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1. INTRODUCTION

1.1 General

MARPOL Annex IV contains regulations regarding the discharge of sewage into the sea from ships, ships' equipment, and systems for the control of sewage discharge, the provision of port reception facilities for sewage and requirements for survey and certification.

1.2 Goals and purpose

This document is intended to provide guidance on the verification of compliance with MARPOL Annex IV during PSC inspections.

1.3 Application

The provisions of MARPOL Annex IV shall apply to the following ships engaged in international voyages:

- .1 ships of 400 gross tonnage and above; and
- .2 ships of less than 400 gross tonnage which are certified to carry more than 15 persons

Existing ships, the keels of which are laid, or which are of a similar stage of construction before 2 October 1983, shall be equipped, as far as practicable, to discharge sewage in accordance with the requirements of regulation 11 of the annex.

1.4 Additional Considerations

1.4.1. General requirements

When the sewage is mixed with wastes or wastewater covered by other Annexes of MARPOL, the requirements of those Annexes shall be complied with (Reg. 11.4).

1.4.2. Polar Code

In addition to the requirements of MARPOL Annex IV when ships are observed to be operating, or previously operated, in polar waters, special requirements exist (POLAR Code, PART II-A, Reg. 4.2).

1.4.3. Special areas

Special Areas are defined in Reg 1.6 and include the Baltic Sea area.

PSCOs shall be aware that there are special requirements for the discharge of sewage from passenger ships within a special area. (Reg. 11.3)

2. INSPECTION OF SHIP

2.1 Initial inspection

2.1.1. Certificates and documents

During an initial inspection, the PSCO should verify that ships to which the Annex IV applies (par. 1.3) carry a valid International Sewage Pollution Prevention Certificate (ISPP Certificate)

A valid ISPP Certificate should contain information, where applicable, of the type of sewage treatment plant, sewage comminuting and disinfecting system and/or sewage holding tank.

The certificate is valid for not more than 5 years and has no annual or intermediate endorsements.

2.1.2. Standard discharge connections

The standard discharge connections for the discharge of sewage to reception facilities must meet the requirements of Reg. 10 of Annex IV.

For ships in dedicated trades, such as passenger ships on regular routes, the ship's discharge pipelines may be fitted with a discharge connection which is accepted by the Administration, such as quick connection couplings.

2.2 Clear grounds

The following non exhaustive list may be considered as clear grounds for a more detailed inspection:

- .1 visible floating solids or discoloration of the surrounding water from the effluent are observed;
- .2 the dimensions of the standard discharge connection are incorrect;
- .3 the standard discharge connection is severely wasted;
- .4 certificate required by the MARPOL Annex IV is missing or invalid; the capacity of the holding tank cannot meet the needs of the ship, regarding ship's operation, the number of persons on board and other factors;
- .5 consumables necessary for the correct operation of the plant (such as filters,
- .6 disinfecting chemicals) are not available;
- .7 the operating instruction for the equipment is not provided; or
- .8 the discharge rate of untreated sewage is not provided or approved (if applicable).
- .9 the treatment plant or storage tank is bypassed
- .10 the treatment plant is not operating correctly (air compressors not functioning, sludge lifts not functioning, UV lights not lit, disinfection chemicals not being used correctly)
- .11 Master or responsible crew are not familiar with essential shipboard procedures relating to the prevention of pollution by sewage.

2.3 More detailed inspection

If the PSCO has clear grounds for carrying out a more detailed inspection, the PSCO should be guided by the following:

2.3.1 Piping and holding system for the sewage system:

- .1 pipelines shall be so arranged that all sewage generated from the ship is treated by these sewage systems or collected in the sewage holding tank;
- .2 all the sewage holding tanks in use shall be indicated on the ISPP certificate and shall have means to indicate visually the amount of its contents; and
- .3 while the vessel is in port and/or in specific areas, the overboard valves for direct discharge of untreated sewage shall be kept closed.

2.3.2 Visual inspection of the sewage treatment plant (if fitted) including type, nameplate, structural integrity and signs of leakage.

2.3.3 Working condition of the sewage treatment plants aeration system, where applicable. In cases where an aeration system does not deliver a continuous source of air / oxygen, the factors of biochemical oxygen demand without nitrification and chemical oxygen demands needs to be considered.

2.3.4 The operation and processing of the sewage system including:

- .1 Availability of chemicals recommended by manufacturer for chlorination, in sufficient quantities;
- .2 If the effluent is neutralized, it should be performed in accordance with manufacturer's specifications;
- .3 the operation of the comminutor and inlet filter;
- .4 the vacuum system is available and operational, if applicable;
- .5 the return flow pipes of the sewage treatment unit are clear, if applicable;
- .6 the operation and maintenance of the comminutor.
- .7 the system is operated according to the manufacturer's instructions (in the case of organic systems sufficient time from start up to allow for bacterial growth).

2.3.5 Familiarization of the operation and maintenance of the sewage system. Key personnel involved in the operation of the system may be asked during the inspection if they are familiar with the system.

3. FOLLOW-UP ACTION

3.1 Deficiencies warranting detention

The following (non-exhaustive) list of deficiencies could be considered, taking into account the provisions of regulation IV/3, to be of such a serious nature that may warrant the detention of the ship involved:

- .1 Absence of valid ISPP certificate;
- .2 Any systems of the sewage treatment plant are out of order. This may include but is not limited to: the aeration system (no continuous supply of air), where applicable, and the liquor return system;
- .3 Sewage discharged overboard directly without proper treatment by sewage treatment plant;
- .4 Officers not familiar with the essential shipboard procedures relating to the prevention of pollution by sewage.
- .5 Sewage treatment plant not approved by the Administration.