

FUNCTION : SHIPPING MARKETING & TRADING DIRECTORATE	NUMBER : A-017 /F20000/2012/S0
TITTLE : CARGO HANDLING (CHM)	ISSUE / REVISION : 01/00
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SECTION 10 – CRUDE OIL WASHING (COW)

10.1 GENERAL

The COW system shall be maintained in good operating condition at all times. Maintenance and tests procedures shall be in accordance with the manufacturer's instructions, and shall be included in the PMS.

10.2 COW PLAN

The Chief Officer shall prepare a COW plan which shall be approved and signed by the Master prior to commencement of the operation. All deck officers shall sign the plan and the all Crewmembers shall be alerted when the COW operation is about to commence. The COW system shall be operated in strict accordance with the manufacturer's manual.

10.3 CRUDE OIL WASHING PROCEDURE

The purpose of COW may be:

- To avoid accumulation of sludge in the cargo tanks;
- Loading cargo incompatible with the previous cargo;
- Specific requirements from the charterers for certain crude oils;
- To satisfy Charter Party requirements;
- To prepare for tank entry to carry out maintenance; and
- Inspection of one or more cargo tanks according to the Company's internal inspection program.

COW shall under normal circumstances be carried out at intervals not exceeding 4 (four) months, to avoid accumulation of sludge in the cargo tanks. Before commencement and during the entire COW operation the oxygen level in the tanks' atmosphere shall not exceed 8% by volume.

When transferring high viscosity cargo oils, special care must be taken to avoid solidification in the lines, and any heating instructions must be strictly adhered to.

Prior to arrival at discharge port where COW operations are planned, the following information shall be provided to the local agents. If required by local rules, approval from the shore facility may have to be obtained.

- Cargo stowage plan; identifying type of crude oil and quantity in metric tons;
- List of tanks to be crude oil washed;
- Cargo oil discharge plan; and
- COW plan.

The required checklist prior to, during and after COW operations shall be completed as required, and filed onboard for a period of 3 (three) years.

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10.4 SAFETY PRECAUTIONS DURING CRUDE OIL WASHING

When it is required to carry out COW operations during discharge, the Master must inform the competent authority and the shore facility (or the other vessel during ship-to-ship transfer) at least 24 hours in advance.

COW may only proceed after the required permission has been obtained.

Prior at arrival at a port where crude oil washing shall be carried out, the COW system shall be pressure tested to normal working pressure, and examined for leaks. The testing shall be recorded in the deck log book.

Only fixed tank washing, piping and machines shall be used during COW operations. The Chief Officer shall ensure that all of the following is duly observed whenever COW is carried out:

- The cargo is suitable for COW operations;
- Inert gas system with deck seal and non return valve shall be fully operational;
- Monitoring and alarm system for the inert gas plant shall be tested and confirmed in good operating condition;
- The IG supply contains maximum 5% oxygen by volume;
- Under no circumstances may COW operations commence without a fully operational IGS;
- Tanks being washed shall have a slight positive pressure;
- Butterworth lines and heater shall be blanked off;
- Upon completion of the operation the COW lines shall be drained back to best suitable cargo tanks;
- The entire COW system is free from leaks; and
- Adequate level of personnel is available to safely carry out the COW operation.

10.5 ANNUAL PRESSURE TESTING OF THE COW LINES

Reference: Section No.5.4, "Cargo piping system" Industry guidelines:

- ISGOTT;
- Crude oil washing operation and equipment manual;
- HM40 "Guidelines for the for the crude oil washing of ship's tanks and the heating of crude oil being transported by sea", Issued by the Energy Institute;
- MARPOL Annex I; and
- Crude Oil Washing System, IMO.