

OILY WATER SEPARATORS – HINTS AND TIPS

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Notice to: Ship Owners/ Managers/ Operators / Surveyors/ Auditors

An Oily Water Separator (OWS) or oil filtering equipment is required by MARPOL Annex I, Regulation 14 to be installed on any ship above 400 GT, which shall produce an effluent of 15 ppm max. In addition, in case of ships above 10,000 GT an oil content meter shall be provided with alarm arrangements to indicate when the level of 15 ppm cannot be maintained. The system shall also be provided with arrangements to ensure that any discharge of oily mixtures is automatically stopped when the oil content of the effluent exceeds 15 ppm. The units shall be of a design approved by the administration of an IMO flag state and installed and tested according to guidelines in MEPC.107(49) as amended by MEPC.285(70).

The following hints and tips concerning installation and testing arrangements are hereby laid down in order to enhance the attention of any concerned party.

Sampling Point

In MEPC 107(49) paragraph 6.1.1, Installation Requirements, it is stated that “For future inspection purposes on board ship, a sampling point should be provided in a vertical section of the water effluent piping as close as practicable to the 15ppm bilge separator outlet.” The reason for this is that the sample must be representatively homogenous and avoid any risk of oil flowing on top of a horizontal OWS outlet pipe.

The following two pictures show an acceptable and an unacceptable sampling line arrangement respectively. The later arrangements are well known to PSC officers (especially Paris MOU), who have recently pointed out as deficiencies

Oil Content Meters – Illegal Practises

The oil content meter (OCM), which is also known as the 15ppm bilge alarm, draws a sample of the oil water separator discharge effluent and measures the oil content in parts per million (ppm). If the measured value is 15ppm or less then it will allow the discharge to be directed overboard. If the oil content is over 15ppm then the effluent will be diverted either back to the OWS inlet or to the bilge holding tank, depending on the piping system arrangement.

Most of OCMs on board ships nowadays have been approved in accordance with requirements stipulated in MEPC.60(33) or MEPC.107(49). The basic difference between them is that the latter requires operational historical data to be recorded in the device memory and to be retrieved and displayed to third party inspectors (surveyors, PSC officers), who can compare against Oil Record Book entries. In the event that the 15 ppm Bilge Alarm is replaced, means should be provided to ensure the data recorded remain available for 18 months.

The following are the most usual illegal practises concerning the operation of OCMs:

Closing the sample supply valve and opening the flushing water valve.

The OCM might be “tricked” by measuring an oil content of less than 15 ppm and allowing normal discharge irrespective of the actual oil content. The flushing water is used for cleaning purpose of the OCM and for “zero” calibration of the unit. OCMs approved in accordance with MEPC.107(49) are provided with an alarm activated whenever flushing water is used for cleaning or “zero” calibrating purpose.

Closing the sample supply valve when the reading is over 15ppm.

Similarly, the OCM might be “tricked” by measuring an oil content of less than 15ppm permanently and allowing normal discharge irrespective of the actual oil content. There is no actual restriction of the OWS operation in such a case. Nevertheless, in both the above cases, if during testing on board by a third party there is suspicion of previous illegal operation, the inspector shall request Engineers to open the discharge pipe before the overboard valve and check for likely oil stain therein. The overboard outlet of the system may also be examined from outside of the hull, when the height of the outlet is above the waterline.

“Magic” pipes – OWS piping system modification.

Such piping modifications may be detected during third party inspections, if, for instance, there is

- a blank flange on the piping system without a reason of existence
 - broken / damaged paint coating of piping flanges
 - fresh paint coating on some flanges without sufficient explanation for its reason.
- In general, a third party inspector should be well-experienced so as to detect “magic” pipes and should also make use of Oil Record Book entries along with physical inspection findings in order to substantiate his suspicions

Act now

Ship Owners/ Managers / Surveyors / Auditors should note the contents of this circular and be guided accordingly