**Terms of Reference**

**for the**

**AIS and Communications Systems WG**

**Introduction**

Communications was recognised as one of the three fundamental components required for e-Navigation to succeed (together with ENCs and redundant position-fixing). Since 1995, IALA has had an important role in the development and implementation of AIS. The work has been organized in different ways over time and since 2006 has been performed in a WG of the e-Navigation Committee. The ToR for the AIS TWG are therefore developed in accordance with the work programme for the e-Navigation Committee. The integration of the AIS TWG in the e-Navigation Committee underlines the importance of AIS in the e-Navigation concept and allows the user needs to guide the further development of AIS. The work of the group is directed by the developing e-Navigation Strategy within IMO.

The Communications Working Group was established at e-NAV 4 to develop an IALA World-Wide Radio Communication Plan (IALA WWRCP); and to study and provide guidance on existing and developing communications and information technology systems to support eNavigation. The e-Navigations Committe decided to change the title of the WWRCP and in December 2009 approved the document as the Maritime Radio Communications Plan (MRCP). Recognising that AIS is one of the most important communication systems in e-Navigation, the AIS and Communications groups have now been merged to form this new working group.**Scope**

Initial discussion concerned radio-communications, however this was later broadened to include communication systems and now encompasses AIS. This extension will make close coordination with the other working groups, in particular Strategy & Operations and the Architecture TWG.

**Objective**

The objective of the ACS WG is to support the e-Navigation Committee by studying existing and developing communication technologies, including AIS and assist in securing the necessary spectrum for e-Navigation and GMDSS Modernization. The IALA Maritime Radio Communications Plan (MRCP), will be modified as necessary, to consider new systems or technologies for e-Navigation or maritime communications. In addition, remove any obsolete systems that are no longer being considered for e-Navigation or are no longer used for maritime communications.

To contribute to the development of AIS as a component in the e-Navigation concept and to produce the relevant documentation to support a successful implementation.

**Terms of Reference**

1. Study operational and technical requirements (to 2020+) for communication systems in e-Navigation (incl. GMDSS, , ship to ship & shore, shore to shore & ship).
2. Identify radio communication services and consider spectrum management approaches (including the possible effect of spectrum pricing) and provide options for different scenarios.
3. Evaluate the potential development of communication channels within other frequency bands, including the IALA MF DGNSS beacon system and e-Loran.
4. Take account of the output of WG1 (Strategy & Operations), in particular the concepts: 'common maritime information data structure' and 'automated and standard reporting functions', including a consideration of legal and commercial restrictions when 'polling' information from ships.
5. Work on questions relating to spectrum requirements for AIS.
6. Work with the Architecture TWG on ship-shore and shore-shore radio link requirements and the proposed MIS WG on user-requirements for maritime information.
7. Take account of the developing e-Navigation Strategy within IMO and parallel studies, in particular those carried out for ICAO on future communications for aviation.
8. Prepare an action plan for obtaining international agreement on requirements, frequency assignments and technical characteristics.
9. Update, as necessary, the IALA Maritime Radio Communications Plan (MRCP) and submit for consideration by the e-NAV Committee.
10. Draw from MRCP plan any submissions needed by national administrations to WRC-15 and WRC-18.
11. Liaison with IMO and ITU WP5B, as necessary, to share study information in support of e-Navigation and GMDSS communications requirements.
12. Review and update the relevant IALA documentation on AIS, including adaption to the e-Navigation documentation terminology and structure.
13. Coordinate input to IMO, ITU, IEC and RTCM regarding AIS, taking into account the future roll of AIS in e-Navigation
14. Monitor and contribute to the development of AIS and VDE  
    .
15. Update and publish the Technical Clarifications to ITU Technical Characteristics on AIS (ITU-R M.1371) as required.
16. Publish the technical clarifications for future e-Navigation Communication systems.
17. Monitor the use of AIS in Polar Regions (e.g. AIS AtoN)

**Deliverables**

IALA Members to influence their national inputs to the anticipated WRC-15 agenda items for GMDSS Modernization and e-Navigation. Updates to the Maritime Radio Communication Plan and relevant AIS guidelines and recommendations.

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