected parties. Any ship not complying with the regulations should not be allowed to leave the port.

In South Africa no such facilities have been established by Government. The major oil companies have established their own ballast water and slop reception facilities in Durban port, while very little has been done in the ports of Richards Bay, Port Elizabeth, Cape Town or Saldanha Bay. A web search does not even find Durban port as being listed in the Marpol Administration records. The authorities are not always sympathetic to the entire initiative, for example by trying to impose customs charges /duties on slops from time to time and by providing little support in creating the necessary infrastructure. Furthermore, environmental movements such as Greenpeace Africa seem to strive towards closing down all oil processing facilities without having an alternative plan in place to deal with the problem.

Little control exists over the crude oil tankers sailing off our coast which are too big to enter our ports. They have to clean their tanks and normally do so whilst under sail. Ship-to-ship transfer of oily slops or sludge (when it is collected) takes place whilst under sail, thereby increasing the risk of spillages into the ocean. Slops are usually defined as pumpable liquid while sludge is defined as solids that are removed by hand in bags.

To meet the Marpol commitment, Government is required to monitor and enforce all ships to obtain **Certificates of Safe Disposal** (COSD) for their waste streams, namely oily effluent, solids effluent and grey water, before being allowed to leave port. This should be obtained from reputable organisations with environmental management systems such as ISO 14000, which would ensure that all their wastes are dealt with in an environmentally-acceptable manner. Currently collection, transportation and disposal of ship slops and sludges is uncontrolled in all South

African harbours. No certification program, nor monitoring nor reporting, has been put in place. Thus oily effluent is being illegally dumped into drains, which damages municipal water works and ends up in the environment. Slops are also sold to or bought by non-accredited merchants who cannot issue “Certificates of Safe Disposal” and who in turn sell the waste to industry after little, if any, processing. This is clearly an unacceptable situation.

3 INDUSTRY’S INVOLVEMENT

The oil refineries used to reprocess the ballast water and slops through their refinery facilities. Unfortunately, a spin-off of the “clean fuels” drive for lower sulphur and unleaded, high octane petrol has made it extremely difficult for the refineries to continue doing this. Without an outlet for this material, the refineries’ “cup runneth over”, resulting in no space being available for additional ballast and slops and an inability to accept these waste products from ships. With no additional facilities being built in the ports (which in any case will also just become full), shipping’s alternative is to slowly release their waste outside the 50 nautical mile boundary hopefully at the allowable rates. This is totally counter-productive and not in line with what has been achieved up to now by the Marpol Agreement. Again, no action is taken by Government to mitigate this situation.

Fortunately, there is value to be found in the reprocessing and recycling of slop oils, even with the reduced oil prices of late. These waste oils can be processed to industrial heating fuels of a quality less onerous than bunker fuel, for specific applications such as asphalt plants, where the fuel’s price is more of an issue than the ash content. Economic viability has allowed Private Enterprise to establish their own operations to collect oily slops from ships to process into lower quality heating fuels. However, without adequate reception facilities in the ports, this becomes a constrained process requiring careful planning and good logistics to assist ships in timeously discharging their slops. For instance, de-bunkering of up to 600 tons at a time from ship to road tanker, in the minimum time allowed to avoid ships running into demurrage, becomes a real logistical challenge. Approaches to the National Ports Authority (NPA) for available land to increase the slop reception facilities in Durban have so far been ignored.

FFS Refiners (Pty) Ltd, the biggest **ISO 14000-accredited** reprocessor of used oils in South Africa, have managed to lease land from the NPA in Richards Bay and Cape Town and have established additional reception tankage in these Ports. Their 13 000 ton facilities in Cape Town have enabled them to take massive quantities of oil from ships in distress over the past few years from as far afield as Port Elizabeth thus preventing major marine pollution events. Some of these ships in distress were:

- The “Sea Land Express” (ran aground in Cape Town – 3000 ton),
- The “Cape Africa” (developed a massive hole off shore from Cape Town – 3600 ton),
- The “SAS Agulhas” (ran aground in Port Elizabeth – 900 ton).

Without **FFS Refiners’** involvement, all this oil could have ended up in the ocean with massive environmental repercussions.

However, a business model cannot work on these incidental supplies of oil only, and continuous supply is necessary. Security of supply has therefore been established by paying a price, typically linked to the oil percentage, for the slops taken from the ships. Elsewhere ships often have to pay for the privilege to discharge their slops in a port, based on the “polluter pays” principle. As an ISO 14000-accredited processor, **FFS Refiners** is authorised to issue Certificates of Safe Disposal for all volumes collected from ships.

The SA model ensures that ships have an economic incentive to keep their oily slops on board for discharge in a Port where they will receive value for their waste. As a result, **FFS Refiners** on average recovers close to 2000 tons of oil per month from ship slops in the ports of South Africa. They achieve an oil recovery rate of >95% from the slops, while the effluent water is treated and dealt with in an environmentally-acceptable manner and disposed of under permit to the municipal sewer. Sludge or un-pumpable material is minimised and then sent to landfill. It is important to minimise this material in order not to unnecessarily burden our landfill sites, directly supporting the Marpol Agreement for a cleaner environment.

FFS are busy reprocessing the Durban refineries’ slops that have been accumulated for many years. Again, the refineries are being paid a fee for this material, turning a massive liability to an economic gain. Valuable storage capacity is again released for the ongoing acceptance of ship waste oils.

4 CONCLUSION

Is the Marpol Agreement working in South Africa?

We believe the answer is yes, but on an informal basis without the requisite governmental support, monitoring or enforcement. No incentives, grants or any form of economic assistance to the collectors or reprocessors of these waste streams are provided. The success is entirely due to Private Enterprise initiative and economic circumstance. Government should get more involved in assisting Private Enterprise by making dedicated facilities available in our ports (land and / or tankage of at least 1000 m³ per major port) for the proper collection and storage of ship slops. These facilities could then be leased to ISO 14000-accredited operators on a periodical tender basis in order to maximise their ability to recover these materials, while Port fees for the reception facilities could also be waived. Certificates of Safe Disposal must be issued by these operators to the ships as well as the NPA, which would enable them to police the situation much better. Some of the authorities’ Marpol responsibilities, such as inspection of ships’ COSD’s before sailing could be delegated to these operators. The port authorities should be charged with ensuring that no ship may leave port without the requisite COSD for all their waste streams.

The additional spin-offs from the reprocessing of these wastes are numerous. No less than 100 people are permanently employed in the reprocessing of these materials by **FFS Refiners**’ Durban branch alone. The sole income of several small businesses is derived from the collection of these wastes from the ships and

reselling them to the reprocessors. This is saving the country in foreign reserves by replacing imported oil with recycled waste. Furthermore, – the road construction industry, being the main recipient of these reprocessed oil, to be used as heating fuel, enjoy significant savings in their road construction and maintenance costs, allowing all road users to share in this benefit.

It should be noted that people no longer leave our beaches with feet covered in oil as occurred in the past. As a result we now have many pristine “blue flag beaches” proclaimed around the country. These are major tourist attractions, which boost the foreign capital inflow to the country and local business. Unfortunately Durban managed to lose their blue flag status beaches due to bureaucratic bumbling.

FFS Refiners (Pty) Ltd can be contacted for the removal of slop oils, fuel oil de-bunkering and other related services at the following numbers:

- 1. Cape Town – Dave Sands**
Tel: 021 557 4529
Cell: 082 568 9385

- 2. Port Elizabeth & East London – Hennie van der Walt**
Cell: 082 321 7267

- 3. Durban - Mark de Souza**
Tel: 031 465 1466
Cell: 083 676 0528

- 4. Richards Bay – Elva Martin**
Tel: 035 788 0130
Cell: 082 655 7517

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