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IMO Navigation, Communications and Search and Rescue Tenth session

Summary Report

Executive Summary

Below are some of the changes to current requirements which were discussed at NCSR 10 and will have some impact on current practices.

- NCSR 10 began the work to develop revisions to SOLAS regulation V/23 and associated instruments to improve the safety of [pilot transfer arrangements](#). NCSR 10 agreed to amend SOLAS V/23 and develop a separate mandatory instrument which will include the fundamental provisions for design, installation, inspection, maintenance and rigging of pilot transfer arrangements. This work is expected to be finalised at NCSR 11 (June 2023).
- NCSR 10 also began the work to develop performance standards for a [digital navigational system \(NAVDAT\)](#) which is mooted to be the successor to NAVTEX. However, NCSR 10 agreed that a cautious approach was necessary and will continue the work at NCSR 11.
- NCSR 10 revised [COMSAR.1/Circ.32/Rev.1 Harmonisation of GMDSS Requirements for Radio Installations on board SOLAS Ships](#) to take account of identified discrepancies, gaps and inconsistencies. The revised circular will be disseminated as Rev.2 and support the new requirements for the GMDSS which enter into force 1 January 2024.

Introduction

NCSR 10 took place 10 – 19 May 2023. This briefing summarises the discussions which are significant to Lloyd's Register's work with our customers.

Additional Information

Lloyd's Register's [NCSR 10 Agenda Preview](#)

Lloyd's Register contributed to the work in Working Group 2 – Navigation.

Decisions of other IMO bodies

Additional Information

Lloyd's Register's [CCC 8 Summary Report](#), [MEPC 79 Summary Report](#) and [MSC 106 Summary Report](#)

Please note that these items were discussed under the relevant agenda item during NCSR 10 and reflected as such in this report.

- Associated Protective Measures for the [North-Western Mediterranean Sea will be designated as a Particularly Sensitive Sea Area \(PSSA\)](#).
- Manipulation of AIS data transmissions and tampering with [AIS transponders](#) to disguise illicit practices.
- [Man overboard incidents from fishing vessels](#).

Additionally, NCSR 10 noted the following:

CCC 8 finalised draft amendments to SOLAS chapter V/31 and V/32, which will require the Master to report any lost containers to the nearest coastal State and flag State without delay. The draft amendments are expected to be adopted at MSC 107 and enter into force 1 January 2026.

Navigation

Additional Information

Lloyd's Register's [NCSR 9 Summary Report](#)

Additional protective measures for the North-Western Mediterranean Sea Particularly Sensitive Sea Area (PSSA).

MEPC 79 agreed that an area of the North-Western Mediterranean Sea will be designated as a Particularly Sensitive Sea Area (PSSA). This will encompass two areas already designated as Special Protected Areas of Mediterranean Importance (SPAMIs) under the Barcelona Convention and the UN Mediterranean Action Plan.

NCSR 10 agreed to the following recommendatory Additional Protective Measures (APMs):

- Mariners should navigate with particular caution within the NW Mediterranean PSSA, in areas where large and medium cetaceans are detected or reported and reduce their speed to between 10 and 13 knots as voluntary speed reduction (VSR). However, a safe speed should be kept, so that proper and

effective action could be taken to avoid collision and any possible negative impacts on ships' manoeuvrability.

- Mariners should keep an appropriate safety distance or speed reduction measure from any large and medium cetaceans observed or detected in a close quarter situation. The safety distance or speed reduction measure should be adapted to the actual navigation circumstances and conditions of the ship.
- Mariners should broadcast on VHF or other available means on scene, the position of medium and large cetaceans observed or detected within the designated PSSA and transmit the information and the position to a designated coastal Authority(ies).
- Mariners should report any collision with cetaceans to a designated coastal Authority(ies), which should forward this information to the International Whaling Commission (IWC) global cetacean ship strikes database.

The APMs will be referred to MEPC 80 for inclusion in the final resolution.

Development of generic performance standards for shipborne satellite navigation system receiver equipment

Noting the increasing number of performance standards for standalone global and regional satellite systems which, apart from system-specific information, are based on identical passages of text, the IMO agreed to develop consolidated performance standards. Shipborne satellite navigation system receiver equipment provides position, navigation, and time data (PNT) together with associated information.

The draft generic performance standards are intended to provide a functional approach and modular framework which allows for differences in installed equipment and implementation options, measurements principles, supported functionalities, signal sources, scope of data, as well as usability in specific regions.

Due to time constraints, however, NCSR 10 was unable to review the draft MSC resolution developed by the intersessional correspondence group and address all the concerns that had been raised at this session. The work will be continued through the intersessional correspondence group and is expected to be finalised at NCSR 11 (expected June 2024).

Application: Once adopted, Administrations and Global Navigation Satellite Systems (GNSS) providers should use this framework for the development of performance standards for new systems and when amending performance standards for existing GNSS or Regional Navigation Satellite Systems (RNSS).

Subject: Generic performance standards for shipborne satellite navigation system receiver equipment.

Impact: Provides a framework for the development of performance standards for satellite navigation system receiver equipment.

Application: Administrations and GNSS system providers should use this framework for the development of performance standards for new systems and when amending existing standards.

The consolidated performance standards are expected to be finalised at NCSR 11 (expected June 2024).

Development of amendments to VDR performance standards and carriage requirements

MSC 101 agreed to a new output to amend SOLAS regulation V/20 on Voyage Data Recorders and resolutions MSC.333(90) *Performance standards for shipborne voyage data recorders (VDRs)* and MSC.163(78) *Performance standards for shipborne simplified voyage data recorders (S-VDRs)*. The aim of the proposal was to expand the

requirement for float-free arrangements on all new VDR installations and to capture both sides of a ship's internal telephone calls.

However, since no papers were received by either NCSR 9 or NCSR 10 it was decided to delete this item from the NCSR agenda.

Amendments to ECDIS Performance Standards (resolution MSC.530(106)) to facilitate a standardised digital exchange of ships' route plans

Draft amendments to resolution MSC.530(106) on Performance standards for Electronic Chart Display and Information Systems (ECDIS)

NCSR 10 continued the discussions to consider a proposal to develop a standardised and cyber-secure method for route exchange from ship-to-shore and from shore-to-ship to be added as an additional functionality in ECDIS. It is not proposed that it will be mandatory for ships' masters to use this additional functionality but given that masters already use external input for route planning, a standardised, cyber-secure, method may reduce workload and encourage the use of a common method instead of non-standardised solutions.

NCSR 9 agreed that the scope of the work should be limited to amendments necessary to facilitate a standardised digital exchange of ships' route plans from ship to shore, based on the ECDIS performance standards recently agreed (*Performance standards for Electronic Chart Display and Information Systems (ECDIS)(MSC.530(106))*).

NCSR 10 finalised the draft amendments to resolution MSC.530(106) which will go to MSC 108 (expected May 2024) for adoption.

Subject: Amendments to MSC.530(106).

Impact: Revisions to the performance standards to add additional functionality to ECDIS to enable the digital exchange of route plans from ship to shore.

Application: Applicable to both existing and new ECDIS installations as specified in the text. ECDIS systems installed on or after 1 January 2029 will need to comply with the new standards.

Application: The amendments are expected to be approved at MSC 108 (May 2024). NCSR 10 noted that the application dates of the original resolution (MSC.530(106)) has a phased introduction from 1 January 2026, and agreed that there was no need to amend the application which is as follows:

- New ECDIS equipment installed on or after 1 January 2029.
- Systems installed on or after 1 January 2026 but before 1 January 2029 may conform to either the revised resolution **or** to performance standards specified in resolution MSC.232(82).
- Systems installed on or after 1 January 2009 but before 1 January 2026 are to conform to the performance standards specified in resolution MSC.232(82).
- Systems installed on or after 1 January 1996 but before 1 January 2009, are to conform to the performance standards specified in resolution A.817(19), as amended by resolutions MSC.64(67) and MSC.86(70).

Revision of SOLAS regulation V/23 and associated instruments to improve the safety of pilot transfer arrangements

Accidents involving the tragic loss of pilots continue to happen worldwide despite previous efforts to improve pilot safety through amendments to SOLAS regulation V/23 (resolution MSC.308(88)) and standards for pilot transfers (resolution A.1045(27)). Statistics published by the International Maritime Pilots Association (IMPA)

over the past few years show that an unacceptably high rate of non-compliant pilot transfer arrangements installed on all types of ships, together with the improper use of pilot ladders and a lack of regular and effective maintenance and inspection, are major contributing factors.

NCSR 10 agreed that:

- SOLAS regulation V/23 should be revised.
- A separate resolution containing performance standards being directly referenced in the main text of revised regulation 23 (thus making it mandatory) should be developed. This would supersede A.1045(27).
- The footnote to regulation V/23 which references the ISO standard will be considered in the revisions to the regulation.

This work will now be continued in an intersessional correspondence group and is expected to be finalised at NCSR 11 (expected June 2024).

Application: If finalised, approved and adopted by 1 July 2026 the amendments are expected to enter into force 1 January 2028 and will be applicable to new ships from that date. Existing ships will need to comply not later than the first survey required by SOLAS regulations I/7 or I/8 after 1 January 2028.

NCSR 10 also noted the information on the results of the IMPA Safety Campaign/Survey 2022 and an assessment of Safety Campaign/Survey results, from 2018 to 2022.

Subject: Draft amendments to SOLAS regulation V/23 and A.1045(27) as amended.

Impact: Detailed requirements for the operational readiness, maintenance, inspection and periodical testing of pilot transfer arrangements.

Application: If approved and adopted by 1 July 2026 the new regulations are expected to apply to new ships from 1 January 2028 and existing ships not later than the first survey required by regulation I/7 or I/8 after 1 January 2028.

Communications

Development of amendments to SOLAS chapters IV and V and performance standards and guidelines to introduce VHF data exchange system (VDES)

The Very High Frequency (VHF) Data Exchange System (VDES) integrates the functions of terrestrial and satellite VHF data exchange, Application Specific Messages (ASM) and Automatic Identification System (AIS), enabling the exchange of digital data. The IMO has agreed to develop amendments to SOLAS chapter IV and chapter V to introduce the use of VDES and to develop performance standards and guidelines to facilitate the widespread adoption of the system.

NCSR 10 agreed that amendments to SOLAS chapter V should take priority while a more cautious approach will be needed to introduce the new communication tool under the GMDSS for the dissemination of MSI and revisions to SOLAS chapter IV. At the same time a technical, regulatory and operational analysis of VDES should be undertaken including its communication component which includes AIS, VDES-ASM, VDES-VDE-terrestrial and VDES-VDE-Satellite elements.

In order to progress the work as quickly as possible it will be continued through an intersessional correspondence group with the expectation of the amendments to SOLAS being finalised at NCSR 11 (expected June 2024).

Subject: Amendments to SOLAS chapters IV and V and performance standards and guidelines to introduce VHF data exchange system (VDES).

Impact: VDES is already in use. Inclusion in SOLAS and the development of performance standards will provide a global standard for such systems.

Application: The development, installation and use of VDES. Entry into force is expected to be 1 January 2028.

If the work is finalised at NCSR 11 as expected, then any amendments to SOLAS will enter into force 1 January 2028.

Development of performance standards for a digital navigational data system (NAVDAT)

Compared with NAVTEX, the digital navigation data system (NAVDAT) offers more comprehensive information that is delivered to ships more efficiently and displayed in a more user-friendly way. Digital technology allows NAVDAT to broadcast files in different modes:

- General broadcast (to all ships);
- Selective broadcast (to ships located in a specific area, or for groups of ships according to the ship's position, Maritime Mobile Service Identity (MMSI) or group identification); and
- Dedicated message (according to ship's MMSI).

There are also possibilities for encrypting sensitive files in the three modes of broadcasting. In that respect, NAVDAT can be used for more applications than the broadcasting of Maritime Safety Information (MSI) and search and rescue related information.

NCSR 10 considered:

- A proposed draft MSC resolution on Performance standards for the reception of maritime safety information and search and rescue related information by MF and HF NAVDAT although due to time constraints they were unable to progress the standards.
- Proposed draft amendments to resolution MSC.509(105) on *Provision of radio services for the Global Maritime Distress and Safety System (GMDSS)*. Likewise, time constraints meant that this work was not progressed.
- A proposed draft NAVDAT Manual. However, it was felt that it was premature to continue with the development of the manual at this stage.
- Proposals on the way forward for the introduction of NAVDAT and NCSR 10 endorsed a roadmap of elements that will need to be considered.

NCSR 10 noted that the existing system (NAVTEX) and NAVDAT would be expected to co-exist for a long time and new equipment to be developed in future would likely encompass both systems. In addition, it is expected that the provision of the NAVDAT service by coast stations would be optional so that the investment already made in NAVTEX shore infrastructure would not be lost.

Application: The work is expected to be finalised at NCSR 11 (2024) for subsequent adoption by MSC. Full application is yet to be decided.

Subject: Draft performance standards, amendments to MSC.509(105) and new NAVDAT Manual.

Impact: NAVDAT is a new system for use in the GMDSS. Limited impact immediately but is expected to work alongside NAVTEX initially.

Application: Not expected to be completed until NCSR 11 (2024). Full application yet to be decided.

Revision of the Criteria for the provision of mobile satellite communication services in the Global Maritime Distress and Safety System (GMDSS) (Resolution A.1001(25))

Resolution A.1001(25) *Criteria for the provision of mobile satellite communication services in the Global Maritime Distress and Safety System (GMDSS)* sets out the criteria that a satellite communications system must meet in

order to be recognised as a service provider in the GMDSS. Guidance is also provided in MSC.1/Circ.1414 *Guidance to Prospective GMDSS Satellite Service Providers*.

However, both the resolution and circular were developed when the only recognised mobile satellite system was a geostationary system and this presented difficulties when it came to evaluating a low Earth orbit (LEO) system (Iridium). Consequently, it was agreed that the instruments should be revised.

NCSR 10 considered the proposed draft MSC resolution which is intended to replace resolution A.1001(25). However, due to time constraints NCSR 10 was unable to finalise the revisions to the resolution and recognising that there is still further work to be done to resolve parts of the draft text, this work will be continued intersessionally in a correspondence group.

Application: Once finalised and adopted the revised resolution will apply:

- to the evaluation of mobile satellite services notified by Governments for possible recognition for use in the GMDSS, within the context of the relevant regulations of SOLAS chapter IV; and
- to the oversight of existing satellite systems and services for use in the GMDSS, within the context of the relevant regulations of SOLAS chapter IV.

Search and Rescue

Amendments to the IAMSAR Manual

This is a standing agenda item which addresses amendments to the IAMSAR Manual. Shipowners, Operators and Masters should note that the IAMSAR Manual is a surveyable item and ships are required to carry the most up to date edition. The current edition of the IAMSAR Manual was published 1 June 2022. The next edition will be finalised at NCSR 11 and is due to be published in 2025.

NCSR 10 decided that it was premature to amend the IAMSAR Manual to include guidance on emergency notification devices given the growth in the number of providers of a satellite distress communication service that does not fall within GMDSS or the typical international distress alerting system.

Any other business

Under this agenda item NCSR 10 considered the following:

Concerns on the implementation of GMDSS requirements due to the gaps and/or inconsistencies existing in COMSAR.1/Circ.32/Rev.1

COMSAR.1/Circ.32/Rev.2 Harmonisation of GMDSS Requirements for Radio Installations on board SOLAS Ships

As part of the longstanding project for the modernisation of the GMDSS, NCSR 9 approved revisions to COMSAR.1/Circ.32 *Harmonisation of GMDSS Requirements for Radio Installations on board SOLAS Ships* which was endorsed by MSC 106 as COMSAR.1/Circ.32/Rev.1. NCSR 10 considered several gaps and inconsistencies that have been identified in the text and agreed to amendments as follows:

- Deletion of the reference to SOLAS regulation IV/7.1.2 from section 1.6.3 relating to the duplication of VHF DSC watch receiver, in line with previous GMDSS requirements.

- Reviewed and updated the table under section 2.3, including the notes underneath it with the understanding that ships may choose duplicated MF/HF telephony to substitute MF telephony in sea area A3.
- Section 6.1.2 of the circular (i.e. "Interference from LED lighting and other unintentional emitters"), is reorganised to clarify the process recommended for identifying the source of electromagnetic interference, such as LED lighting systems, and by removing the reference to safety radio certificate.
- Other minor amendments and editorial changes.

NCSR 10 approved the revised circular which will be disseminated as COMSAR.1/Circ.32/Rev 2 with an effective date of 1 January 2024. MSC 107 will be invited to endorse this action.

Clarification on the requirements for the location of the EPIRB

As part of the discussion on the necessary revisions to COMSAR.1/Circ.32/Rev.1, NCSR 10 considered whether the common practise of locating the EPIRB on top of the navigation bridge is compliant with the requirement that it is 'located so that it may easily be released manually and brought to the survival craft by one person'. After some discussion, NCSR 10 agreed not to make any changes to section 4.10 due to the potential implications with respect of the location of the EPIRB on existing ships.

Unlawful practices associated with the fraudulent registration and registries of ships, including manipulation of AIS data transmissions and tampering of AIS transponders

Following reports of the tampering of AIS transponders to disguise illicit practices, MSC 106 referred a recommendation that IMO should consider the review of hardware and software security standards for prevention of such tampering to the NCSR sub-committee for their consideration and advice.

NCSR 10 noted that AIS transponders had been developed without provision for encryption or authentication of the transmitted data and as a tool to assist ships identification to aid such things as collision avoidance and VTS. The functionality of the equipment requires information to be transmitted by non-secure means which also allows easy manipulation and hacking. NCSR 10 also noted that MSC.347(91) *Recommendation for the protection of the AIS VHF Data Link* provides that Administrations should take steps to ensure the integrity of the radio channels used for AIS in their waters.

To address the above, NCSR 10 agreed to amend MSC.74(69)(Annex 3) *Recommendation on Performance Standards for an Universal Shipborne Automatic Identification System (AIS)* section 6.3: (new text in grey shade)

"A security mechanism should be provided to detect disabling and to prevent unauthorized alteration of input or transmitted data.

Access to MMSI and other AIS controls (like power and channel settings) will be controlled, e.g., by password. The security mechanism should prevent the change of IMO number after programming or initial installation.

To protect the unauthorized dissemination of data, the IMO guidelines (Guidelines and Criteria for Ship Reporting Systems) should be followed."

NCSR noted that the *Guidelines for the installation of a Shipborne Automatic Identification System (AIS)* (SN/Circ.227) addresses the restriction of access to the static information such as MMSI number and IMO number if the AIS is controlled by a password which makes it harder to manipulate, however this is not a mandatory document. NCSR also noted that VDES may supersede AIS in the future.

NCSR agreed to recommend to MSC that further measures could be considered and proposes that the Committee agrees to the request for a new output so that this subject can be added to the agenda of NCSR 11 as 'Measures to improve the integrity and security of AIS'.

Man overboard incidents from fishing vessels

NCSR 10 noted the report from the III 8 sub-committee on the safety issues resulting in man overboard incidents from fishing vessels and the use of personal flotation devices (PFDs) and search and rescue transponders (SART), to relocate a person falling overboard from fishing vessels.

NCSR 10 agreed that the following should be referred to the III sub-committee:

- A SART is only useful if the person is in a vessel or survival craft owing to the physical size of the device. Further, a SART is only used for localised or line-of-sight locating;
- MOB devices containing AIS-only might be used for localised locating. AIS-SART technology can be incorporated in other MOB devices which are smaller than a SART.
- For instances where the man overboard is beyond-line-of-sight of a vessel, 406 MHz devices, such as PLB and EPIRB might be more suitable.
- SAR aircraft are encouraged to carry an AIS and/or VHF DSC receiver to assist with localised locating.

Progress on standards development by IEC

NCSR 10 noted the report from IEC TC 80 on the progress of standards under development which will support performance standards and other IMO instruments. This is a standard report which included, but is not limited to the following):

- Bridge alert management which includes the document *Bridge alert management for mariners* ([Bridge Alert Management \(iec.ch\)](#))
- Digital interfaces
- GMDSS
- GNSS
- ECDIS

Delays affecting the availability of new GMDSS radio equipment from 1 January 2024

It is reported that delays are being experienced with the availability of new GMDSS radio equipment recommended for installation on or after 1 January 2024, in compliance with the revised performance standards set out in resolutions MSC.511(105) *Performance standards for shipborne VHF radio installations capable of voice communication and digital selective calling* and MSC.512(105) *Performance standards for shipborne MF and MF/HF radio installations capable of voice communication, digital selective calling and reception of maritime safety information and search and rescue related information*.

NCSR 10 supported the proposal to extend the continued installation of GMDSS radio equipment conforming to the previous performance standards until 1 January 2026, but also noted that the IEC were not expected to complete development of the relevant testing standards until that date, and an additional two years would be needed for the mass production of the relevant equipment and to bring them to market. In this respect NCSR 10 deferred any decisions to MSC 107 (June 2023).

NCSR 10 also noted that in the event of an extension being agreed at MSC 107 the *Guidance on the validity of radiocommunications equipment installed and used on ships* (MSC.1/Circ.1460/Rev.3) would also need to be revised.

Development of guidelines for the use of electronic record books under SOLAS regulation V/28

SOLAS regulation V/28.1 requires that all ships engaged on international voyages keep a record of navigational activities and incidents which are of importance to the safety of navigation, and which must contain sufficient detail to restore a complete record of the voyage. While the IMO has developed guidance on the use of electronic record books as required under MARPOL, specific guidelines or reference to existing international standards has not been provided for the use of electronic record books under SOLAS regulation V/28.

NCSR 10 considered a proposal to develop the necessary guidance for both the shipping industry and the Administration when approving the use of electronic record books but agreed that a request for a new output to MSC would be needed before any work could be started.

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