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| From: ENAV | ARM8-9.2.1 |
| To: ARM | 19 January 2018 |

LIAISON NOTE

Regarding the Liaison from ITU on autonomous maritime radio devices (AMRD)

# Introduction

ITU WP 5B provided a liaison note to IALA regarding ongoing development related to autonomous maritime radio devices (AMRD). The liaison includes links to a series of documents that are affected by the implementation of the work on AMRD. This includes the MMSI number approach (ITU-R M.585-7) and the AIS recommendation (ITU-R M.1371-5). The liaison note from ITU should be reviewed in conjunction with these comments.

The work reflects the identification of two groups of AMRDs:

Group A: AMRDs that enhance the safety of navigation;

Group B: AMRDs that do not enhance the safety of navigation (AMRDs which deliver signals or information which do not concern the vessel can distract or mislead the navigator and degrade safety of navigation).

# Identification numbering

The liaison note from ITU includes a link to Annex 13 of the report of the Chairman of WP 5B (document file name 411N13e.docx). Within the report there is a proposal to identify AMRD with specific MMSI numbering based on either AMRD Category A or AMRD Category B.

Category B AMRDs would be identified on new frequency bands with a numbering scheme to be considered. The ITU liaison notes that the existing technical characteristics limit the digits for new identified and, considering the potential huge number of this kind of device, if a fully expanded new numbering system is designed, the relevant Recommendations would need to be revised.

There are two numbering proposed for AMRDs (ITU-R M.585-7):

**Option 1:**

[**9102**]**X3X4Z5Z6Z7Z8Z9**for the use of general group A]

**9112X3X4Z5Z6Z7Z8Z9**for the tentative use of general group B during the transition period

**9102**(**12**) –the prefix of the number;

**X3X4**– indication of the individual group of the AMRDs. It could be harmonized globally, or regulated by national authorities according to national conditions. For example, 00 represents towed fishing net indicators or aquaculture net indicators, 05 represents wave-gliders or oceanic meteorological data transmitters, 10 represents floating ice indicators, etc.

**Z5Z6Z7Z8Z9**–the series number. The largest number for each reserved individual group indicators is 100 000.

**Option 2:**

[**9102**]**X3X4Y5Y6Z7Z8Z9**for the use ofgeneral group A

**9112X3X4Y5Y6Z7Z8Z9**for the tentative use of general group B during the transition period

**9102**(**12**)–the prefix of the number;

**X3X4**– indication of the individual group of the AMRDs, the same as in   
Option 1;

**Y5Y6**– identities of the manufacturers, assigned by CIRM, or reserved for national authority assignment;

**Z7Z8Z9**–the series number. The largest number for each reserved individual group indicators is 1 000.

# Proposed changes to ITU-R M.1371-5

The liaison note from ITU includes a link to Annex 14 of the report of the Chairman of WP 5B (document file name 411N14e.docx). This document identifies proposed revisions to ITU-R M.1371-5.

A new message within AIS is being proposed for AMRD Group A (Message 28). This is a small, single slot message that is currently identified as using RATDMA (random access time-division multiple access). The proposal indicates transmitting intervals for Message 28: for a fixed AMRD, the transmitting interval of not less than 6 minutes; for a moving AMRD the transmitting interval is not less than the message update interval for Class B “CS” shipborne stations. (Reference: 4.2.1 of document 411/14)

The proposed table 84 bis (reproduced here) presents the details for the message. In essence, this means that there would be 10 characters available to identify the name of the AMRD.

*Table 84 bis*

| **Parameter** | **Number of bits** | **Description** |
| --- | --- | --- |
| Message ID | 6 | Identifier for Message 28 |
| Repeat indicator | 2 | Used by the repeater to indicate how many times a message has been repeated. See § 4.6.1, Annex 2; 0-3; 0 = default; 3 = do not repeat any more |
| Source ID | 30 | Identity (in the Maritime Mobile Service) of the source of the message (see Article **19** of the RR and Recommendation ITU‑R M.585) |
| Type of AMRD | 5 | see Table 84 ter |
| Name of AMRD | 60 | Maximum 10 characters 6-bit ASCII, as defined in Table 47 “@@@@@@@@@@” = not available = default. |
| Dynamic status | 1 | 0 = fixing object = default; 1 = moving object |
| Position accuracy | 1 | 1 = high (≤10 m)  0 = low (>10 m) 0 = default The PA flag should be determined in accordance with Table 50 |
| Longitude | 28 | Longitude in 1/10 000 min of position of an AMRD (±180°, East = positive, West = negative 181 = (6791AC0h) = not available = default) |
| Latitude | 27 | Latitude in 1/10 000 min of an AMRD (±90°, North = positive, South = negative 91 = (3412140h) = not available = default) |
| Time stamp | 6 | UTC second when the report was generated by the EPFS (0-59 or 60) if time stamp is not available, which should also be the default value or 61 if positioning system is in manual input mode or 62 if electronic position fixing system operates in estimated (dead reckoning) mode or 63 if the positioning system is inoperative) |
| RAIM-flag | 1 | RAIM (Receiver autonomous integrity monitoring) flag of electronic position fixing device; 0 = RAIM not in use = default; 1 = RAIM in use see Table 50 |
| Spare | 1 | Spare. Not used. Should be set to zero. Reserved for future use |
| Number of bits | 168 | Occupies one slots |

In addition, a table with identifier digits for both Group A and Group B AMRDs have been developed presented as table 84 ter in the revision of ITU-R M.1371-5.

*Table 84 ter*

|  |  |  |
| --- | --- | --- |
| **Code** | **General group** | **Definition** |
| 0 |  | Default, not specified |
| 1 | A | Fishing net indicator |
| 2 |  | Oceanic observation data transmitter |
| 3 |  | Towed unpowered object |
| 4 |  | Derelict object |
| 5 |  | Free floating object (such as floating ice) |
| 6 |  | Object (such as spilled oil) marker |
| 7 |  | Dynamic navigation marker |
| 8-16 |  | Reserved |
| 17 | B | Aquaculture net indicator |
| 18-31 |  | Reserved |

To facilitate discussion at ITU, IALA has provided ITU with the recently published IALA Recommendation on Mobile Aids to Navigation (MAtoN) as an initial response to the Liaison note for the ITU WP 5B meeting, held in May 2018.

# Action requested

The ARM Committee is requested to review the liaison provided by ITU on the development of AMRD (dated 11 December 2017), particularly with regards to:

1. the proposed MMSI numbering for Group A AMRD,
2. the proposed message 28 for AMRD
3. the proposed transmit interval for message 28; and
4. the table outlining the different categories of AMRD units

and respond to ITU as appropriate, with input to be provided to the ITU WP 5B meeting in November 2018.