



Maritime and Coastguard Agency

MERCHANT SHIPPING NOTICE

MSN 1807 (M+F)

The Merchant Shipping (Prevention of Pollution by Sewage and Garbage from Ships) Regulations 2008 - SI 2008 No. 3257

Notice to all Owners, Masters and Officers of Merchant Ships and Skippers of Fishing Vessels

This notice replaces MSN 1720

This notice should be read in conjunction with SI 2008 No. 3257 The Merchant Shipping (Prevention of Pollution by Sewage and Garbage from Ships) Regulations 2008 and MGN 385. This notice comes into force on the same date as the Regulations come into force.

PLEASE NOTE:-

Where this document provides guidance on the law it should not be regarded as definitive. The way the law applies to any particular case can vary according to circumstances - for example, from vessel to vessel and you should consider seeking independent legal advice if you are unsure of your own legal position.

Summary

The Merchant Shipping (Prevention of Pollution by Sewage and Garbage from Ships) Regulations 2008, (hereinafter referred to as the Regulations), implement both the revised Annex IV of MARPOL 73/78 - Regulations for the Prevention of Pollution by Sewage from Ships, and the Annex V of MARPOL 73/78 (including amendments) - Regulations for the Prevention of Pollution by Garbage from Ships.

This Notice provides information on the technical requirements for ships to comply with the UK implementation of both Annex IV and Annex V of MARPOL 73/78, the key requirements being:

For Garbage - the carriage of a Garbage Record Book and the carriage of a Garbage Management Plan on board certain ships.

For Sewage – standard dimensions of flanges for discharge connections and the United Kingdom “moderate rate of discharge of sewage from a holding tank” requirements referred to in Annex IV of MARPOL.

1 Introduction

- 1.1 The International Convention for the Prevention of Pollution from Ships 1973/1978 (MARPOL 73/78) contains a series of annexes that introduce regulations addressing

specific areas for the prevention and control of pollution. Annex IV addresses pollution by sewage from ships while Annex V addresses pollution from ship generated garbage.

- 1.2 The United Kingdom has previously implemented the requirements of Annex V of MARPOL 73/78 through the Merchant Shipping (Prevention of Pollution by Garbage) Regulations 1998 – SI /1998 No. 1377. These Regulations will be revoked on the entry into force of The Merchant Shipping (Prevention of Pollution by Sewage and Garbage by Ships) Regulations 2008, referred to in this MSN as “the 2008 Regulations”.
- 1.3 The United Kingdom has not previously implemented Annex IV of MARPOL 73/78 into UK legislation.

2 Prevention of Pollution by Sewage

- 2.1 As regards sewage, the requirements in the 2008 Regulations apply only to ships engaged in international voyages over 400gt, or less than 400gt but which are certified to carry more than 15 persons.
- 2.2 Schedule 1 contains information on the requirement referred to in regulation 22 for standardised discharge connectors on board ships, for the discharge of sewage to shore side facilities and on the potential for non-standard couplings on ships in dedicated trades.
- 2.3 Schedule 2 states the United Kingdom requirements (referred to in regulation 25(3) of the 2008 Regulations) in relation to a moderate rate of discharge of sewage which has been stored in holding tanks or which originates from spaces containing living animals.

3 Prevention of Pollution by Garbage

- 3.1 As regards garbage, the 2008 Regulations impose the following legal requirements.
- 3.2 Every ship of 400gt and above, and every ship certified to carry 15 persons or more must carry a Garbage Management Plan.
- 3.3 Every ship of 400gt and above, and every ship certified to carry 15 persons or more engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to Annex V of MARPOL must carry and maintain a Garbage Record Book. This requirement also applies to Fixed and Floating platforms, FSUs and FPSOs; but exemptions may be granted where the platform etc holds documents equivalent to a Garbage Record Book.
- 3.4 The 2008 Regulations also impose a duty to make entries in the Garbage Record Book about certain operations. Regulation 35 of the 2008 Regulations allows for certain ships to be exempt from the requirements about holding Garbage Record Book and making entries. MGN 385 provides details of the MCA’s current policy on exemption criteria.
- 3.5 The 2008 Regulations state that the Garbage Management Plan must be in accordance with the guidelines developed by the IMO and set out in this MSN. Schedule 3 of this notice sets out these guidelines.
- 3.6 The 2008 Regulations specify what the contents of a Garbage Record Book are to be, and requires the form of the Book to be as set out in this MSN. Schedule 4 of this notice details the form of the Garbage Record Book and includes an example page for such a record book. Copies of the Garbage Record Book can be obtained from The Stationery Office.

- 3.7 Every ship of 12m or more in length overall must display placards which notify the crew and passengers of the disposal requirements set out in regulation 26 to 28 and 30 of the 2008 Regulations.

4 Special Circumstances

- 4.1 For the purposes of regulation 15(9) of the 2008 Regulations, “special circumstances” are where the owner of the ship:

- requests the change of date,
- satisfies the MCA that the owner has a very good reason for making the request, and
- complies with any reasonable additional survey requirements which the MCA may impose.

Examples of an owner having “very good reason” might include

- where a ship has been laid up for an extended period, or
- where the nature of a ship's business would make a different date much more convenient (such as in the case of a passenger ferry constructed in the summer and whose main trade is in the summer, where the owner may want to have all the refit and survey work done in the winter months).

- 4.2 In the latter case of a request to change the anniversary date for the sake of convenience, the request will only be considered if such a request has not been made before for the ship in question, and the owner confirms in writing to the MCA that this is a one off request for that ship.

- 4.3 However, if the ship in question fails a survey the surveyor will advise the owner or master of the corrective action which is required, and the surveyor may take such steps as are necessary to ensure that the ship does not sail until it can proceed to sea without presenting an unreasonable threat of harm to the marine environment.

- 4.4 Please note a certificate may be cancelled if the Secretary of State has reason to believe that it has been issued on the basis of false or erroneous information, or that since the completion of any survey required by the Regulations, the structure, equipment or machinery of the ship has sustained damage or is otherwise deficient.

5 Sewage Systems

- 5.1 Part 3 of the Regulations sets out the required sewage equipment for ships. A ship to which regulation 21 applies must be equipped with at least one of the following:- a type approved sewage treatment plant or an approved comminuting and disinfecting system or an approved holding tank.

- 5.2 Sewage treatment plants must meet the international standard on ‘the implementation of effluent standards and performance tests’ to be able to obtain type approval in line with the Merchant Shipping (Marine Equipment) Regulations 1999, as amended. As there are no international standards for comminuting and disinfecting system or for the construction standards for holding tanks the national standard is set out in this MSN.

5.3 Comminuting and Disinfecting Systems

5.3.1 For UK ships, the standards for sewage comminuting and disinfecting systems, referred to in regulation 21(3) of the 2008 Regulations, are as follows:

- Faecal Coliform Standard¹: Faecal coliform bacteria in the effluent should not exceed 1000/100 cm³ Most Probable Number (M.P.N.);
- Chlorine residual level to be no more than 0.5mg/l, (by test) post maceration
- Comminuting Standard: A sample of 1 litre is passed through a US Sieve No. 12 (with openings of 1.68 mm). The weight of the material retained on the screen after it has been dried to a constant weight in an oven at 103°C must not exceed 10% of the total suspended solids and shall not be more than 50 mg; and,
- Temporary storage of sewage will be by holding tank and the standard for the construction of a holding tank is set out in 5.4.1.

5.3.2 The ship owner should confirm to the MCA that the chlorine residual levels are tested on a regular basis, and that this testing is included in the ship's operating procedures.

5.3.3 Where a UK ship has a sewage comminuting and disinfecting system, and a surveyor is carrying out a survey prior to the issue of a Sewage Certificate under the 2008 Regulations, the surveyor will need to be satisfied that the system does meet these standards. Ship owners should therefore apply to the MCA for a letter of approval confirming the system meets these standards.

5.3.4 Owners applying for approval should submit a schematic drawing of the intended system, together with the technical specifications of the dosing unit and maceration pump. There should also be a covering letter explaining how the system meets the standards set above. Applications for the MCA's approval should be submitted to the MCA, Environmental Policy Branch, HQ. Comminuting and disinfecting system which met the standards and requirements above will be issued with an official stamped Acceptance Form.

5.4 Holding Tanks

5.4.1 The standard for the construction for a sewage holding tank as referred to in regulation 21 (5) (a) of the Regulations is that the tank must be constructed to prevent leakage of its contents under the normal operation of the ship and in all likely weather conditions, until such times as it can be discharged in accordance to the Regulations.

6 Further Information

6.1 Additional guidance relating to the UK implementation of Annex IV and V is available in MGN 385.

6.2 Information relating to the provision of port waste reception facilities in the UK through the Merchant Shipping (Port Waste Reception Facilities) Regulations 2003/1809 as amended is available in MGN 387 and Port Waste Management – A Guide to Good Practice, available from the MCA.

¹ This level may be subject to change as more research material becomes available

More Information

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Schedule 1

Standard Discharge Connections

To enable pipes of reception facilities to be connected with the ship's discharge pipeline, both lines shall be fitted with a standard discharge connection in accordance with the following table:

Standard dimensions of flanges for discharge connections

Description	Dimension
Outside diameter	210mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	170mm
Slots in flange	4 Holes, 18mm in diameter, equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width to be 18mm
Flange thickness	16mm
Bolts and nuts: quantity and diameter	4, each of 16mm in diameter and of suitable length
The flange is designed to accept pipes up to a maximum internal diameter of 100mm and shall be of steel of other equivalent material having a flat face. This flange, together with a suitable gasket, shall be suitable for a service pressure of 600kPa	

For ships having a moulded depth 5m and less, the inner diameter of the discharge connection may be 38mm.

For ships in dedicated trades (the MCA understand this to mean ships on a scheduled service on a regular route), the 2008 Regulations allow for alternative connections. Applications should be made on a case by case basis to the MCA Customer Service Manager for the ship, if it is intended that the ship's discharge pipeline should be fitted with an alternative discharge connection such as quick-connection couplings.

Schedule 2

RECOMMENDATION ON STANDARDS FOR THE RATE OF DISCHARGE OF UNTREATED SEWAGE FROM SHIPS

1 INTRODUCTION

- 1.1 Regulation 11.1.1 of the revised Annex IV of MARPOL 73/78 requires that untreated sewage, which may be discharged at more than 12 nautical miles from the nearest land, should not be discharged instantaneously but at a moderate rate of discharge when the ship is en route and proceeding at a speed not less than 4 knots, while the rate should be approved by the Administration based upon standards developed by the Organization. This Recommendation provides the standard and guidance for the approval and calculation of a moderate rate of discharge.
- 1.2 A moderate rate of discharge applies to the discharge of untreated sewage that has been stored in holding tanks.
- 1.3 This standard does not incorporate the dilution of sewage with water or greywater into calculations of the discharge rate. Therefore the rate is a conservative estimate and it is recognised that discharges of sewage in accordance with this standard will present a higher level of protection to the marine environment due to mixing prior to the actual discharge in addition to the mixing action of the ship's wake.

2 DEFINITIONS

- 2.1 *Swept volume* means ship breadth x draft x distance travelled.
- 2.2 *Untreated sewage* means sewage that has not been treated by a type approved sewage treatment plant, or that has not been comminuted and disinfected.

3 DISCHARGE RATE

- 3.1 The maximum permissible discharge rate is 1/200,000 (or one 200,000th part) of swept volume as follows:

$$DR_{max} = 0.00926 V D B$$

Where:

DR_{max} is maximum permissible discharge rate (m³/h)

V is ship's average speed (knots) over the period

D is Draft (m)

B is Breadth (m)

- 3.2 The maximum permissible discharge rate specified in 3.1 refers to the average rate as calculated over any 24 hour period, or the period of discharge if that is less, and may be exceeded by no more than 20% when measured on an hourly basis.

4 APPROVAL OF RATE BY ADMINISTRATION

- 4.1 The Administration should approve the rate of discharge specified in 3.1 based upon the ship's maximum summer draft and maximum service speed¹. Where sewage is to be discharged at a different combination of draft and speed one or more secondary discharge rates may also be approved².

5 METHOD OF CALCULATION

5.1 The calculated swept volume of the ship is to be determined for drafts up to and including the summer draft assigned in accordance with Article 3 of International Convention on Load Lines, 1966.

5.2 Where a ship is to discharge sewage from a holding tank using a pump calibrated at a fixed rate, the pump can either be:

- calibrated at a the rate permitted at 4 knots; or
- calibrated for a specific minimum ship's speed in excess of 4 knots.

5.3 Where the intended actual discharge rate exceeds that permissible at 4 knots, the actual discharge rate may need to be reduced or the speed increased. The rate and speed is to be detailed in the approval issued by the Administration.

6 COMPLIANCE WITH THE RATE

6.1 Before undertaking a sewage discharge in accordance with this standard, the crew member responsible for sewage operations should ensure that the ship is en route, is more than 12 nautical miles from the nearest land and the navigation speed is consistent with the discharge rate that has been approved by the Administration. Ships with high discharge requirements are encouraged to keep notes of calculations of the actual discharges to demonstrate compliance with the approved rate.

¹ The attention of ship operators and personnel is drawn to the reduction in permissible rate of discharge at reduced draft and/or speed.

² Presentation may be tabular, refer to table below. For ships other than those having a high requirement for untreated sewage discharge, such as passenger ships and livestock carriers, the discharge rate criterion will generally not be exceeded at ship speed of 4 knots.

DISCHARGE RATE (M ³ /h)					
SPEED (kt)	4	6	8	10	12
DRAFT(m)					
5	4.63	6.94	9.26	11.57	13.89
6	5.56	8.33	11.11	13.89	16.67
7	6.48	9.72	12.96	16.20	19.45
8	7.41	11.11	14.82	18.52	22.22
9	8.33	12.50	16.67	20.83	25.00

Schedule 3

GUIDELINES FOR THE DEVELOPMENT OF GARBAGE MANAGEMENT PLANS

1 Introduction

- 1.1 These guidelines provide direction on complying with the mandatory requirements for the development of a ship's garbage management plan and are intended to assist the shipowner/operator in the implementation of regulation 9(2) of Annex V of MARPOL 73/78. The Garbage Management Plan should be prepared in accordance with the requirements of the Merchant Shipping Regulations and the IMO "Guidelines for the implementation of Annex V of MARPOL 73/78"¹. It is assumed that the writer of the garbage management plan is familiar with the requirements of annex V of MARPOL 73/78 and the IMO "Guidelines for the Implementation of Annex V of MARPOL 73/78".
- 1.2 A ship's garbage management plan should contain a list of the particular ship's equipment and arrangements for the handling of garbage, and may contain extracts from and/or references to existing company instructions or both.

2 Regulatory Requirements

- 2.1 Regulation 9(2) of Annex V of MARPOL 73/78 reads as follows:

"Every ship of 400 tons gross tonnage and above, and every ship which is certified to carry 15 persons or more, shall carry a garbage management plan which the crew shall follow. This plan shall provide written procedures for collecting, storing, processing and disposing of garbage, including the use of the equipment on board. It shall also designate the person in charge of carrying out the plan. Such a plan shall be in accordance with the guidelines developed by the Organization and written in the working language of the crew."

3 Prevention of Pollution by Garbage

- 3.1 To achieve cost-effective and environmentally sound results, many garbage management planners use a combination of three complementary techniques to manage garbage:
- .1 source reduction;
 - .2 recycling; and
 - .3 disposal.
- 3.2 When requisitioning stores and provisions, shipping companies should encourage their suppliers to apply the substitutionary principle in order to reduce, to the greatest possible extent and at an early stage, the generation of garbage on board ships. The ship's garbage is made up of distinct component, some of which are addressed in MARPOL 73/78, whilst others may be addressed locally, nationally or regionally, e.g. domestic, operational, cargo-associated, food and maintenance wastes. Each component should be evaluated separately to determine the best waste management practice for that waste.

¹IMO Sales No. IMO-656E

4 Matters to be addressed in the Garbage Management Plan

1 Designated person in charge of carrying out the plan

- In accordance with the regulation, a person shall be designated in the garbage management plan to be responsible for implementing the procedures within the plan.
- This person should be assisted by departmental staff to ensure that the collection, separation and processing of garbage is efficient in all areas of the ship, and that the procedures aboard are carried out in accordance with the garbage management plan.

2 Procedures for collecting garbage

- Identify suitable receptacles for collection and separation.*
- Identify locations for receptacles, collection and separation stations.*
- Describe the process of how garbage is transported from the source of generation to the collection and separation stations.
- Describe how garbage will be handled between primary collection and separation stations and other handling methods commensurate with the following:
 - .1 needs of reception facilities, taking into account possible local recycling arrangements;
 - .2 on-board processing;
 - .3 storage; and
 - .4 disposal at sea.
- Describe the training or education programmes to facilitate collection of garbage.

3 Procedures for processing garbage

- Identify personnel responsible for the operation of the equipment.
- Identify available processing devices and their capacities.
- Identify location of processing devices and stations.
- Identify the categories of garbage that will be processed by each of the available processing devices.
- Describe how garbage will be handled between primary processing stations and the storage or disposal stations.
- Describe processing procedures used commensurate with the following:
 - .1 needs of reception facilities, taking into account possible local recycling arrangements;
 - .2 storage; and
 - .3 disposal at sea.
- Describe the training or education programmes in use to facilitate the processing of garbage.
- Identify available operating and maintenance procedures. (This may be done by reference to documents available on board)

* Separation of garbage for the purposes of these Guidelines is considered part of the collection process. Separation may take place at the source or at a separate designated station.

4 *Procedures for storing garbage*

- Identify the location, the intended use, and the capacity of storage stations for each category of garbage.
- Describe how garbage will be handled between storage stations and disposal commensurate with the following:
 - .1 discharge to reception facilities, taking into account possible local recycling arrangements; and
 - .2 disposal at sea.
- Describe the training or education programmes in use to facilitate the storing of garbage.

5 *Procedures for disposing of garbage*

- Describe the ship's procedures to ensure compliance with the requirements of Annex V of MARPOL 73/78 for disposal of garbage.

Schedule 4

Form of Garbage Record Book (This sets out the Appendix to Annex V of MARPOL)

Name of ship: _____

Distinctive number or letters: _____

IMO No: _____

Period: _____ From: _____ To: _____

1. Introduction

In accordance with Regulation 9 of Annex V of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL 73/78), a record is to be kept of each discharge operation or completed incineration. This includes discharges at sea, to reception facilities, or to other ships.

2. Garbage and garbage management:

Garbage includes all kinds of food, domestic and operational waste, excluding fresh fish and parts thereof, generated during the normal operation of the vessel and liable to be disposed of continuously or periodically, except those substances which are defined or listed in other annexes to MARPOL 73/78 (such as oil, sewage or noxious liquid substances).

The Guidelines for the Implementation of Annex V of MARPOL 73/78 should be referred to for relevant information¹.

3. Description of garbage

The garbage is to be grouped into the following categories for the purposes of the entries in the record book:

1. Plastics.
2. Floating dunnage, lining or packaging material.
3. Ground-down paper products, rags, glass, metal, bottles, crockery, etc.
4. Cargo residues, paper products, rags, glass, metal, bottles, crockery, etc.
5. Food waste.
6. Incinerator ash.

4. Entries in the Garbage Record Book

- 4.1 Entries in the Garbage Record Book, as regards the particulars stated, shall be made on each of the following occasions:

¹See "Guidelines for the Implementation of Annex V of MARPOL 73/78" available from IMO. IMO Sales NO IMO-656E.

(a) When garbage is discharged into the sea:

- (i) Date and time of discharge.
- (ii) Position of ship (latitude and longitude). Note: for cargo residue discharges, include discharge start and stop positions.
- (iii) Category of garbage discharged.
- (iv) Estimated amount discharged for each category in cubic metres.
- (v) Signature of the officer in charge of the operation.

(b) When garbage is discharged to reception facilities ashore or to other ships:

- (i) Date and time of discharge.
- (ii) Port or facility, or name of the receiving ship.
- (iii) Category of garbage discharged.
- (iv) Estimated amount discharged for each category in cubic metres.
- (v) Signature of the officer in charge of the operation.

(c) When garbage is incinerated:

- (i) Date and time of start and stop of incineration.
- (ii) Position of the ship (latitude and longitude).
- (iii) Estimated amount incinerated in cubic metres.
- (iv) Signature of the officer in charge of the operation.

(d) Accidental or other exceptional discharge of garbage:

- (i) Time of occurrence.
- (ii) Port or position of the ship at time of occurrence.
- (iii) Estimated amount and category of garbage.
- (iv) Circumstances of disposal, escape or loss, the reason therefor and general remarks.

4.2 Receipts

The master should obtain from the operator of port reception facilities, or from the master of the ship receiving the garbage, a receipt or certificate specifying the estimated amount of garbage transferred. The receipts or certificates must be kept on board the ship with the Garbage Record Book for two years.

4.3 Amount of garbage

The amount of garbage on board should be estimated in cubic metres, if possible separately according to category. The Garbage Record Book contains many references to estimated amount of garbage. It is recognised that the accuracy of estimating amounts of garbage is left to interpretation. Volume estimates will differ before and after processing. Some processing procedures may not allow for a usable estimate of volume, eg: the continuous processing of food waste. Such factors should be taken into consideration when making and interpreting entries made in a record.

