# MONITORING OF MONTHLY OIL DISPOSAL QUANTITIES FROM SHIPS REACHING PORT OF COLOMBO

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Colombo harbor is the major commercial port of Sri Lanka. More than thousand ships reach the port of Colombo annually. These ships carry considerable amount of waste oil and they are disposed at the closest harbor within the navigational pathway. Both, unmixed waste oil and oil water mixtures released from ships are referred as waste oil. Oil tankers transport some 2,900 million tons of crude oil and oil products year around the world by the sea. Many innovations introduced by MARPOL on allowable discharges of bilge water through the oily water separator and the oil discharge and monitoring system have contributed greatly to a noticeable decrease in pollution of the Marine environment. In Sri Lankan context, waste oil disposed by these ships is collected by service providers registered by under Marine Environment Protection Authority (MEPA). They collect waste oil by road tankers at the harbor and transport them to their oil refinery yards, the process involve in a considerable amount of oil pollution. However, there was no sufficient inspection for this waste oil collection, transportation and disposal process. Hence, an improved Waste Reception Service (WRS) was introduced by MEPA on 1st July 2016 to perform a complete monitoring on garbage and ship oil collection and disposal.

The present study records the waste oil disposal quantities from 47 ships within the month of July 2016 and the volume ratios between oil and water. Then a specialized instrument called the sampler was used to collect the waste oil from road tankers. Subsequently, the oil samples were transferred into 10ml centrifuge tubes and they were centrifuged at 5000 rpm for 10 minutes. Then oil/ water volumes were recorded for each waste oil sample. These data were extrapolated for original collected sample and the percentages of oil and water in waste oil samples were calculated.

According to the results of the study, within the month of July 1513.95$m^3$ of oil was collected from 47 ships. The waste oil composition of these ships was 1150.85 $m^3$ of pure oil and 135.91 $m^3$ of sea water. Therefore, findings of the present study reveal that ships call the port of Colombo carry large quantities of waste oil and are received at the Colombo port.

**Continued on next page**

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This waste oil has a high potential to contaminate the land environment if the proposed WRS mechanism is not executed with the help of all the stakeholders. Thus, it is essential to carry out continuous monitoring, stakeholder involvement, proper implementation of existing regulations and execute available legal tools where necessary.

**Key words:** *Port of Colombo, MARPOL convention, Ship waste oil, oil/ water mixtures, Waste Reception Service (WRS).*