

环保会第 MEPC. 157(55) 号决议

2006 年 10 月 13 日通过

关于船舶未经处理生活污水排放速率标准的建议

海上环境保护委员会，

忆及《国际海事组织公约》关于由防止和控制海洋污染的国际公约赋予海上环境保护委员会(本委员会)职责的第 38(a) 条，

注意到第 MEPC. 115(51) 号决议，本委员会以该决议通过了经修订的《防污公约》附则 IV，已于 2005 年 8 月 1 日生效，

还注意到《防污公约》附则 IV 第 11.1.1 条的规定，

认识到储存在污水舱的未经处理的生活污水不得随即排放，而应该以主管机关根据本组织制订的标准而批准的适当速率排放，

审议了散装液体和气体分委会第 10 次会议提出的建议，

1. 通过了关于船舶未经处理生活污水排放速率标准的建议，其正文列于本决议的附件；
2. 建议会员国接受基于所附标准的排放速率，
3. 鼓励排放要求高的船舶经营人保持其实际排放计算，以便向主管机关和港口或沿岸国当局表明其符合要求。

附件

关于船舶未经处理生活污水排放速率标准的建议

1 引言

- 1.1 经修订的《73/78 防污公约》附则 IV 第 11.1.1 条要求，可以在距最近陆地 12 海里以外排放的未经处理的生活污水不得随即排放，而应该以主管机关根据本组织制订的标准而批准的适当速率，在船舶以不小于 4 节的速度航行时排放。本建议提供了批准和计算适当排放速率的标准和指导。
- 1.2 适当排放速率适用于船上污水舱储存的未经处理生活污水的排放。
- 1.3 本标准并不包括用水或中水稀释后的生活污水的排放速率计算。因此，该速率是个保守的估计，可以认为根据本标准进行生活污水排放将对海洋环境提供更高水平的保护，因为除船舶航行过程排放产生的混合之外还有事前的混合。

2 定义

- 2.1 “扫水量”系指船宽×吃水×航行距离。
- 2.2 “未经处理的生活污水”系指为没有经认可形式的生活污水处理厂处理过，或未经粉碎或消毒的生活污水。

3 排放速率

- 3.1 最大允许排放速率为扫水量的 1/200,000 (或 200,000 分之一)，计算如下：

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

其中：

DR_{\max} 为最大允许排放速率 (m^3/h)

V 为船舶在该段时间的平均速度 (节)

D 为吃水 (m)

B 为船宽 (m)

- 3.2 第 3.1 段中所列的最大允许排放速率指的是在任何 24 小时的时间段计算出的平均速率，或如果排放时间段小于 24 小时，在时间段内的平均速率，在每小时的基础上测量时可以超过，但不高于 20%。

4 主管机关对速率的批准

- 4.1 主管机关应对第 3.1 段中所述的基于船舶最大夏季吃水和最大航行速度的排放速率予以批准¹。如果在出水和速度的不同组合情况下排放生活

污水，可能还需要批准一个或多个次级排放速率²。

5 计算方法

- 5.1 对于不同吃水情况，需确定出的船舶计算扫水量，最大至包括根据《1966年国际载重线公约》第3条勘划的夏季吃水。
- 5.2 如果船舶使用校准在固定速率的泵从污水舱排放生活污水，该泵可以：
- 校准到4节航速时的允许排放速率；或者
 - 校准到超过4节航速的某一具体最小航速时的允许排放速率。
- 5.3 如果预期的实际排放速率超过4节航速时的允许值，需要减少实际排放速率或增加航速。主管机关签发的批准表中应给出具体的速率和速度。

6 对排放速率的遵守

- 6.1 在根据本标准进行生活污水排放时，负责生活污水操作的船员应确保船舶正在航行之中，距最近陆地的距离超过12海里，航行速度与主管机关批准的排放速率相一致。鼓励排放要求高的船舶保持其实际排放计算记录，以便表明其符合经批准的速率。

¹ 请船舶经营人和船上人员注意，在吃水和(或)速度减小时应减小允许排放速率。

² 可以使用表格的形式来表现，如下表。对于那些对未经处理生活污水的排放要求高的船舶以外的船舶，例如客船和牲畜运输船，排放速率的衡准通常不超过船舶航速为4节时的排放速率。

排放速率(m ³ /h)					
速度(kt)	4	6	8	10	12
吃水(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

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 (m^3/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
