IMO session brief notes

11th session of the Sub-Committee on Navigation, Communications and Search and Rescue (NCSR 11)

04 – 13 June 2024

The 11th session of the Sub-Committee on Navigation, Communications and Search and Rescue (NCSR 11) was held in person in London 04 – 13 June 2024 with hybrid facilities allowing remote participation. Main outcomes of the meeting are given below.

Decisions of other IMO bodies

The following items were discussed during NCSR 11

From MSC 108:

- Dissemination of MSI and SAR related information NAVDAT implementation Use of VDES for GMDSS;
- Review, approval and adoption of resolutions A.707(17) and A.1001(25);
- Development of operational guidance for route exchange;
- S-100 implementation matters, including training needs of seafarers;

From A33:

- Adoption of resolution A.1192(33) on Urging Member States and all relevant stakeholders to promote actions to prevent illegal operations in the maritime sector by the "dark fleet" or "shadow fleet".

Routeing measures and ship reporting systems

The safety of shipping and the cleanliness of oceans are enhanced by routing measures and ship reporting systems. Ship reporting systems further improve safety by providing real-time information on ship movements.

SOLAS Chapter V designates the IMO as the sole international authority for establishing these systems, ensuring safe and efficient maritime navigation.

NCSR agreed on the below:

- The draft revision to COLREG.2/Circ.67 on amended ships' routeing system Traffic Separation Scheme (TSS) "In the approaches to Hook of Holland and at North Hinder" and associated measures;
- The draft revised recommendation on navigation for containerships in traffic separation schemes Off Vlieland, Terschelling-German Bight, Off Friesland and German Bight western approach;
- Draft areas to be avoided around oil rigs off the Brazilian coast – Santos Basin.

The finalised drafts are expected to be adopted at MSC 109 in December 2024, with implementation expected six months later.

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 Message (ASM) and Automatic Identification System (AIS).

VDES has additional capacity for the exchange of more digital data and could accommodate future growth in demand for utilising digital data in maritime radiocommunications.

It was previously proposed at the IMO that there is a need to amend chapters IV and V of SOLAS to introduce VDES, and to develop performance standards and guidelines to facilitate the widespread adoption of VDES.

Furthermore, MSC 108 agreed that the use of any new satellite system, including the VHF Data Exchange System (VDES), for use in the GMDSS, should be recognised by the Organization in accordance with the applicable procedures.

NCSR 11 agreed on a voluntary implementation of the VDES as further developments take place, which will allow it to be used concurrently with an AIS.

Due to time constraints, NCSR 11 could not make progress on the preparation of draft amendments to SOLAS chapter V, draft performance standards for VDES, or the draft guidelines for the operational use of shipborne VDES.

A Correspondence Group was re-established to continue the work intersessionally for finalisation at NCSR 12.

NCSR 11 also agreed that the amendments to chapter IV should not be pursued at this stage and invited interested Member States and international organizations to consider proposing a new output for the introduction of VDES as communication equipment under SOLAS chapter IV, if required in future.

If the work is finalised at NCSR 12, then any amendments to SOLAS will not enter into force before 1 January 2028.

Development of guidelines for the use of electronic nautical publications (ENP)

SOLAS regulations V/19.2.1.4 and V/19.2.1.5 require ships to have nautical charts and publications for voyage planning, display, and monitoring, which can be in electronic form with appropriate backups.

The use of ENPs in lieu of traditional nautical publications has surged in recent years due to their advantages. However, there's no current IMO instrument providing uniform instructions, though some guidance has been issued by national hydrographic offices.

Therefore, urgent development of specific IMO-level guidance is felt necessary to ensure uniform and global implementation of SOLAS regulation V/19.2.1.4.

Noting that several issues still require consideration, NCSR 11 established a correspondence group to finalise the draft guidelines on installation and use of electronic nautical publications.

The report will be submitted to NCSR 12.

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

Accidents resulting in the tragic loss of pilots continue to happen worldwide despite previous efforts to improve pilot safety though 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 to accidents.

NCSR 11 agreed to:

- The draft amendments to SOLAS regulation V/23;

- The consequential draft amendments to the 1994 and 2000 HSC Codes and the 2008 SPS Code;

- The draft MSC resolution on Performance standards for pilot transfer arrangements (expected to be adopted as a mandatory instrument)

The draft amendments to the regulations are expected to be approved by MSC 109, for adoption at MSC 110 (May 2025).

Application details of the draft amendments to SOLAS regulation V/23:

- Pilot transfer arrangements installed on or after 1 January 2028, shall be designed, manufactured, constructed, secured and installed in accordance with parts A, B and C of the performance standards. Installed on or after 1 January 2028 means a contractual delivery date for the pilot transfer arrangement or, in the absence of a contractual delivery date, the actual delivery date of the arrangement to the ship on or after 1 January 2028;

- Pilot transfer arrangements installed before 1 January 2028 on ships to which SOLAS chapter I applies, shall be designed, manufactured, constructed, secured and installed in accordance with parts A, B and C of the performance standards, not later than the first annual, periodical or renewal safety equipment survey after 1 January 2029, as referred to in MSC.1/Circ.1290;

- Pilot transfer arrangements installed before 1 January 2028 on ships to which SOLAS Chapter I does not apply, shall be designed, manufactured, constructed, secured and installed in accordance with parts A, B and C of the performance standards, no later than 1 January 2030

- Regardless of installation date, all pilot transfer arrangements must undergo inspection, stowage, maintenance, replacement, and familiarization in accordance with parts D and E of the performance standards;

- Pilot transfer arrangements shall be approved in accordance with part F of the performance standards;

- Accommodation ladders, together with any associated fittings intended for use in accordance with the performance standards shall meet the requirements for the means of embarkation on and disembarkation from ships as required by SOLAS regulation II-1/3-9. This includes those installed prior to 1 January 2010 which do not currently need to comply with SOLAS regulation II-1/3-9;

- Regardless of date of installation, maintenance and inspection of accommodation ladders used in the combination arrangement shall be carried out in accordance with SOLAS regulation II-1/3-9.3.

NCSR 11 also agreed to the draft MSC circular on Voluntary early implementation of the amendments to SOLAS regulation V/23 on pilot transfer arrangements with approval expected at MSC 109.

NCSR 11 invited IMPA to make modifications to proposed illustrations on pilot transfer arrangements to address the outstanding issues concerning the draft revision of MSC.1/Circ.1428 and submit them to MSC 109 for approval.

Updates to the LRIT system

The misuse of LRIT and AIS equipment, leading to the operation of "dark" or "shadow" fleets, poses significant risks to maritime safety and the environment.

The IMO has taken steps to address this issue, including the adoption of performance standards for LRIT at MSC 106 (resolution MSC.263(84)/Rev.1) and urging Member States to prevent illegal operations in the maritime sector (resolution A.1192(33)).

Efforts are underway to improve the security of AIS. Despite challenges such as susceptibility to manipulation and hacking, measures are being identified to mitigate these risks.

Additionally, paragraph 22 of the annex to resolution A.1106(29) permits the deactivation of AIS in situations where the safety or security of the ship is compromised.

This document aims to discourage the unethical practice of shutting down LRIT equipment and advocates for measures to enhance compliance and safety in maritime operations.

In response, NCSR 11 noted the need for measures to enhance the monitoring of the performance of LRIT shipborne equipment. It also encouraged Member States in the LRIT system to actively monitor LRIT transmissions from their ships to quickly detect missing position reports or unusual trends.

Furthermore, NCSR 11 endorsed creating a new output for further consideration of the related proposals, given the anticipated cost implications and the potential need for amendments to the relevant LRIT documentation.

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 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 system (Iridium). Consequently, it was agreed that the instruments should be revised.

NCSR 11 prepared a draft Assembly resolution on criteria for providing mobile satellite communication systems in the GMDSS, revoking resolution A.1001(25) and MSC.1/Circ.1414.

It applies to both current and future RMSSs without adding constraints or costs to existing ones. The draft will be submitted for approval at MSC 109, aiming for adoption by Assembly 34 (December 2025).

Application for recognition: Once approved and adopted, manufacturers of satellite systems which are seeking their inclusion in the GMDSS must apply through a Member State to the IMO.

Applications will be reviewed by the MSC and, if there is no objection in principle, will be forwarded to NCSR for evaluation.

Identification of measures to improve the security and integrity aspects of AIS

MSC 105 initiated an investigation into how ships without proper registration obtained Maritime Mobile Service Identities (MMSI) to manipulate AIS data, leading to referral to NCSR.

MSC 106 prompted a review of hardware and software security standards to prevent AIS transponder tampering. MSC 107 included "Identification of measures to improve the security and integrity aspects of AIS" in NCSR's agenda.

In response NCSR 11:

- Agreed to the draft MSC resolution on Performance standards for a universal shipborne AIS enhancing the existing requirement for the entry of the IMO number into the AIS equipment and introducing new requirements for entry of a "unique manufacturer equipment identification number" and an "official flag State number", where the ship has no IMO number. The effective date of the resolution is proposed as 1 January 2029 to allow time for testing standard development and mass production. This is expected to be adopted at MSC 109;

- Noted the draft consequential modifications to Guidelines for the installation of a shipborne AIS (SN/Circ.227, as amended) and Guidelines on annual testing of the AIS (MSC.1/Circ.1252) for consideration at NCSR 12, alongside additional modifications potentially needed after revising Recommendation ITU-R M.1371-5;

- Noted that in the short term, harmonised use and cross-referencing of AIS and LRIT data could significantly help detect irregularities. In the long term, VDES could provide an effective solution to AIS manipulation through data encryption and authentication.

Developments in GMDSS services, including guidelines on maritime safety information (MSI)

MSC 108 discussed significant developments in Global Maritime Distress and Safety System (GMDSS) services, particularly focusing on the dissemination of Maritime Safety Information (MSI) and instructed NCSR to draft amendments to SOLAS, mandating the dissemination of MSI and SAR (Search and Rescue) related information through all operational RMSSs (Recognised Mobile Satellite Services).

The implementation date for disseminating MSI through all operational RMSSs was set to be no later than 31 December 2026.

In line with above, NCSR 11:

- Instructed the joint IMO/ITU Experts Group to draft SOLAS amendments and advise NCSR 12, also considering alignment with "RMSS" in resolution A.707(17) and Recommendation ITU-T D.90;

- Agreed to the draft Assembly resolution on charges for distress and safety communications via recognised mobile satellite services in the GMDSS. This is expected to be approved at MSC 109 with adoption at Assembly 34.

Development of global maritime SAR services, including harmonization of maritime and aeronautical procedures and 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 has been finalised at NCSR 11 and is due to be published in 2025.

NCSR 11 agreed to the draft amendments to the IAMSAR Manual, Volumes I, II and III for inclusion in the 2025 edition of the Manual, and invited MSC 109 to approve it. The new edition of IMASAR manual will be applied 12 months after the approval by MSC 109.

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, MMSI or group identification); and

- Dedicated message (according to ship's MMSI).

There is also the possibility to encrypt sensitive files in the three modes of broadcasting. In that respect, NAVDAT can be used for more applications than the broadcasting of MSI and search and rescue related information.

NCSR 11:

- Approved the draft MSC resolution on Performance standards for the reception of maritime safety information and search and rescue related information by MF and HF digital navigational data (NAVDAT) system, with a view to adoption by the MSC 109 (Dec 2024);

- Approved the draft revision of resolution MSC.509(105) on Provision of radio services for the Global Maritime Distress and Safety System (GMDSS), with a view to adoption by the MSC 109 (Dec 2024).

Noting the remaining work for NAVDAT system implementation, NCSR 11:

- Invited the IMO NAVTEX Coordinating Panel to develop a NAVDAT coordination scheme;

- Instructed the Joint IMO/ITU Experts Group to review the draft NAVDAT manual, consider the revised roadmap, and advise to the NCSR 12;

- Agreed that remaining work for NAVDAT implementation can be addressed under the existing output of "Developments in GMDSS services, including guidelines on maritime safety information (MSI)"

MSC 108 agreed that the establishment of a formal recognition framework for new terrestrial GMDSS services was not necessary, and NAVDAT implementation should not entail replacement of shipborne NAVTEX receivers with NAVDAT receivers.

Implementation of MSC.1/Circ.1460/Rev.4 on Guidance on the validity of radiocommunications equipment installed and used on ships

Due to the delay in the availability of GMDSS equipment conforming with the revised performance standards (MSC.511(105) and MSC.512(105)), MSC 107 had postponed the implementation date to 1 January 2028.

The revision via MSC.1/Circ.1460/Rev.4, shifting the implementation date addresses the current shortage of type approved VHF equipment but does not fully resolve the uncertainty surrounding the timing of replacing such new shipborne equipment.

SOLAS mandates Contracting Governments to provide appropriate shore-based facilities for radiocommunication services; however, the timeline for implementing shore-based infrastructure seems beyond the jurisdiction of the IMO.

The amendment postpones the date to update VHF equipment to 1 January 2028. Although some shore infrastructures have been upgraded to the new VHF channel plan, many stations are expected to continue using the old channels for an unknown period.

Ships may need to maintain the old channels in their VHF until their use on shore is discontinued. It was suggested at the IMO amending MSC.1/Circ.1460/Rev.4 to ensure all ships have at least one set of VHF DSC radiocommunication equipment with the new channel plan and one with the old channel plan until all shore stations have implemented the new channel plan.

NCSR 11 agreed to the draft revision of the MSC circular on Guidance on the validity of radiocommunications equipment installed and used on ships (MSC.1/Circ.1460/Rev.4), to be disseminated as MSC.1/Circ.1460/Rev.5, with a view to approval by MSC 109.

The draft revision clarifies that mandatory VHF/DSC equipment should comply with the ITU requirements at the time of implementation. Once approved, the need for updating existing VHF radiocommunication equipment is following the first radio survey after 1 January 2028.

It was also noted that most of the equipment can be upgraded to cover both the new and old channel plans which reduces the burden on existing ships. The new paragraph 6 also mentions that ships should be able to communicate to shore anyway.

Seafarers were advised to use the ITU home page Maritime mobile Access and Retrieval System (MARS) is ITU's online access and retrieval system that allows users to consult the information currently registered in the ITU's maritime database system.

MARS is updated daily based on information provided by Administrations. In addition, the Coast Station section of MARS allows users to search for station information including available VHF channels.

Progress on standards development by IEC

Technical Committee 80 of the International Electrotechnical Commission (IEC TC 80) is responsible for the preparation of standards for maritime navigation and communication equipment and systems.

NCSR 11 noted the report from IEC TC 80 on the progress of standards completed and under development which will support performance standards and other IMO instruments:

- IEC 61108-7: Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS) – Part 7: Satellite Based Augmentation System (SBAS) L1 – Receiver equipment – Performance requirements, methods of testing and required test results (Published);

- IEC 61162-1: Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners (Published);

- IEC 61162-2: Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 2: Single talker and multiple listeners, high-speed transmission (Published);

- IEC 61162-450: Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 450: Multiple talkers and multiple listeners - Ethernet interconnection (Published);

- IEC 61162-460: Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 460: Multiple talkers and multiple listeners - Ethernet interconnection - Safety and security (Published);

- IEC 61097-12: Global maritime distress and safety system (GMDSS) - Part 12: Survival craft portable two-way VHF radiotelephone apparatus -Operational and performance requirements, methods of testing and required test results (Published);

- IEC 61097-4: INMARSAT-C ship earth station and INMARSAT enhanced group call (EGC) equipment – Operational and performance requirements, methods of testing and required test results (Published);

- IEC 61174: Maritime navigation and radiocommunication equipment and systems - Electronic chart display and information system (ECDIS) -Operational and performance requirements, methods of testing and required test results (In progress);

IEC 61097-7: Global maritime distress and safety system (GMDSS) - Part 7: Shipborne VHF radiotelephone transmitter and receiver - Operational and performance requirements, methods of testing and required test results (Ongoing, target publication date 2026);

IEC 61097-9: Global maritime distress and safety system (GMDSS) - Part 9: Shipborne transmitters and receivers for use in the MF and HF bands suitable for telephony, digital selective calling (DSC) and reception of Maritime Safety Information and Search and Rescue related information -Operational and performance requirements, methods of testing and required test results (Ongoing, target publication date 2026).

Update on the progress of S-100 development and implementation

MSC 106 had adopted resolution MSC.530(106) on Performance Standards for electronic chart display and information systems (ECDIS).

In doing so, the Committee invited the IHO to keep the IMO informed on the process of development and implementation of the IHO Universal Hydrographic Data Model (S-100) framework standard.

The IHO is actively working on several S-100-based products and services intended for use in the new generation of S-100 ECDIS. The S-100 Implementation Road Map ensures the smooth integration of S-100 standards into end-user devices such as ECDIS.

Key milestones in MSC.530(106) included the voluntary installation of S-100 ECDIS from 1 January 2026 and mandatory installation in all new ECDIS from 1 January 2029.

Furthermore, MSC 108 adopted resolution MSC.530(106)/Rev.1 to facilitate a standardised digital exchange of ships' route plans, and further instructed NCSR 11 to consider the development of appropriate operational guidance for route exchange.

NCSR 11 noted the considerations for developing operational guidance for route exchange as per operative paragraph 4 of resolution MSC.530(106)/Rev.1, and invited Member States to submit a proposal for a new output to MSC 109 or include it in MSC 109's post-biennial agenda, as this work follows from the adoption of resolution MSC.530(106)/Rev.1.

NCSR 11 also noted the considerations on S-100 implementation and seafarer training needs, and:

- Encouraged Member States to share their experiences with the IMO;

- Invited Member States to submit an urgent proposal for a new output on S-100 implementation to MSC 109, related to the operational guidance in resolution MSC.530(106)/Rev.1;

- Invited HTW to revise model course 1.27 on ECDIS to include updates from resolution MSC.530(106)/Rev.1.