

# SAMPLING POINTS ON OILY WATER SEPARATORS



Eric Murdoch: Chief Surveyor  
Telephone: +44 20 3320 8836  
E-mail: eric.murdoch@ctcplc.com

Separators, holding tanks, oil content meters, three-way valves, pumps and overboard valves are all part of the equipment needed for oil-contaminated water to be discharged from a machinery space bilge to the sea. MARPOL 73/78 Annex 1 – *Regulations for the Prevention of Pollution by Oil*, entered into force on 2 October 1983 and changed the mandated means of disposal of oil-contaminated water from ships. Although MARPOL certification is issued by flag, surveyors acting for port state control take great interest in checking that the equipment is correctly fitted and used. Multimillion dollar fines with potential custodial sentences are sought by port states when they suspect a violation of MARPOL, direct discharge to the sea, tampering with evidence, or that someone has supplied incorrect information to the authorities. This is well known by now, and it will not surprise members that the club, during a condition survey, will ask surveyors to review how the oil water separator (OWS) is arranged, and to report any connection in the discharge pipe which could be used as a by-pass.

Recently, surveyors have been finding T-pipes in the discharge pipe between the overboard valve and three-way automatic control valve fitted with flange connections with valves and open-ended pipes or with bayonet valves. These things were arranged to enable connection of a portable pump or pipe and direct discharge to the sea. There was no evidence to suggest an illegal discharge had occurred; but it was of great concern that such a connection existed. Some of the ships involved were more than 20 years old and it appeared strange that class, flag and port state control surveyors had accepted these arrangements.

Sampling pipes are required in an oily water separator's discharge line. Their purpose is to allow a sample of the effluent to be taken for analysis of oil content. Marine Environmental Protection Committee (MEPC) 107(49) – *Revised Guidelines and Specification for Pollution Prevention Equipment for Machinery Space Bilges of Ships*, adopted on 18 July 2003, states:

*'...a sampling point should be provided in a vertical section of the water effluent piping as close as is practicable to the 15 ppm Bilge Separator outlet.'*

In addition:

*'...recirculating facilities should be provided, after and adjacent to the overboard outlet of the stopping device to enable the 15 ppm Bilge Separator system, including the 15 ppm Bilge Alarm and the stopping device, to be tested with the overboard discharge closed.'*

It is required that the recirculating facility be reconfigured to prevent any by-passing of the separator; but there is no guidance on how the sampling point should be configured or on how the point should be closed and sealed.

MEPC 61/24, says compliance can be achieved by the *'installation of blanks'*.

In discussion with classification societies, it has emerged that it may be acceptable to fit a sampling point between the three-way automatic control valve and the overboard discharge valve. The societies confirmed that a screw-down non-return valve is not required at the sampling point and that the diameter of the sampling pipe is not regulated. Consequently, the danger arises that a port state control surveyor might conclude that a sampling point was used for an illegal discharge of oil-contaminated water.

Shipowners are faced with the dilemma of MARPOL requiring a sampling point in the OWS discharge pipe without giving an approved method of preventing the separator from being by-passed.

Our understanding is that the following arrangements are acceptable, although it is strongly recommended that advice is taken from class and/or flag before use.

Suggested means to safely seal an OWS sampling point:

- i) use a small bore pipe of 5mm or less for the sampling point but only if the pump is fitted with relief valve recirculation
- ii) arrange the sampling point so that the point's open end discharges into a hopper or funnel
- iii) seal the line with a blind flange and place a numbered seal through it and the valve's flange. This should be witnessed by the watch engineer, chief engineer and master, and recorded in the oil record book. We understand this method is commonly used
- iv) arrange the sampling point to originate from the recirculating facility or the 15 ppm monitor (some separators are designed that way)

It is essential that the separator and its sampling point are arranged so as not to allow doubt as to whether an illegal discharge has been made. Open-ended sampling points close to the overboard discharge valve could be used for by-passing a separator and, so must be sealed by an approved method. Ideally, they should be arranged so that by-pass is impossible. Separators designed with the sampling point as part of the recirculating facility appear to offer the best method of achieving this.



^ Oily water separator (OWS)