Input paper: [[1]](#footnote-1) PAP37-3.3.1.1

Input paper for the following Committee(s): check as appropriate Purpose of paper:

**□** ARM **□** ENG X PAP X Input

**□** ENAV **□** VTS **□** Information

Agenda item [[2]](#footnote-2) (from agenda) 3.3.1

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MAton and AMRD

# Summary

At its sixth session the IMO NCSR Sub-Committee, considered liaison papers from both IALA (NCSR 6/12/5) and ITU-R WP5B (NCSR 6/12/9) on Mobile Aids to Navigation (MAtoN) and Autonomous Maritime Radio Device (AMRD) and developed the liaison paper informing ITU-R WP5B (NCSR 6/WP5) of its view.

## Purpose of the document

This input document informs the PAP, ARM and ENAV Committees of the discussions at NCSR 6 and asks them to consider conveying IALA’s concern and views on this matter to ITU-R WP5B.

## Related documents

NCSR 6/12/5, NCSR 6/12/9, NCSR 6/WP5

# Background

IALA had developed the concept of MAtoN by issuing IALA Recommendation R-1016 in 2018 that took into account new obligations imposed by the Nairobi International Convention for removal of wrecks. In parallel with this movement, ITU-R WP5B has also developed the concept of AMRD taking into account requests from the maritime community that required new radio devices that utilise AIS or DSC technology to mark moving or drifting objects at sea. There are 2 categories of AMRD, Group A enhances the safety of navigation and Group B does not enhance the safety of navigation.

Following liaison between IALA and ITU-R WP5B, IALA considered MAtoN as a part of AtoN but not classified as AMRD Group A or Group B and submitted an input paper to NCSR 6 (NCSR 6/12/5). Figure 1 shows IALA views on this matter.



Figure 1: Representation of differing device classification

However, ITU considered that one application of AMRD Group A is MAtoN and also sent a liaison note (NCSR 6/12/9) to IMO seeking advice on the application of AMRD from a navigational viewpoint. Figure 2 shows ITU’s view on this matter.



Figure 2: Diagram of AMRD in the regulatory framework

At NCSR 6, NAV WG and COM WG had a joint session to discuss the matter and there were some concerns expressed by the delegates especially on AMRD such as responsibility and applications. The Chair of the ENAV committee commented that such concerns were already discussed during the development of the MAtoN concept and solutions were included in IALA Recommendation R-1016 on MAtoN. After some discusion among IALA members, IALA agreed that MAtoN could be one of applications of AMRD Group A but still had some concerns on ITU’s view on matters such as numbering scheme and output power. NCSR 6 developed the liaison to ITU-R WP5b that suggested that MOB Class M and MAtoN were the application of AMRD Group A and also requested the modification of the numbering scheme of AMRD. (ANNEX 11, NCSR 6/WP 5)

After the discussion, the Chair of the ENAV committee was approached by some delegates with questions regarding MAtoN as it was the first time they had heard about the MAtoN concept.

# Discussion

ITU agreed to allocate the same MMSI numbering scheme for AIS-AtoN to MAtoN including AMRD Group A MAtoN application so that the current MMSI numbering scheme for AIS-AtoN is as follows;

99MID1XXX: Physical AIS-AtoN;

99MID6XXX: Virtual AIS-AtoN; and

99MID8XXX: Mobile AtoN.

However, IALA Recommendation R-1016 identified 2 types of MAtoN, physical and virtual. Therefore how physical MAtoN and virtual MAtoN is identified should be considered. In addition, since ITU asked how virtual MAtoN works, an explanation that includes mechanisms and a user case of virtual MAtoN is needed.Regarding the output power, the current draft ITU-R Report indicated that the output power of AMRD was a maximum of 1 watt ERP. IALA is concerned that such a low power could not meet the requirement of AtoN. ITU mentioned that it could be possible to change the output power of AMRD Group A after WRC-19. IALA was therefore requested to inform ITU of the minimum output calculated from the minimum range of MAtoN.

There were several questions on MAtoN from IMO delegates and IALA should inform IMO of the development of MAtoN through appropriate means.

The Communications WG of the ENAV Committee met intersessionally in Sydney (4 to 8 Feb 2019). The group was of the view that:

1. By definition, Group B AMRD do not enhance the safety of navigation. Therefore, they must not be able to operate on AIS frequencies.
2. However, IALA may consider to develop guidance on group B AMRD, e.g. those that use AIS technology
3. Any MAtoN with radio capability is an AMRD group A.
4. IALA recognises that there will be MAtoNs without radio capability. These are not AMRD but they are MAtoN and therefore are subject to IALA standards, guidelines and recommendations.
5. A new numbering scheme suggested for AMRDs group A would, from a technical point, not be necessary because:
   1. ITU-R M.585 has a MMSI numbering scheme for AIS AtoNs that is suitable for MAtoNs and also has a numbering scheme for MOB Class M (group A AMRD)
   2. It is important to recognise that the competent authority remains responsible for the establishment and operation of Aids to Navigation. The use of the existing MMSI numbering scheme for AIS Aids to Navigation will ensure MAtoN applicants go through the regulatory approval process.
   3. Without a regulatory approval process, it is possible that competent authorities would have no control over the deployment of MAtoNs.
   4. There are concerns that using a manufacturer issued identity for MAtoNs will result in uncontrolled deployment of these devices and interpretation of what is considered a MAtoN
   5. A new AIS message which include COG and SOG should be defined in ITU-R M.1371 for MAtoN use.
   6. In the interim message 21 has the capability to indicate floating off shore structures that are not fixed (Type of aids-to-navigation code 31). This should be used for MAtoNs but COG and SOG will not be available. Table 74 of the ITU-R M.1371-5 needs to be revised to reflect this;
   7. The Name of Aids-to-Navigation field in message 21 should reflect the mobile nature of the AtoN. E.g. “MOBILE MARKER DRIFTING CONTAINER”
6. With regard to stipulating height in annex 1 of ITU “WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW RECOMMENDATION ITU-R M.[AMRD]”. The height of MAtoN antenna will vary depending on the situation. E.g. drifting container vs drifting wreck. Also, the power of MAtoN should be in line with the recommendation contained in ITU-R M.1371-5 for AIS AtoN station RF power, i.e. 1 Watt or 12,5 Watts

# Action requested of the Committee

The Committee is requested to consider the information provided and take action as it deems appropriate.

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Input papers should be assigned to a work task as listed in the Committee work plan which is available in input papers. Leave open if uncertain but consider how the paper is to be processed if not relevant to a work task [↑](#footnote-ref-2)