1. INTRODUCTION

1.1. General

Crude oil washing (COW) is a system whereby oil tanks on a tanker are cleaned out between voyages with crude oil, which makes the cleaning process far more effective than when water is used. The system aims to prevent pollution of the seas from operational measures.

1.2. Goals and purpose

This document is intended to provide guidance on the verification of compliance with MARPOL Annex I – crude oil washing operations. The PSCO will ensure that crude oil washing is performed by all crude carriers either required to have a crude oil washing system or where the owner or operator chooses to install a crude oil washing system in order to comply with Regulation 18, 33.1 and 33.3 of Annex I to MARPOL. In addition, compliance will be ensured with the operational requirements set out in the revised Specifications for the Design, Operation and Control of Crude Oil Washing Systems (IMO Resolution A.446(XI) , as amended by IMO Resolution A.497(XII) and IMO Resolution A.897(21)) (hereinafter referred to as the revised Specifications).

1.3. Application

Every crude oil tanker of 20,000 tonnes deadweight and above delivered after 1 June 1982, shall be fitted with a cargo tank cleaning system using crude oil washing (Reg. 33).

2. Inspections

2.1 The port State control officer will make the appropriate arrangements so as to ensure compliance with requirements governing the crude oil washing of oil tankers. This is not, however, to be construed as relieving terminal operators and ship owners of their obligations to ensure that the operation is undertaken in accordance with the regulations.

2.2 The inspection may cover the entire operation of crude oil washing or only certain aspects of it. It is thus in the interest of all concerned that the ship's records with regard to the crude oil washing operations are maintained at all times so that a port State control officer may verify those operations undertaken prior to the inspection.

Ship's personnel

2.3 The person in charge and the other nominated persons who have responsibility in respect of the crude oil washing operation must be identified. They must, if required, be able to show that their qualifications meet the requirements, as appropriate, of 5.2 and 5.3 of the revised Specifications.

2.4 The verification may be accomplished by reference to the individual's discharge papers, testimonials issued by the ship's operator or by certificates issued by a training centre approved by an Administration. The numbers of such personnel must be at least as stated in the COW Operations and Equipment Manual.

Documentation

2.5 The following documents must be available for inspection:

- .1 The IOPP Certificate and the Record of Construction and Equipment, to determine:
  - .1 whether the ship is fitted with a crude oil washing system as required in Regulation 33 MARPOL Annex I; and
  - .2 the validity and date of the COW Operations and Equipment Manual;
- .2 The COW Operations and Equipment Manual;
- .3 Evidence that the Manual is to the Satisfaction of the Administration;
- .4 The Oil Record Book (Part II);
- .5 The Cargo Ship Safety Equipment Certificate to confirm that the inert gas system conforms to regulations contained in Chapter II-2 of SOLAS 74, as amended; and

.6 Crew certification in accordance with STCW Convention / ANNEX / Regulation V/1-1.

Inert gas system

2.6 Inert gas system regulations require that instrumentation shall be fitted for continuously indicating and permanently recording at all times when inert gas is being supplied, the pressure and the oxygen content of the gas in the inert gas supply main. Reference to the permanent recorder must indicate if the system had been operating before and during the cargo discharge in a satisfactory manner.

2.7 If conditions specified in the COW Operations and Equipment Manual are not being met then the washing must be stopped until satisfactory conditions are restored.

2.8 As a further precautionary measure, the oxygen level in each tank to be washed is to be determined at the tank. The metres used must be calibrated and inspected to ensure that they are in good working order. Readings from tanks already washed in port prior to inspection must be available for checking. Spot checks on readings may be instituted.

Electrostatic generation

2.9 It will be confirmed either from the cargo log or by questioning the person in charge that presence of water in the crude oil is being minimized as required by 6.7 of the revised Specifications.

Communication

2.10 It will be established that effective means of communication exist between the person in charge and the other persons concerned with the crude oil washing operation.

Leakage on deck

2.11 Port State control officers may, if possible, ensure that the crude oil washing piping system has been operationally tested for leakage before cargo discharge. PSCO’s may ensure that the test has been noted in the ship's Oil Record Book.

Exclusion of oil from engine-room

2.12 It will be ascertained that the method of excluding cargo oil from the machinery space is being maintained by inspecting the isolating arrangements of the tank washing heater (if fitted) or of any part of the tank washing system which enters the machinery space.

Suitability of the crude oil

2.13 In judging the suitability of the oil for crude oil washing, the guidance and criteria contained in section 9 of the COW Operations and Equipment Manual must be taken into account.

Checklist

2.14 It will be determined from the ship's records that the pre-crude oil wash operational checklist was carried out and all instruments functioned correctly. Spot checks on certain items may be instituted.

Wash programmes

2.15 Where the tanker is engaged in a multiple port discharge, the Oil Record Book must indicate if tanks were crude oil washed at previous discharge ports or at sea. It will be determined that all tanks which will, or may, be used to contain ballast on the forthcoming voyage will be crude oil washed before the ship departs from the port. There is no obligation to wash any tank other than ballast tanks at a discharge port except that each of these other tanks must be washed at least in accordance with 6.1 of the revised Specifications. The Oil Record Book will be inspected to check that this is being complied with.

2.16 All crude oil washing must be completed before a ship leaves its final port of discharge.

2.17 If tanks are not being washed in one of the preferred orders given in the COW Operations and Equipment Manual, the port State control officer will determine that the reason for this, and the proposed order of tank washing, are acceptable.

2.18 For each tank being washed it will be ensured that the operation is in accordance with the COW Operations and Equipment Manual in that:

.1 the deck mounted machines and the submerged machines are operating either by reference to indicators, the sound patterns or other approved methods;
.2 the deck mounted machines, where applicable, are programmed as stated;
.3 the duration of the wash is as required; and
.4 the number of tank washing machines being used simultaneously does not exceed that specified.

Stripping of tanks

2.19 The minimum trim conditions and the parameters of the stripping operations are to be stated in the COW Operations and Equipment Manual.

2.20 All tanks which have been crude oil washed are to be stripped. The adequacy of the stripping is to be checked by hand dipping at least in the after most hand dipping location in each tank or by such other means provided and described in the COW Operations and Equipment Manual. It will be ascertained that the adequacy of stripping has been checked or will be checked before the ship leaves its final port of discharge.

Ballasting

2.21 Tanks that were crude oil washed at sea will be recorded in the Oil Record Book. These tanks must be left empty between discharge ports for inspection at the next discharge port. Where these tanks are the designated departure ballast tanks they may be required to be ballasted at a very early stage of the discharge. This is for operational reasons and also because they must be ballasted during cargo discharge if hydrocarbon emission is to be contained on the ship.

2.22 The tanks that are designated ballast tanks will be listed in the COW Operations and Equipment Manual. It is, however, left to the discretion of the Master or responsible officer to decide which tanks may be used for ballast on the forthcoming voyage. It will be determined from the Oil Record Book that all such tanks have been washed before the tanker leaves its last discharge port. It must be noted that where a tanker back-loads a cargo of crude oil at an intermediate port into tanks designated for ballast, then it will not be required to wash those tanks at that particular port but at a subsequent port.

2.23 It will be determined from the Oil Record Book that additional ballast water has not been put into tanks which had not been crude oil washed during previous voyages.

2.24 It will be verified that the departure ballast tanks are stripped as completely as possible. Where departure ballast is filled through cargo lines and pumps these must be stripped either into another cargo tank, or ashore by the special small diameter line provided for this purpose.

2.25 The methods to avoid vapour emission where locally required will be provided in the COW

Operations and Equipment Manual and they must be adhered to. The port State control officer will ensure that this is being complied with.

2.26 The typical procedures for ballasting listed in the COW Operations and Equipment Manual must be observed. The port State control officer will ensure this is being complied with.

2.27 When departure ballast is to be shifted, the discharge into the sea must be in compliance with Regulation 15 and 34 of Annex I to MARPOL. The Oil Record Book will be inspected to ensure that the ship is complying with this.