

檔 號：

保存年限：

## 交通部 函

機關地址：100020臺北市仁愛路1段50號  
傳真：2381-1550  
聯絡人：林姿雅  
聯絡電話：(02)8978-6282

受文者：交通部航港局

發文日期：中華民國110年1月14日

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密等及解密條件或保密期限：

附件：如主旨(attch1 10998002965-0-0.odt、attch2 10998002965-0-1.pdf)

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

副本：

交通部航港局



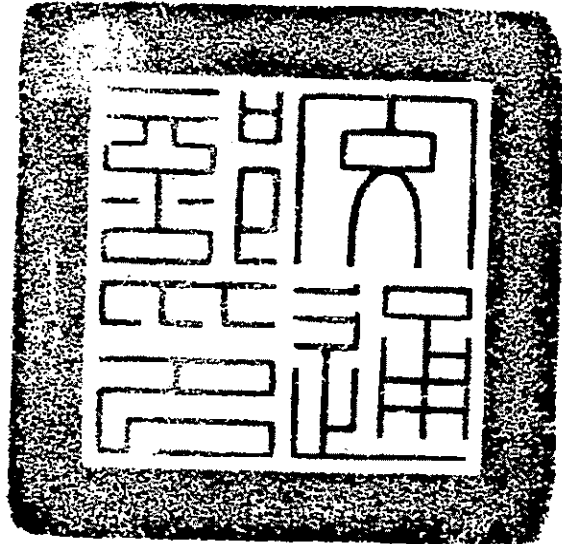
1100050703 110/01/14

正本

檔 號：  
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## 交通部 公告

發文日期：中華民國110年1月14日  
發文字號：交航(一)字第10998002961號



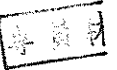
主旨：採用國際海事組織(IMO)所屬海洋環境保護委員會(MEPC)及海事安全委員會(MSC)所採納之MEPC.313(74)等26件決議案及通告，並自即日生效。

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.

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



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## 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 <sub>x</sub> 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.6 6/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.5 12/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.8 86	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.16 12	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.16 14	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.12 22/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.13 95/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.16 16	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.16 17	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.16 18	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.7 95/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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4 ALBERT EMBANKMENT  
LONDON SE1 7SR  
Telephone: +44 (0)20 7735 7611 Fax: +44 (0)20 7587 3210

MSC.1/Circ.1612  
14 June 2019

**GUIDANCE FOR NAVIGATION AND COMMUNICATION EQUIPMENT  
INTENDED FOR USE ON SHIPS OPERATING IN POLAR WATERS**

1 The Maritime Safety Committee, at its 101st session (5 to 14 June 2019), approved the *Guidance for navigation and communication equipment intended for use on ships operating in polar waters*, as set out in the annex, prepared by the Sub-Committee on Navigation, Communications and Search and Rescue (NCSR), at its sixth session (16 to 25 January 2019).

2 The Maritime Safety Committee, at its ninety-seventh session (21 to 25 November 2016) had instructed the NCSR Sub-Committee to consider the current navigation and communication requirements in the SOLAS Convention and the need for any amendments, taking into account the extended duration requirements in the International Code for Ships Operating in Polar Waters (Polar Code).

3 The aim of this Guidance is to enhance the safety and efficiency of navigation and communication equipment intended for use on ships operating in polar waters by giving recommendations on general requirements and specific performance standards for navigation and communication equipment.

4 Member States and international organizations are invited to bring the Guidance to the attention of all parties concerned.

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## ANNEX

### GUIDANCE FOR NAVIGATION AND COMMUNICATION EQUIPMENT INTENDED FOR USE ON SHIPS OPERATING IN POLAR WATERS

#### Purpose

1 The purpose of this Guidance is to enhance the safety and efficiency of navigation and communication equipment intended for use on ships operating in polar waters:

- .1 It gives recommendations on general requirements and specific performance standards for navigation and communication equipment intended for use on ships operating in polar waters.
- .2 It covers:
  - .1 generally, all navigation and communication equipment where equipment or parts of it are exposed to the specific environmental conditions of the polar waters; and
  - .2 specific requirements for equipment which may be influenced by regional effects.
- .3 It aims to establish requirements to facilitate different approaches (e.g. built-in protection, handling requirements, etc.).

#### Scope

2 This Guidance provides recommendations on:

- .1 requirements for navigation and communication equipment intended for use on ships operating in polar waters, where technical provisions could reduce the listed effects;
- .2 rules to operate navigation and communication equipment intended for use on ships operating in polar waters, if technical provisions could not protect the equipment from the listed effects; and
- .3 additional requirements for navigation and communication equipment intended for use on ships operating in polar waters, if the equipment is influenced by incorrect data of impaired equipment only.

#### Structure

3 This Guidance has a modular structure:

- .1 It starts with a general part (Module A) which should be applied to equipment or parts of it exposed to the environmental conditions of polar waters.
- .2 The second module (Module B) is addressing equipment specific topics.
- .3 The third module (Module C) is addressing the handling of incorrect data of impaired equipment.

- .4 The appendix provides information on survival craft and rescue boat communications capabilities.

### Application

4 This Guidance is applicable to navigation and communication equipment intended for use on ships operating in polar waters.

### Abbreviations

AIS	- Automatic Identification System
DSC	- Digital Selective Calling
ECDIS	- Electronic Chart Display and Information System
EGC	- Enhanced Group Call
ENC	- Electronic Navigational Chart
GNSS	- Global Navigation Satellite System
HF	- High Frequency
LRIT	- Long Range Identification and Tracking
MF	- Medium Frequency
PST	- Polar Service Temperature (defined by Polar Code, part I-A, paragraph 1.2.11)
PWOM	- Polar Water Operational Manual
SART	- Search and Rescue Radar Transponder
SOLAS	- International Convention for the Safety of Life at Sea
THD	- Transmitting Heading Device
VDR	- Voyage Data Recorder
VHF	- Very High Frequency

## MODULE A – GENERAL PART RELATED TO EQUIPMENT EXPOSED TO THE SPECIFIC ENVIRONMENTAL CONDITIONS OF POLAR WATERS

Generally, limitations due to environmental conditions should be documented in the Polar Water Operational Manual (PWOM).

### A.1 Temperature

A.1.1 If equipment or parts thereof are exposed to the environmental conditions of polar waters, the navigation and communication equipment should keep its specific performance requirements as far as possible.

A.1.2 Exposed portable equipment should be subject to testing in accordance with a recognized procedure,\* except that the temperature of the chamber should be reduced to, and maintained at, the specified PST.

A.1.3 In addition, test condition provisions in paragraphs not related to exposure temperature should follow the *General requirements for shipborne radio equipment forming part of the Global Maritime Distress and Safety System (GMDSS) and for electronic navigational aids* (resolution A.694(17)).

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\* Refer to low temperature test procedure in paragraph 8.4 of IEC 60945.

## **A.2 Ice accretion**

A.2.1 If equipment or parts thereof are exposed to ice accretion, dependent on the polar water and season, the navigation and communication equipment should keep its specific performance requirements, as far as possible.

A.2.2 According to the Polar Code, part I-A, paragraph 4.3.1.1.1, the icing allowance as stability criterion is 30 kg/m<sup>2</sup> (around 30 mm) on horizontal parts or 7.5 kg/m<sup>2</sup> (around 7.5 mm) on vertical parts and should be used as maximum criterion for icing for the ship and related navigation and communication equipment exposed to icing with respect to its design and placement on board.

A.2.3 The performance could be ensured by:

- .1 physical protection (e.g. heating);
- .2 operational protection (e.g. removing); or
- .3 design (e.g. location can be easily accessed for removing of ice or the design reduces possible covering of ice).

A.2.4 Where facilities to de-ice equipment are provided, these should result in the performance criteria being met within two hours from power on.

A.2.5 According to the Polar Code, the physical and operational measures should be part of the PWOM.

## **A.3 Handling of equipment dependent on batteries**

A.3.1 According to the Polar Code, part I-A, paragraph 1.2.7, the maximum expected time of rescue means the time adopted for the design of equipment and system that provide survival support. It should never be less than five days (120 h). This requirement may be difficult to meet by some specific equipment requirements, design requirements or handling requirements.

A.3.2 Based on the interpretation provided in the appendix, the performance of equipment and systems that provide survival support may be maintained throughout the maximum expected time of rescue using design requirements, operational requirements and any other means documented in the PWOM or a combination of these.

A.3.3 Any procedures or measures taken to address ice accretion or the handling of equipment dependent on batteries, as outlined in sections A.2 and A.3 respectively, should be included in the PWOM.

## **MODULE B – REQUIREMENTS FOR SPECIFIC EQUIPMENT**

### **B.1 Magnetic compass**

B.1.1 If the magnetic compass is intended for use in polar waters, the performance in latitudes beyond 70 should be additionally validated with the requirements of resolution A.382(X) on *Magnetic Compasses – Carriage and performance standards*.

B.1.2 The magnetic compass fitted on deck without tarpaulin should be protected against ice accretion as described in section A.2, if it is intended for use in specified latitudes during the relevant trip within polar waters.

**B.2 Pelorus, compass bearing device or heading repeater (gyro, magnetic or GNSS-THD compass)**

If the related compass device is intended for use in polar waters and exposed to the weather, the pelorus or compass bearing device including their means of correction should be protected against ice accretion as described in section A.2.

**B.3 ECDIS**

The ECDIS should be capable of displaying ENCs in a projection suitable for higher latitudes, as applicable, for the intended route. Input data of critical input sensors should be handled as described in module C.

**B.4 GNSS-receiver**

The GNSS-antenna should be protected against ice accretion as described in section A.2.

**B.5 Radar reflector**

The radar reflector should be protected against ice accretion as described in section A.2.

**B.6 Sound reception system**

The outdoor microphones of the sound reception system should be protected against ice accretion as described in section A.2.

**B.7 Daylight signalling lamp (if fitted on deck)**

The daylight signalling lamp (if fitted on deck) should be protected against ice accretion as described in section A.2.

**B.8 Radar**

The radar antenna should be protected against ice accretion as described in section A.2. Input data of critical input sensors should be handled as described in module C.

**B.9 Speed and distance measuring equipment**

If underwater sensors are used for measuring speed through water, the performance in very clean water conditions with a significant reduced number of particles in the water, as expected in polar waters, should be validated to be within the requirements of the *Performance standards for devices to indicate speed and distance* (resolution A.824(19)).

**B.10 GNSS-THD**

The GNSS-THD antenna should be protected against ice accretion as described in section A.2. The performance in latitudes beyond 70° should be additionally validated to be within the requirements of the *Performance standards for marine transmitting heading devices (THDs)* (resolution MSC.116(73)).

#### **B.11 AIS**

The AIS antennas should be protected against ice accretion as described in section A.2. Input data of critical input sensors should be handled as described in module C.

#### **B.12 Gyro compass**

If the gyro compass is intended for use in polar waters, the performance in latitudes beyond 70° should be additionally validated to be within the requirements of the *Performance standards for gyro compasses* (resolution A.424(XI)).

#### **B.13 Heading or track control system**

Input data of critical input sensors should be handled as described in module C.

#### **B.14 LRIT**

The function may be limited depending on latitude and selected system (Inmarsat C is limited whereas Iridium may offer a full coverage). The LRIT antennas should be protected against ice accretion as described in section A.2.

#### **B.15 VDR (if fitted on deck)**

The float-free release mechanism of the VDR fitted on deck should be protected against ice accretion as described in section A.2.

#### **B.16 Navigation bridge visibility**

The navigation bridge windows should be protected against ice accretion as described in section A.2.

#### **B.17 Pilot ladder**

The pilot ladder should be protected against ice accretion as described in section A.2.

#### **B.18 Antennas for all radiocommunication equipment**

The antennas for radiocommunication equipment should be protected against ice accretion as described in section A.2.

#### **B.19 EGC receiver**

The function may be limited, in the case of Inmarsat EGC, depending on latitude. The EGC receiver antennas should be protected against ice accretion as described in section A.2.

#### **B.20 EPIRB**

The EPIRB should be protected against ice accretion as described in section A.2.

#### **B.21 Two-way VHF radiophones for use in survival crafts**

Two-way VHF radiophones for use in survival crafts should be included in the PWOM.

### **B.22 Navigation lights/360° Search light**

The navigation and search lights should be protected against ice accretion as described in section A.2.

### **B.23 Sound signalling equipment**

The sound signalling equipment should be protected against ice accretion as described in section A.2.

### **B.24 Search and rescue locating device (SART/AIS-SART)**

The SART / AIS-SART should be protected against ice accretion as described in section A.2.

## **MODULE C – HANDLING OF INCORRECT DATA**

Depending on the region (latitude) some sensors (e.g. heading, speed) may not work with the accuracy defined in the relevant standards. There should be an automatic warning or a clear indication that the bridge crew is able to decide to use the information for display or for use in any other calculation of connected equipment.



## APPENDIX

### SURVIVAL CRAFT AND RESCUE BOAT COMMUNICATIONS CAPABILITIES

1 All rescue boats, all lifeboats and all other survival craft carried by the ship, notwithstanding the redundancy in aggregate capacity of survival craft required by SOLAS regulations III/21 and III/31, and taking into account the different possible distress scenarios, are considered able to be released for evacuation simultaneously and should be provided with mandatory communication equipment accordingly.

2 The expressions "shall maintain capability for", "shall be capable of operation during the maximum expected time of rescue" and "are available for operation during the maximum expected time of rescue" used in paragraphs 10.2.2.1, 10.2.2.2, 10.2.2.3 and 10.3.2.3 of part I-A of the Polar Code mean the ability of mandatory communication equipment for use in survival craft, including liferafts, and rescue boats to maintain the ready for operation state within the maximum expected time of rescue at the Polar Service Temperature (PST) assigned to the ship, and, after that, to be capable to perform its functions at the PST assigned to the ship for the operating time not less than that specified in respective existing performance standards.\*

**Note:** For example, it is not required that an EPIRB used for distress alerting continues distress messaging for the maximum expected time of rescue and the two-way VHF radiotelephone apparatus being used for transmitting and receiving on-scene communications does not need to be technically in operation at its highest rated power with a duty cycle of 1:9 for maximum expected time of rescue.

3 Procedures referred to in paragraph 10.3.2.3 of part I-A of the Polar Code can include both operational requirements and any other means, including technical solutions, i.e. thermal insulation, chemical heat sources, additional batteries, rechargeable batteries with respective chargers, etc., and should be documented in the PWOM.

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\* Refer to the following performance standards: EPIRB - resolutions A.810(19) and MSC.471(101); Radar transponder - resolution A.802(19); AIS-SART - resolution MSC.246(83); Two-way VHF radiotelephone apparatus - resolution MSC.149(77).