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| MARITIME SAFETY COMMITTEE  105th session  Agenda item XX | MSC 105/XX/XX  XX XX 2022  Original: ENGLISH  Pre-session public release: ⮽ |

**WORK PROGRAMME**

**Proposal for a new output to establish a Joint IMO/IALA Working Group on Maritime Information Communication Technology**

**Submitted by the International Association of Marine Aids to Navigation and**

**Lighthouse Authorities (IALA), Republic of Korea and [any co-sponsor]**

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| **SUMMARY** | |
| *Executive summary:* | This document is submitted following the outcome of NCSR 8 with regard to introducing information communication technology at sea.  The cosponsors propose the establishment of an IMO/IALA WG to facilitate discussion on new technologies including maritime information communication technologies.  In order to establish the WG, the cosponsors propose a correspondence Group be formed to develop terms of reference for the proposed IMO/IALA WG. |
| *Strategic direction, if applicable:* | 2, 7 |
| *Output:* | Not applicable |
| *Action to be taken:* | Paragraph 18 |
| *Related documents:* | NCSR 7/12, NCSR 7/12/10, NCSR 8/7, NCSR 8/7/7 and IMO/ITU EG 16/6 |

**Introduction**

1 This document is submitted in accordance with paragraph 5.26 of the *Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.5/Rev.2), taking into account resolution A.1111(30) on *Application of the Strategic Plan of the Organization*.

2 The document proposes to establish a joint IMO/IALA Working Group (IMO/IALA WG) in order to facilitate discussion on new technologies including maritime information communication technology (ICT). This issue was discussed at the 7th and 8th sessions of the Sub-Committee on Navigation, Communications and Search and Rescue (NCSR 7 and 8). A Correspondence Group led by XX, will be required to develop the ToR of the IMO/IALA WG.

**Background**

3 At the fifteenth meeting of the Joint IMO/ITU Experts Group on maritime radiocommunication matters (IMO/ITU EG 15, July 2019), Germany submitted document IMO/ITU EG 15/7/1, providing information about the developing technical standardization of public mobile broadband networks and their envisaged use for maritime safety communications.

4 As noted paragraph 8.9 of the annex to document NCSR 7/12, the delegations that took the floor at IMO/ITU EG 15 recognized that these were relevant developments and that IMO should have a leading role and get involved in the work of the 3rd Generation Partnership Project (3GPP) and the Expert Group invited IALA to keep IMO informed of future developments. Accordingly, IALA submitted document NCSR 7/INF.6.

5 At the sixteenth meeting of the Joint IMO/ITU Experts Group (IMO/ITU EG 16, Sept 2020), the Republic of Korea invited IMO to monitor developments of maritime application of public mobile broadband communication technologies for maritime safety and the development of relevant international standards that were underway in 3GPP.

6 IMO/ITU EG 16 invited interested Member States and organizations to submit proposals to NCSR 8 for consideration and in-depth discussion on the use of public broadband communication (NCSR 8/7, annex, paragraph 7.3). At NCSR 8, IALA, ITF, Norway, Australia, China, Singapore expressed support to the proposal presented in document NCSR 8/7 and the Sub-Committee agreed to invite interested parties to submit relevant proposals for a new output to the Maritime Safety Committee in order to address this matter, as part of the working plan of the Sub-Committee, as appropriate (NCSR 8/WP.1/Rev.1, paragraph 7.8).

**IMO’s objectives**

7 The proposal for a new output is related to IMO’s strategic direction (SD) 2 “Integrate new and advancing technologies in the regulatory framework” and SD 7 “Ensure organizational effectiveness.”

**Need**

8 IMO/ITU EG 15 recognised that public mobile broadband communication devices are used widely and increasingly by non-SOLAS vessels, such as pleasure craft and fishing vessels. While the use of ICT devices by such users brings the attention of IMO to the need to engage as appropriate, it does not seem that there are many discussions or reviews at the level of the Organization. In this regard, it is deemed necessary for IMO, as an Organization that oversees navigational safety and life at sea, to take various actions, including reviewing the introduction of state-of-the-art technologies into the maritime sector.

**Analysis of the issue**

9 Considering the technical nature of tasks related to the aforementioned actions, as well as the current administrative burden of IMO, it is envisaged that working in partnership with IALA will allow IMO to keep across developments in new technologies, e.g. digitalisation of navigation systems and the standardisation of ICT.

10 The cosponsors believe establishing a Correspondence Group is a necessary first step to develop ToR for the joint IMO/IALA working Group on maritime ICT for the 2022-2023 biennium.

**Implications**

11 Since the work of the CG will be conducted mostly via correspondence, it is expected the proposal for the new output would not impose additional cost or burden to the Organization and the shipping industry.

**Benefits**

12 It is envisaged that an IMO/IALA Working Group would usher in a new chapter on marine ICT technologies and make a significant contribution to SD 2 and SD 7.

**Industry standards**

13 The new technologies that are to be provided and reported to the Organization include the industry standards that are currently being developed at ITU, IEC and IALA.

**Proposal**

14 The co-sponsors propose the establishment of a Correspondence Group to develop the terms of reference for a Joint IMO/IALA Working Group on maritime information communication technology (ICT) for the biennium 2022-2023. The CG will develop:

.1 a draft terms of reference for Joint IMO/IALA Working Group on maritime

ICT until 2023; and

.2 a draft guideline on use of mobile broadband communication  
 technologies as a pilot programme of IMO.

**Human element**

15 This proposal is regarding the establishment of the correspondence Group within IMO, not requiring a need for new crew nor training requirements. The completed *Checklist for considering human element issues by IMO bodies* (MSC-MEPC.7/Circ.1) is annexed to this document as annex 2.

**Urgency**

16 Considering the rapid pace of technological development in mobile communication and MASS technologies, and the administrative burden of IMO, it is deemed appropriate for the Organisation to consider the harmonization of the new technologies and the existing systems (e.g. GMDSS) in the perspective of maritime safety.

17 In this regard, the co-sponsors propose the aforementioned preliminary discussion and preparation during the biennium 2022-2023 as a new output before the status of IALA would change into an IGO.

**Action requested of the Committee**

18 The Committee is invited to consider the proposal in paragraph 14 and take action, as appropriate.

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**ANNEX 1**

**CHECKLIST FOR IDENTIFYING ADMINISTRATIVE REQUIREMENTS**

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| This checklist should be used when preparing the analysis of implications required in submissions of proposals for inclusion of outputs. For the purpose of this analysis, the term "administrative requirement" is defined in accordance with resolution A.1043(27), as an obligation arising from a mandatory IMO instrument to provide or retain information or data.  **Instructions**:  (A) If the answer to any of the questions below is **YES**, the Member State proposing an output should provide supporting details on whether the requirements are likely to involve start-up and/or ongoing costs. The Member State should also give a brief description of the requirement and, if possible, provide recommendations for further work, e.g. would it be possible to combine the activity with an existing requirement?  (B) If the proposal for the output does not contain such an activity, answer **NR** (Not Required).  (C) For any administrative requirement, full consideration should be given to electronic means of fulfilling the requirement in order to alleviate administrative burdens. | | |
| 1. Notification and reporting?  Reporting certain events before or after the event has taken place, e.g. notification of voyage, statistical reporting for IMO Members | **NR** |  |
| Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes) | | |
| 2. Record-keeping?  Keeping statutory documents up to date, e.g. records of accidents, records of cargo, records of inspections, records of education | **NR** |  |
| Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes) | | |
| 3. Publication and documentation?  Producing documents for third parties, e.g. warning signs, registration displays, publication of results of testing | **NR** |  |
| Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes) | | |
| 4. Permits or applications?  Applying for and maintaining permission to operate, e.g. certificates, classification society costs | **NR** |  |
| Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes) | | |
| 5. Other identified requirements? | **NR** |  |
| Description of administrative requirement(s) and method of fulfilling it:(if the answer is yes) | | |

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**ANNEX 2**

**CHECKLIST FOR CONSIDERING HUMAN ELEMENT ISSUES BY IMO BODIES**

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| **Instructions:**  If the answer to any of the questions below is:  (A) **YES**, the preparing body should provide supporting details and/or recommendation for further work.  (B) **NO**, the preparing body should make proper justification as to why human element issues were not considered.  (C) **NA** (Not Applicable) – the preparing body should make proper justification as to why human element issues were not considered applicable. | |
| **Subject Being Assessed:** (e.g. resolution, instrument, circular being considered)  **establish a new Correspondence Group on Development of Joint IMO/IALA Working Group to prepare Joint IMO/IALA Working Group on Maritime Information Communication Technology** | |
| **Responsible Body**: (e.g. committee, sub-committee, working group, correspondence group, Member State)  Please fill in here | |
| 1. Was the human element considered during development or amendment process related to this subject? | ❑Yes ❑No ◼NA |
| 2. Has input from seafarers or their proxies been solicited? | ❑Yes ❑No ◼NA |
| 3. Are the solutions proposed for the subject in agreement with existing instruments? (Identify instruments considered in comments section) | ❑Yes ❑No ◼NA |
| 4. Have human element solutions been made as an alternative and/or in conjunction with technical solutions? | ❑Yes ❑No ◼NA |
| 5. Has human element guidance on the application and/or implementation of the proposed solution been provided for the following: |  |
| • Administrations? | ❑Yes ❑No ◼NA |
| • Shipowners/managers? | ❑Yes ❑No ◼NA |
| • Seafarers? | ❑Yes ❑No ◼NA |
| • Surveyors? | ❑Yes ❑No ◼NA |
| 6. At some point, before final adoption, has the solution been reviewed or considered by a relevant IMO body with relevant human element expertise? | ❑Yes ❑No ◼NA |
| 7. Does the solution address safeguards to avoid single person errors? | ❑Yes ❑No ◼NA |
| 8. Does the solution address safeguards to avoid organizational errors? | ❑Yes ❑No ◼NA |
| 9. If the proposal is to be directed at seafarers, is the information in a form that can be presented to and is easily understood by the seafarer? | ❑Yes ❑No ◼NA |
| 10. Have human element experts been consulted in development of the solution? | ❑Yes ❑No ◼NA |
| 11. **HUMAN ELEMENT: Has the proposal been assessed against each of the factors below?** | |
| ❑ CREWING. The number of qualified personnel required and available to safely operate, maintain, support and provide training for system. | ❑Yes ❑No ◼NA |
| ❑ PERSONNEL. The necessary knowledge, skills, abilities and experience levels that are needed to properly perform job tasks. | ❑Yes ❑No ◼NA |
| ❑ TRAINING. The process and tools by which personnel acquire or improve the necessary knowledge, skills and abilities to achieve desired job/task performance. | ❑Yes ❑No ◼NA |
| ❑ OCCUPATIONAL HEALTH AND SAFETY. The management systems, programmes, procedures, policies, training, documentation, equipment, etc. to properly manage risks. | ❑Yes ❑No ◼NA |
| ❑ WORKING ENVIRONMENT. Conditions that are necessary to sustain the safety, health and comfort of those on working on board, such as noise, vibration, lighting, climate and other factors that affect crew endurance, fatigue, alertness and morale. | ❑Yes ❑No ◼NA |
| ❑ HUMAN SURVIVABILITY. System features that reduce the risk of illness, injury or death in a catastrophic event such as fire, explosion, spill, collision, flooding or intentional attack. The assessment should consider desired human performance in emergency situations for detection, response, evacuation, survival and rescue and the interface with emergency procedures, systems, facilities and equipment. | ❑Yes ❑No ◼NA |
| ❑ HUMAN FACTORS ENGINEERING. Human-system interface to be consistent with the physical, cognitive and sensory abilities of the user population. | ❑Yes ❑No ◼NA |
| **Comments:** (1) Justification if answers are NO or Not Applicable. (2) Recommendations for additional human element assessment needed. (3) Key risk management strategies employed. (4) Other comments. (5) Supporting documentation.  The proposal primarily concerns administrative change concerning establishment of a new correspondence group regarding the potential development of Joint IMO/IALA Working Group on technical aspects of new maritime advances, which does not require new crew or training requirements to be imposed on the seafarer. In this regard, all Human Element considerations are not applicable. | |

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**ANNEX 3**

**DRAFT TERMS OF REFERENCE FOR THE CORRESPONDENCE GROUP TO PREPARE JOINT IMO/IALA WORKING GROUP ON MARITIME INFORMATION COMMUNICATION TECHNOLOGY**

The Correspondence Group is established, considering documents submitted to MSC 104 and other relevant documents submitted considering the establishment of the Correspondence Group, to:

.1 consider the draft terms of reference for Joint IMO/IALA Working Group on Maritime ICT, prior to the change of status of IALA as an Intergovernmental organization.

.2 further consider the guidelines or procedures regarding the new maritime technologies, considering comments and suggestions made at the fifteenth and sixteenth meeting of the Joint IMO/ITU Experts Group and MSC 104, including standardization of public mobile broadband communication technology for maritime safety.

.3 develop an exemplificative draft of the guideline on the application of new mobile broadband communication technologies in IMO (working title), based on relevant document NCSR 7/12, NCSR 7/12/10, NCSR 8/7/7, IMO/ITU EG 16/6, comments and suggestions made at the fifteenth and sixteenth meeting of the Joint IMO/ITU Experts Group and MSC 104.

.4 further consider the concrete scope and timeline for developing Joint IMO/IALA Working Group in support of the objectives of IMO.

.5 submit an interim report to NCSR.

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