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主旨：採用國際海事組織(IMO)所屬海洋環境保護委員會(MEPC)第74次會議及海事安全委員會(MSC)第101次會議所採納之MEPC.313(74)等26件決議案及通告，業經本部於中華民國110年1月14日以交航(一)字第10998002961號公告訂定，檢送前述公告(含附件)1份，請查照。

正本：行政院環境保護署、經濟部、海洋委員會、財團法人船舶暨海洋產業研發中心、財團法人中國驗船中心、中華民國輪船商業同業公會全國聯合會、臺灣區造船工業同業公會、交通部航港局

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交通部航港局

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正本

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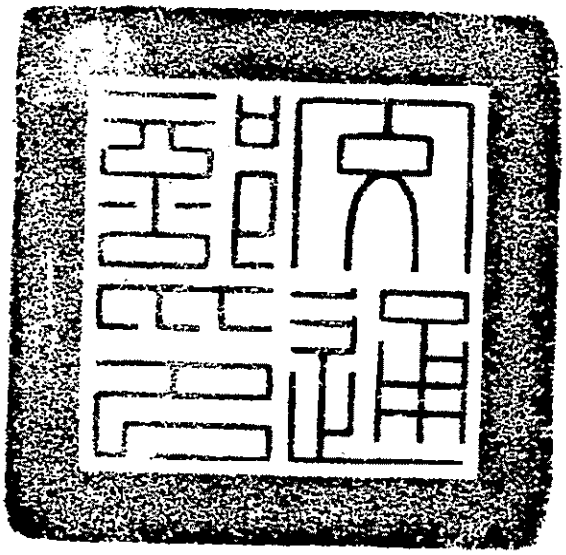

主旨：採用國際海事組織(IMO)所屬海洋環境保護委員會(MEPC)及海事安全委員會(MSC)所採納之MEPC.313(74)等26件決議案及通告，並自即日生效。

依據：船舶法第一百零一條。

公告事項：本案係國際海事組織(IMO)所屬海洋環境保護委員會(MEPC)第74次會議及海事安全委員會(MSC)第101次會議通過之MEPC.313(74)、MEPC.322(74)、BWM.2/Circ.66/Rev.1、MEPC.1/Circ.512/Rev.1、MEPC.1/Circ.886、MSC.472(101)、MSC.1/Circ.1612、MSC.1/Circ.1614、MSC.1/Circ.1222/Rev.1、MSC.1/Circ.1395/Rev.4、MSC-MEPC.2/Circ.17、MSC.1/Circ.1416/Rev.1、MSC.1/Circ.1535/Rev.1、MSC.1/Circ.1537/Rev.1、MSC.1/Circ.1539/Rev.1、MSC.1/Circ.1605、MSC.1/Circ.1606、MSC.1/Circ.1616、MSC.1/Circ.1617、MSC.1/Circ.1618、MEPC.1/Circ.795/Rev.4　、MEPC.315(74)、MEPC.318(74)、MSC.

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460(101)、MSC.461(101)及MSC.462(101)等，共26件決議案及通告案，為維護船舶航行安全、因應航運需求及符合國際公約規範，爰予以採用前述決議案規定。

部長林佳龍

交通部公告國際航線採用國際公約決議案及通告案表列

項次	決議案/通告案	標題	適用船舶	性質	生效日期
1	MEPC.313(74)	修正2017年涉及氮氧化物技術章程附加問題準則(關於裝有選擇催化還原系統船用柴油機之特別要求)(Amendments to the 2017 Guidelines Addressing Additional Aspects of the NO_x Technical Code 2008 with Regard to Particular Requirements Related to Marine Diesel Engines Fitted with Selective Catalytic Reduction (SCR) Systems) (Resolution MEPC.291[71])	適用國際航線裝設選擇催化還原系統之船舶	指導原則	公告日起
2	MEPC.322(74)	修正2018年新船能源效率設計指標計算值計算方法準則(Amendments to the 2018 Guidelines on the Method of Calculation of the Attained Energy Efficiency Design Index [EEDI] for New Ships) (Resolution MEPC.308[73])	適用防止船舶污染國際公約附則VI第4章之船舶	指導原則	公告日起
3	BWM.2/Circ.66/Rev.1	船舶壓艙水及沉積物管理國際公約附件1之統一解釋(Updated Unified Interpretation of Appendix I of the BWM Convention)	適用船舶壓艙水及沉積物管理國際公約之船舶	統一解釋	公告日起
4	MEPC.1/Circ.512/Rev.1	散裝運輸液體物質臨時評估準則(Guidelines for the Provisional Assessment of Liquid Substances Transported in Bulk)	適用國際航線載運散裝有害液體物質之船舶	指導原則	公告日起
5	MEPC.1/Circ.886	根據防止船舶污染國際公約附則II及與石蠟類產品有關之國際載運散裝化學危險品船舶構造與設備章程實施液體物質臨時分類指南(Guidance on the Implementation of Provisional	適用國際航線化學液體船舶	指導原則	公告日起

項次	決議案/通告案	標題	適用船舶	性質	生效日期
		Categorization of Liquid Substances in Accordance with MARPOL Annex II and the IBC Code Related to Paraffin-Like Products)			
6	MSC.472(101)	經修訂之救生設備測試建議案(MSC.81[70])之修正案 (Amendments to the Revised Recommendation on Testing of Life-Saving Appliances) (Resolution MSC.81[70)])	適用海上人命安全國際公約之船舶	性能標準	公告日起
7	MSC.1/Circ.1612	用於極區航行船舶之航行設備與通信設備指南(Guidance for Navigation and Communication Equipment Intended for Use on Ships Operating in Polar Waters)	適用海上人命安全國際公約且在極區航行船舶	指導原則	公告日起
8	MSC.1/Circ.1614	極區航行船舶救生設備臨時準則(Interim Guidelines on Life-Saving Appliances and Arrangements for Ships Operating in Polar Waters)	適用海上人命安全國際公約且在極區航行船舶	指導原則	公告日起
9	MSC.1/Circ.1222/Rev.1	航行數據紀錄及簡化航行數據紀錄器年度測試準則(Guidelines on Annual Testing of Voyage Data Recorders [VDR] and Simplified Voyage Data Recorders [S-VDR])	適用國際航線客船及總噸位3,000以上之船舶	指導原則	公告日起
10	MSC.1/Circ.1395/Rev.4	可免除固定式滅火系統或固定式滅火系統對其無效之固體散裝貨物清單(Lists of Solid Bulk Cargoes for Which a Fixed Gas Fire-Extinguishing System May Be Exempted or for which a Fixed Gas Fire-Extinguishing System is Ineffective)	適用海上人命安全國際公約之散裝船舶	指導原則	公告日起
11	MSC-	2019年生物燃料混合物及防止船舶污染國際公	適用國際航線載運	指導原則	公告日起

項次	決議案/通告案	標題	適用船舶	性質	生效日期
	MEPC.2/Circ.17	約附則 I 貨物運輸準則(2019 Guidelines for the Carriage of Blends of Biofuels and MARPOL Annex I Cargoes)	石油及生物燃料混合物之船舶		
12	MSC.1/Circ.1416/Rev.1	海上人命安全國際公約 II-1/28、II-1/29及 II-1/30規則之統一解釋(Unified Interpretations of SOLAS Regulations II-1/28, II-1/29 and II-1/30)	適用海上人命安全國際公約之船舶	統一解釋	公告日起
13	MSC.1/Circ.1535/Rev.1	1966年載重線國際公約之1988年議定書統一解釋(Unified Interpretations Relating to the Protocol of 1988 Relating to the International Convention on Load Lines, 1966)	適用載重線國際公約之船舶	統一解釋	公告日起
14	MSC.1/Circ.1537/Rev.1	2008年國際完整穩度章程之統一解釋(Unified Interpretations of the 2008 IS Code)	適用海上人命安全國際公約之船舶	統一解釋	公告日起
15	MSC.1/Circ.1539/Rev.1	海上人命安全國際公約第 II-1章之統一解釋及安全返港中浸水監測系統之要求)(Unified Interpretations of SOLAS Chapters II-1 and Safe Return to Port Requirements for Flooding Detection Systems)	適用海上人命安全國際公約之船舶	統一解釋	公告日起
16	MSC.1/Circ.1605	國際船舶使用氣體或其他低閃點燃料安全章程之統一解釋(Unified Interpretations of the IGF Code)	適用海上人命安全國際公約之船舶且使用氣體或其他低閃點燃料者	統一解釋	公告日起
17	MSC.1/Circ.1606	國際船舶載運散裝液化氣體構造與設備章程之統一解釋(Unified Interpretations of the IGC Code)	適用國際航線載運散裝液化氣體之船舶	統一解釋	公告日起

項次	決議案/通告案	標題	適用船舶	性質	生效日期
18	MSC.1/Circ.1616	海上人命安全國際公約第 II-2章之統一解釋(Unified Interpretations of SOLAS Chapter II-2)	適用海上人命安全國際公約之船舶	統一解釋	公告日起
19	MSC.1/Circ.1617	國際船舶載運散裝液化氣體構造與設備章程之統一解釋(Unified Interpretations of the IGC Code)	適用國際航線載運散裝液化氣體之船舶	統一解釋	公告日起
20	MSC.1/Circ.1618	海上人命安全國際公約第 III 章之統一解釋(Unified Interpretations of SOLAS Chapter III)	適用海上人命安全國際公約之船舶	統一解釋	公告日起
21	MEPC.1/Circ.795/Rev.4	防止船舶污染國際公約附則 VI 之統一解釋(Unified Interpretations to MARPOL Annex VI)	適用國際航線之所有船舶	統一解釋	公告日起
22	MEPC.315(74)	防止船舶污染國際公約附則 II 修正案(Amendments to MARPOL Annex II)	適用國際航線裝有有害液體物質之船舶	公約修正	公告日起
23	MEPC.318(74)	國際載運散裝危險化學品船舶構造與設備章程修正案(Amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk [IBC code])	適用國際航線載運散裝化學危險品之船舶	公約修正	公告日起
24	MSC.460(101)	國際載運散裝危險化學品船舶構造與設備章程修正案(Amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk [IBC code])	適用國際航線載運散裝化學危險品之船舶	公約修正	公告日起
25	MSC.461(101)	國際散裝船及油輪加強檢驗方案章程修正案(Amendments to the ESP Code)	適用海上人命安全國際公約之散裝船以及油輪	公約修正	公告日起

項次	決議案/通告案	標題	適用船舶	性質	生效日期
26	MSC.462(101)	國際海事固體散裝貨物章程修正案 (Amendments to the IMSBC Code)	適用海上人命安全國際公約之散裝船	公約修正	公告日起

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MSC.1/Circ.1416/Rev.1
26 June 2019

UNIFIED INTERPRETATIONS OF SOLAS REGULATIONS II-1/28, II-1/29 AND II-1/30

1 The Maritime Safety Committee, at its ninetieth session (16 to 25 May 2012), with a view to ensuring a uniform approach towards the application of the provisions of SOLAS regulations II-1/28 and II-1/29, and following a recommendation made by the Sub-Committee on Ship Design and Equipment at its fifty-fifth session, approved unified interpretations concerning the arrangements for steering capability and function on ships fitted with propulsion and steering systems other than traditional arrangements for a ship's directional control, as contained in *Unified interpretation of SOLAS regulations II-1/28 and II-1/29* (MSC.1/Circ.1416).

2 Noting that the 1974 SOLAS Convention adequately addresses steering gear arrangements having a traditional propulsion system and a rudder-type steering system, whereas it does not adequately provide for modern combined propulsion/steering systems such as azimuth thrusters, podded propulsors, waterjets, cycloidal propellers*, etc. and that there is a need to clarify that the requirements of SOLAS regulation II-1/30.2 apply to each steering system in ships fitted with multiple steering systems, the Maritime Safety Committee, at its 101st session (5 to 14 June 2019), approved the *Unified interpretation of SOLAS regulations II-1/28, II-1/29 and II-1/30*, prepared by the Sub-Committee on Ship Systems and Equipment, at its sixth session, as set out in the annex.

3 Member Governments are invited to use the annexed interpretations from 1 January 2020 when applying the relevant provisions of SOLAS regulations II-1/28, II-1/29 and II-1/30, and to bring them to the attention of all parties concerned.

4 This circular supersedes MSC.1/Circ.1416.

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* This should not be considered as an exhaustive list.

ANNEX

UNIFIED INTERPRETATIONS CONCERNING THE ARRANGEMENTS FOR STEERING CAPABILITY AND FUNCTION ON SHIPS FITTED WITH PROPULSION AND STEERING SYSTEMS OTHER THAN TRADITIONAL ARRANGEMENTS FOR A SHIP'S DIRECTIONAL CONTROL

Introduction

The SOLAS requirements for steering gears have been established for ships having a traditional propulsion system and one rudder. For ships fitted with alternative propulsion and steering arrangements, such as but not limited to, azimuthing propulsors or water jet propulsion systems, SOLAS regulations II-1/28.2, 28.3, 29.1, 29.2.1, 29.3, 29.4, 29.6.1, 29.14 and 30.2 should be interpreted as follows, except 29.14, which is limited to the steering systems having a certain steering capability due to ship speed also in case propulsion power has failed.

Regulation 28 – Means of going astern

Paragraph 3

The stopping times, ship headings and distances recorded on trials, together with the results of trials to determine the ability of ships having multiple propulsion/steering arrangements to navigate and manoeuvre with one or more of these devices inoperative, should be available on board for the use of the master or designated personnel.

Regulation 29 – Steering gear

Paragraph 1

For a ship fitted with multiple steering-propulsion units, such as, but not limited to, azimuthing propulsors or water jet propulsion systems, each of the steering-propulsion units should be provided with a main steering gear and an auxiliary steering gear or with two or more identical steering actuating systems in compliance with interpretation of SOLAS regulation II-1/29.6.1. The main steering gear and the auxiliary steering gear should be so arranged that the failure of one of them will not render the other one inoperative.

For a ship fitted with a single steering-propulsion unit, the requirement in SOLAS regulation II-1/29.1 is considered satisfied if the steering gear is provided with two or more steering actuating systems and is in compliance with interpretation of SOLAS regulation II-1/29.6.1. A detailed risk assessment should be submitted in order to demonstrate that in the case of any single failure in the steering gear, control system and power supply the ship steering is maintained.

Paragraph 2.1

All components used in steering arrangements for ship directional control should be of sound reliable construction to the satisfaction of the Administration or recognized organizations acting on its behalf. Special consideration should be given to the suitability of any essential component which is not duplicated. Any such essential component should, where appropriate, utilize anti-friction bearings such as ball bearings, roller bearings or sleeve bearings which should be permanently lubricated or provided with lubrication fittings.

Paragraph 3

The main steering arrangements for ship directional control should be:

.1 of adequate strength and capable of steering the ship at maximum ahead service speed which should be demonstrated;

.2 capable of changing direction of the steering-propulsion unit from one side to the other at declared steering angle limits at an average turning speed of not less than 2.3°/s with the ship running ahead at maximum ahead service speed;

.3 for all ships, operated by power; and

.4 so designed that they will not be damaged at maximum astern speed; this design requirement need not be proved by trials at maximum astern speed and declared steering angle limits.

Ship manoeuvrability tests, such as according to resolution MSC.137(76) on *Standards for ship manoeuvrability*, should be carried out with steering angles not exceeding the declared steering angle limits.

> ***Definition***: *Declared steering angle limits* are the operational limits in terms of maximum steering angle, or equivalent, according to manufacturers' guidelines for safe operation, also taking into account the ship's speed or propeller torque/speed or other limitation; the "declared steering angle limits" are to be declared by the directional control system manufacturer for each ship specific non-traditional steering mean; ship manoeuvrability tests, such as those in the *Standards for ship manoeuvrability* (resolution MSC.137(76)) should be carried out with steering angles not exceeding the declared steering angle limits.

Paragraph 4

The auxiliary steering arrangements for ship directional control should be:

.1 of adequate strength and capable of steering the ship at navigable speed and of being brought speedily into action in an emergency;

.2 capable of changing direction of the ship's directional control system from one side to the other at declared steering angle limits at an average turning speed, of not less than 0.5°/s; with the ship running ahead at one half of the maximum ahead service speed or 7 knots, whichever is the greater; and

.3 for all ships, operated by power where necessary to meet the requirements of SOLAS regulation II-1/29.4.2 and in any ship having power of more than 2,500 kW propulsion power per steering-propulsion unit.

Ship manoeuvrability tests, such as according to resolution MSC.137(76), should be carried out with steering angles not exceeding the declared steering angle limits.

The definition of "declared steering angle limits", set out in the interpretation of paragraph 3 above, applies.

Paragraph 6.1

For a ship fitted with a single steering-propulsion unit where the main steering gear comprises two or more identical power units and two or more identical steering actuators, an auxiliary steering gear need not be fitted provided that the steering gear:

.1 in a passenger ship, is capable of satisfying the requirements in interpretation to SOLAS regulation II-1/29.3 while any one of the power units is out of operation;

.2 in a cargo ship, is capable of satisfying the requirements in interpretation to SOLAS regulation II-1/29.3 while operating with all power units; and

.3 is arranged so that after a single failure in its piping system or in one of the power units, steering capability can be maintained or speedily regained.

For a ship fitted with multiple steering-propulsion units, where each main steering system comprises two or more identical steering actuating systems, an auxiliary steering gear need not be fitted provided that each steering gear:

.1 in a passenger ship, is capable of satisfying the requirements in interpretation to SOLAS regulation II-1/29.3 while any one of the steering gear steering actuating systems is out of operation;

.2 in a cargo ship, is capable of satisfying the requirements in interpretation to SOLAS regulation II-1/29.3 while operating with all steering gear steering actuating systems;

.3 is arranged so that after a single failure in its piping or in one of the steering actuating systems, steering capability can be maintained or speedily regained; and

.4 the above capacity requirements apply regardless whether the steering systems are arranged with common or dedicated power units.

Definition: *Steering gear power unit* – For the purposes of alternative steering arrangements, the steering gear power unit should be considered as defined in SOLAS regulation II-1/3. For electric steering gears, refer to SOLAS regulation II-1/3; electric steering motors should be considered as part of the power unit and actuator.

Paragraph 14

This interpretation is valid to steering-propulsion units having a certain proven steering capability due to ship speed also in case propulsion power has failed.

Where the propulsion power exceeds 2,500 kW per thruster unit, an alternative power supply, sufficient at least to supply the steering arrangements which complies with the requirements of SOLAS regulation II-1/29.4.2 and also its associated control system and the steering gear response indicator, should be provided automatically, within 45 s, either from the emergency source of electrical power or from an independent source of power located in the steering gear compartment. This independent source of power should be used only for this purpose. In every ship of 10,000 gross tonnage and upwards, the alternative power supply should have a capacity for at least 30 min of continuous operation and in any other ship for at least 10 min.

Regulation 30 – Additional requirements for electric and electrohydraulic steering gear

Paragraph 2

For a ship fitted with multiple steering systems, the requirements in SOLAS regulation II-1/30.2 are to be applied to each of the steering systems.