

Circular 171 / 2018

To: Fleet Managers, Deputy Registrars, Surveyors

Subject: MARPOL Annex IV – Maximum rate of discharge of untreated sewage in accordance with MEPC.157(55) on board of vessels under Cook Islands Flag Administration

Date: 7th May 2018

Summary

Overview:

This circular aims to inform you that Maritime Cook Islands (MCI) is carrying out a review of the MARPOL Annex IV certification compliance for CI flagged vessels.

A Cook Islands flagged vessel to which MARPOL Annex IV applies, which is:

- i. not equipped with a sewage treatment plant of a type approved by the Flag Administration; and
- ii. not equipped with a sewage comminuting and disinfecting system approved by the Flag Administration; and
- iii. equipped with a holding tank of the capacity to the satisfaction of the Flag Administration for the retention of all sewage, having regard to the operation of the ship, the number of persons on board;

must, in accordance with Regulation 11.1.1, discharge the sewage at a distance of more than 12 nautical miles from the nearest land, at a moderate rate when the ship is *en route* and proceeding at not less than 4 knots. The maximum rate of discharge of untreated sewage must be approved by the Administration according to [IMO Resolution MEPC.157\(55\)](#), attached.

MCI has developed a [MARPOL ANNEX IV Sewage Discharge Tool \(the Discharge Tool\)](#), compliant to IMO Resolution MEPC.157(55), to assist MCI attending surveyors with the calculation of the abovementioned discharge rate.

The MCI ISPP survey template has been amended to reflect the content of this circular.

Guidelines for the use of the Discharge Tool

1. On the left top corner of the Tool, the following data must be inserted:
 - .1 V = average speed over the period [kt];
 - .2 D = maximum draft [m]
 - .3 B = breadth [m]

Then, the maximum permissible sewage discharge rate shall be automatically calculated [m³/h], over any 24 hour period, or the period of discharge if that is less.

Max permissible discharge rate:	-- m ³ /h
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by the use of the following formula (a):

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

2. In the table rate, on the left column the drafts of vessel shall be reported in [m] from the minimum (considering the "Arrival Condition") to the maximum value, (considering the "Departure Condition"). Intermediate drafts shall be calculated by interpolation.

Draft (m)	
	0,00
	0,00
	0,00
	0,00
	0,00
	0,00
	0,00
	0,00
	0,00
	0,00

Insert the minimum draft in [m]. corresponding to the "Arrival condition" of the vessel

Insert the maximum draft in [m], corresponding to the "Departure condition" of the vessel

3. In the table rate, on the top arrow the average speeds of vessel, exceeding 4 kts, shall be reported in [kt] to the maximum value.

Speed (kt)	4				
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4. In the table rate, intermediate maximum sewage discharge rates shall be calculated automatically by the above formula (a).

Required actions:

From next ISPP survey MCI appointed Surveyors are required to:

- use the new version of ISPP survey template (20A-SF-ISSPv5)
- use the discharge tool for vessels equipped with a holding tank for the retention of all sewage. A table created with the discharge tool should be left onboard and always kept attached to the ISPP certificate.

For further enquiries, please contact Maritime Cook Islands at technical@maritimecookislands.com

ANNEX 14

**RESOLUTION MEPC.157(55)
Adopted on 13 October 2006**

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

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING resolution MEPC.115(51) by which the Committee adopted the revised MARPOL Annex IV, which entered into force on 1 August 2005,

NOTING ALSO the provisions of regulation 11.1.1 of MARPOL Annex IV,

RECOGNIZING that untreated sewage that has been stored in holding tanks shall not be discharged instantaneously but that the discharge is to be undertaken at a moderate rate approved by the Administration based upon the standards developed by the Organization,

HAVING CONSIDERED the recommendations made by the Sub-Committee on Bulk Liquids and Gases at its tenth session,

1. ADOPTS the Recommendation on standards for the rate of discharge of untreated sewage from ships, the text of which is set out in the Annex to the present resolution;
2. RECOMMENDS member Governments to accept the rate of discharge based upon the annexed Standards,
3. ENCOURAGES operators of ships that may have high discharge requirements to keep calculations of actual discharges to demonstrate compliance to the Administration and to port or coastal State authorities.

ANNEX

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
