# Liaison Note to ITU

## DRAFT REVISION OF RECOMMENDATION ITU-R M.1371-5
### Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile frequency band

## 1    Introduction

IALA thanks ITU-R Working Party 5B (WP 5B) for the liaison statements (Annex 43 and Annex 44 to Document 5B/225-E) in which IALA was invited to consider proposed revisions of Recommendation ITU-R M.1371-5 related to Navigational Status, Autonomous Maritime Radio Devices (AMRD), Ship Type, Channel Management, Transmit Power, VDES capability indicators, Number of persons on board, Long-range equipment interface, Message 21 Aids to Navigation Report and Message 28 Single-slot AtoN Report.

IALA provides comments on these issues as follows:

## 2    Discussion

*Navigational Status*

IALA notes the amendments to the Navigation Status 9 (under way not making way) and its potential to improve vessel traffic services, by eliminating the ambiguity amongst vessels that are reporting Navigation Status 0 (under way using engines) or 2 (not under command), when their true status is under way not making way i.e., not using engines, stopped and adrift, yet under command[1]. However, IALA suggests , to avoid unwarranted ambiguity between power-driven and sailing vessels underway Navigation Status 8 is named "under way using sails"

*Autonomous Maritime Radio Devices and Single-slotted AtoN Report / Navigational Points of Interest Message*

IALA welcomes the inclusion of RACON or MAtoN in message 21, code 2, and does not favour changes to code 31, i.e., Light Vessel/LANBY/Rigs, but proposes that the following Note be added:

NOTE: This code should be used only when the Light Vessel/LANBY/Rigs is moored and functioning as an AtoN (this includes when off station flag is triggered).

Although not addressed in your Liaison Note, IALA would like to take this opportunity to request ITU consider three other amendments to message 21:

1) That the following Note be added to parameter AtoN Status:

    NOTE: AtoN Status bits are defined in IALA Recommendation A-126

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[1] Per COLREGS Rule 3(f), "vessel not under command" means a vessel which through some *exceptional circumstance* [emphasis added] is unable to maneuver as required by these Rules and is therefore unable to keep out of the way of another vessel. Choosing to not use engines does not render a vessel not under command nor relieve its responsibility to give way as defined in COLREG Rule 18.

2) That "off-shore" be deleted in code 3 - Fixed Structures, so it may also be used for inshore structures too. Recommended text: Fixed structures such as oil platforms, wind farms. (Note 1 – This code should identify an obstruction that is fitted with an AIS AtoN);

3) The Name of AIS AtoN Extension parameter be amended as below, which provides an alternative convention for these bits (which provides for an additional 14 characters to be added the AtoN Name) when they are used to solely represent the AtoN designator, i.e., LB1— which will facilitate the portrayal of the AtoN Name and its designation, individually or combined.

   This parameter of up to 14 additional 6-bit-ASCII characters for a 2-slot message may be combined with the parameter "Name of Aid-to-Navigation" at the end of that parameter, when more than 20 characters are needed for the name of the AtoN or to just provide for the AtoN designation. When used for the later, the parameter should start with [@@@/###/???] and the characters that follow are the AtoN designation, i.e., LB1, to denote Lighted Buoy 1. This may be portrayed itself or as an extension of the AIS AtoN Name when it is being portrayed. This parameter should be omitted when no more than 20 characters for the name of the A-to-N are needed in total. Only the required number of characters should be transmitted, i.e. no @-character should be used.

IALA looks forward to having the option of reporting on Aids to Navigation via a single-slot, CSTDMA message. The latter will allow AtoN Administration to report without the shore-side infrastructure require to reserve slots for an AIS Message 21 Reports, and the new reports to be broadcasted at a greater rate, when ample free slots are available for them to do so.

Recognizing that message 28 has greater potential than and given some significant IALA concerns regarding the descriptors used in the table in section 3.7 on pages 155 through to 159; IALA provides a revised version of message 28 (at section 3 below) for ITU's consideration.

IALA does not have a position on AIS locating devices behaviour and defers to the IMO, ICAO and/or Search and Rescue Authorities to define it.

*Ship Type and Number of persons on board*

IALA welcomes broader granularity of ship types and specificity of the number of persons on board as this will assist AtoN Administrations and Port Authorities in risk management, maritime spatial planning and waterway design and their aim on improving navigation safety.

IALA has reservations regarding some of the descriptors used within the proposed table 53 which reflect regional descriptors of vessels rather than those in international use and that any new codes would not be recognized by legacy device. IALA recommends that table 53 remain unchanged, but proposes that Lloyd's STATCODE 5 codes be added to the new Persons Onboard message—which IALA favours—currently under consideration. Recognizing that this new message appears to have substantial spare bits, IALA also recommends additional parameters be added to it to report: hazardous cargo, VDES capability and version, and type and quantity of bunkers.

*Channel Management*

IALA welcomes any efforts to ensure the continued and future integrity of AIS and VDE channels. Channel switching was a necessary functionality at the inception of AIS, when dedicated protected channels were not available for AIS on a world-wide basis. As we all know, after WRC-12 and the designation of AIS 1 and AIS, channel management this is no longer case. Continuing to provide this functionality just keeps a door open to its inadvertent or malicious use, which jeopardizes the integrity of AIS, can create havoc to AIS users, may even be life threatening by making AIS locating devices—which lack channel management—invisible to others. Further, this would allow for the dedicated DSC receiver in AIS Class A devices to be repurposed for other uses, e.g., AMRD Group B receiver, ASM receiver, etc.

*Transmit power*

IALA agrees with this proposal and its benefit to situational awareness and that it will provide a means to ascertain whether vessels have properly reacted to a message 22 power command, or improperly reacted to a malicious or unauthorized power command.

*VDES capability indicators*

IALA agrees with the need and importance of knowing the VHF digital data capability of vessels, particularly as VDES is deployed in a modular and/or regional basis. This will allow the use of existing AIS infrastructure, which already provides vessel positioning and--with this new parameter--their VHF data capabilities, which will thus make it possible for authorities and other ships, to select the most proper means of digital communication with the ship, at all times always; and know its efficacy in transmitting messages through VDE-TER or VDE-SAT. IALA As proposed s above, IALA recommends this be provided into include this parameter in its new message 29, vice message 24B.

*Long-range equipment interface*

IALA does not foresee any need for this interface but does not speak for its entire membership on this matter.

## 3    Proposed messages

IALA proposes to replace the new message 28 "Single slot Aids to Navigation Report" with a broader single-slot "Navigational Point of Interest" message and submits another new message 29 "Extended Ship Data report" which would replace the proposed message 30 "Person on Board" and provide an alternative to message : 8/DAC=001/FI=16 - Number of person on board.

## 3.1    Message 28: Navigational Point of Interest Report

Used to provide the status (i.e., on/off-position, in/operative, open/closed, active/inactive, etc.) of navigational point of interest (i.e., aid to navigation (AtoN, bridge/lock, anchorage/caution/restricted area, environmental condition, maritime traffic light, VTS synthetic target, etc.). It may be used as an alternative to AIS messages; 8/DAC=001/FI=1 - VTS-generated/synthetic target; 8/DAC=001/FI=17 - Marine Traffic Signal; 8/DAC=001/FI=22 – Area Notice (broadcast); 8/DAC=001/FI=Route information (broadcast); and Message 21 AtoN Report.

It is primarily intended for the use by authorities to augment marine safety information sent by other means (i.e., NAVTEX, Enhanced Group Calling (ECG), via voice communication, Notice to Mariners, etc.); and facilitate its portrayal on navigational displays. Similarly, it can be used by ships to report a hazard or navigational discrepancy. It may be accompanied with Message 24A - Static Data Report, Part A to provide the charted name of the point of interest or provide an identity for a VTS-generated/ Synthetic Target.

It is not intended to be processed or portrayal on mobile AIS devices nor for its reports to be generated using the AIS MKD (i.e., Notice of Point of Interest Type 5). However, the parameters or grouping of parameters in this message should be portrayed on other navigational systems (i.e., INS) the same as these parameters are defined in IEC 62288 – Maritime navigation and radiocommunication equipment and systems–Presentation of navigation-related information on shipborne navigational displays –

General requirements, methods of testing and required test results. Users should have the ability to filter this message by type, nature, or source.

In CSTDMA mode, it may operate at a greater than nominal report rate, on a non-interfere basis with other AIS stations (polite broadcasts).

TABLE XX
**Message 28**

| Parameter | Bits | Description |
|---|---|---|
| Message ID | 6 | Identifier for Message 28. |

| Parameter | Bits | Description |
|---|---|---|
| Repeat indicator | 2 | Used by the repeater to indicate how many times a message has been repeated. |
| Source ID | 30 | Identity (in the MMS) of the source of the message (see Article **19** of the RR and Recommendation ITU R M.585). |
| 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). |
| Longitude | 28 | Longitude in 1/10 000 min of position of an AtoN (±180°, East = positive, West = negative, 181 = (6791AC0h) = not available = default). |
| Latitude | 27 | Latitude in 1/10 000 min of an AtoN (±90°, North = positive, South = negative, 91 = (3412140h) = not available = default). |
| Position Source | 2 | 0 = Unknown = default, 1 = Electronic position fixing system (EPFS), 2 = Manually inputted (fixed position), 3 = Dead-reckoning (calculated position). |
| Position Accuracy Flag | 1 | The position accuracy (PA) flag should be determined in accordance with Table 50. 0 = low (>10 m) = default; 1 = high (< 10 m) |
| Navigational Point of Interest (NPOI) ID | 24 | Identifies the navigational point of interest with a one-to-four (1-4) character 6-bit ASCII alpha-numeric text that reflects its charted number or designation (i.e., Table XX, Codes 2-30) or absent a chart number or designation its "Nature of the NPOI" code, followed by a character (A-Z) to distinguish multiple iteration of the same NPOI. The last character of a NPOI defined by polyline(s) represents its sequence number amongst multi-polyline broadcasts, e.g., 44A1, 44A2, 44A3…, etc.; termination in '0' denotes a single polyline, e.g., 44A0. "@" = blank space = "@@@@" = not available = default. " |
| Navigational Point of Interest (NPOI) Type | 3 | 0 - Physical AIS AtoN, its reported position is that of an AIS AtoN station fitted to a physical AtoN (i.e., buoy, beacon). 1 - Synthetic AIS AtoN, its reported position is for a physical AtoN (i.e., buoy, beacon), but broadcasted from a different location. 2 - Virtual AIS AtoN, its reported position is not associated with a physical AtoN. 3 - Mobile AIS AtoN, its reported position is from an AIS AtoN station fitted to a mobile buoy, object, or vehicle. 4 - Electronic Navigation overlay its reported position and dimensions are intended to aid in navigation when portrayed in an electronic navigational display. 5 - Reported from a vessel, e.g., NPOI code24, Status 5, would denote a Port Hand Mark as off-position. 6-7 - Reserved for future use. |
| Nature of the Navigational Point of Interest (NPOI) | 8 | Identifies the nature of the NPOI and/or its purpose. See Table XX. |

| Parameter | Bits | Description |
|---|---|---|
| Dimension Type and Scale | 3 | 0 - circle, Dimension A = Dimension B = 0 represents a point = default; Dimension A + Dimension B = represents a diameter, in 1 metre steps: 0-6,142.<br><br>1 - rectangle, Dimension A = True north dimension, in 1 metre steps: 0-4,095. Dimension B = True east-west dimension, in 1 metre steps: 0-2,047.<br><br>2 - rectangle, Dimension A = True north dimension, in 1 metre steps: 0-4,095. Dimension B = True east-west dimension, in 10 metre steps: 0-2,047.<br><br>3 - rectangle, Dimension A = True north dimension, in 1 metre steps: 0-4,095. Dimension B = True east-west dimension, in 100 metre steps: 0-2,047.<br><br>4 - vector (used by mobile AtoN and may be used for vessels, i.e., Table XX, Codes 164 - 173), Dimension A = COG, in true degrees: 000.0-359.9, in 1/10-degree steps, 3,600-4,095 not used. Dimension B = SOG, in 1 knot steps. 60 = anchored (with large swing circle), 61 = dynamically on station, 62 = tethered to another vessel, vehicle, or object. 63-2,047 reserved for future used.<br><br>5 - polyline, Dimension A = bearing, 000.0-359.9 true degrees, in 1/10-degree steps, 3,600-4.095 not used. Dimension B = length, in 1 metre steps: 0-2,047.<br><br>6 - polyline, Dimension A = bearing, 000.0-359.9 true degrees, in 1/10-degree steps. Dimension B = length, in 10 metre steps: 0-2,047.<br><br>7 - polyline, Dimension A = bearing, in true degrees: 000.0-359.9, in 1/10-degree steps, 3,600-4.095 not used. Dimension B = length, in 100 metre steps: 0-2,047. Feature marked on the left-side of the line.<br><br>NOTE 1: Multiple polyline messages, for the same NPOI ID, should be connected in series, i.e., Dimension B terminus should be connected to the reported position of the successive message, to compose a polygon or a serendipitous line (i.e., route, ice edge). Two successive messages with the same reported position would form a sector. Multiple polylines may be used to represent the orientation of a point of interest, i.e., Table XX, Code 3 - Fixed Structure, Code 90 - Berth). |
| Dimension A | 12 | As defined by Dimension Type and Scale. |
| Dimension B | 11 | As defined by Dimension Type and Scale. |

| Parameter | Bits | Description |
|---|---|---|
| Status | 4 | 0 - Unknown = default.<br>1 - Operating properly.<br>2 - Operating erratically.<br>3 - Operating at reduced functionality or intensity.<br>4 - Not Operational<br>5 - Off-station (in the vicinity).<br>6 - Off-station (adrift).<br>7 - Off-station (location unknown).<br>8 - Damaged, occulted or submerged.<br>9 - Removed or discontinued.<br>10 - Open (Bridge Span, Lock, Gate).<br>11 - Closed (Bridge Span, Lock, Gate).<br>12 - Active (used to denote status of a Special Area).<br>13 - Inactive (used to denote status of a Special Area).<br>14 - Not applicable<br>15 - Cancelled, to cancel previously sent message from the same the Source ID for the same Navigational ID. |
| Spare | 1 | Should be set to zero. Reserved for future use |
| Total bits | 168 | Occupies one slot |

**Message 28**

**Table XX**

**Navigation Points of Interest Descriptions**

| Source | Code | Description | Source | Code | Description |
|---|---|---|---|---|---|
| AIS Message 21, Table 74 | 0 | Unknown or unspecified = default | IMO SN/Circ.289, Message 8, Route Information, DAC = 001, FI = 28, Route Type | 90 | Clearance granted – proceed to berth[3] |
| | 1 | Reference point | | 91 | Proceed to this location – await instructions |
| | 2 | RACON | | 92 | Route: Alternative route |
| | 3 | Fixed structures[1], such as oil platforms, wind farms.[2] | | 93 | Route: Mandatory Route |
| IALA Maritime Buoyage System (MBS) | 4 | IALA Emergency Wreck Marking Buoy | | 94 | Route: Recommended route |
| | 5 | Light, without sectors | | 95 | Route: Recommended route through ice |
| | 6 | Light, with sectors | | 96 | Route: Ship Route Plan |
| | 7 | Leading Light Front | IMO SN/Circ.289, Message 8, Area Notice, DAC=001, | 97 | |
| | 8 | Leading Light Rear | | 98 | |
| | 9 | Beacon, Cardinal N | | 99 | |
| | 10 | Beacon, Cardinal E | | 100 | Security Alert – Level 1 |
| | 11 | Beacon, Cardinal S | | 101 | Security Alert – Level 2 |
| | 12 | Beacon, Cardinal W | | 102 | Security Alert – Level 3 |
| | 13 | Beacon, Port Hand | | 103 | Security Alert – Level 4 |

| No. | Description |
|---|---|
| 14 | Beacon, Starboard Hand |
| 15 | Beacon, Preferred Channel port Hand |
| 16 | Beacon, Preferred Channel Starboard Hand |
| 17 | Beacon, Isolated danger |
| 18 | Beacon, Safe Water |
| 19 | Beacon, Special Mark |
| 20 | Cardinal Mark N |
| 21 | Cardinal Mark E |
| 22 | Cardinal Mark S |
| 23 | Cardinal Mark W |
| 24 | Port Hand Mark |
| 25 | Starboard Hand Mark |
| 26 | Preferred Channel Port Hand |
| 27 | Preferred Channel Starboard Hand |
| 28 | Isolated Danger |
| 29 | Safe Water |
| 30 | Special Mark |
| 31 | Light vessel, LANBY, Rigs |

IMO SN/Circ.289, Message 8, Area Notice, DAC=001, FI=23, Table 11.11 - Notice Description

| No. | Description |
|---|---|
| 32 | Caution Area: Cluster of fishing vessels |
| 33 | Caution Area: Derelicts (drifting objects) |
| 34 | Caution Area: Divers down |
| 35 | Caution Area: Dredge operations |
| 36 | Caution Area: Fairway closed |
| 37 | Caution Area: Fishery – nets in water[6] |
| 38 | Caution Area: Harbour closed |
| 39 | Caution Area: Marine event |
| 40 | Caution Area: Marine mammals habitat |
| 41 | Caution Area: Marine mammals in area – reduce speed |
| 42 | Caution Area: Marine mammals in area – report sightings |
| 43 | Caution Area: Marine mammals in area – stay clear |
| 44 | Caution Area: Protected habitat – no fishing or anchoring |
| 45 | Caution Area: Protected habitat – reduce speed |
| 46 | Caution Area: Protected habitat – stay clear |
| 47 | Caution Area: Seaplane operations |
| 48 | Caution Area: Risk (define in Associated text field) |
| 49 | Caution Area: Survey operations |

| No. | Description |
|---|---|
| 104 | Security Alert – Level 5 |
| 105 | Chart Feature: Sunken vessel[4] |
| 106 | Distress Area: Vessel abandoning ship[4] |
| 107 | Distress Area: Vessel collision[4] |
| 108 | Distress Area: Vessel disabled and adrift[4] |
| 109 | Vessel requesting non-distress assistance[4] |
| 110 | Distress Area: Vessel fire/explosion[4] |
| 111 | Distress Area: Vessel flooding[4] |
| 112 | Distress Area: Vessel grounding[4] |
| 113 | Distress Area: Vessel listing/capsizing[4] |
| 114 | Distress Area: Vessel requests medical assistance[4] |
| 115 | Distress Area: Vessel sinking[4] |
| 116 | Distress Area: Vessel under assault |
| 117 | Information: Location of response units |
| 118 | Information: Position of icebreakers |
| 119 | Rouge or suspicious vessel[4] |
| 120 | VTS active target[4] |
| 121 | Distress Area: Person overboard |
| 122 | Chart Feature: Semi-submerged object |
| 123 | Chart Feature: Bridge closed[3] |
| 124 | Chart Feature: Bridge fully open[3] |
| 125 | Chart Feature: Bridge partially open[3] |
| 126 | Chart Feature: Reduced vertical clearance |
| 127 | Chart Feature: Submerged object |
| 128 | Information: Pilot boarding position |

IALA G1154 - Mobile AtoN

| No. | Description |
|---|---|
| 129 | Mobile AtoN: TBD |
| 130 | Mobile AtoN: TBD |
| 131 | Mobile AtoN: TBD |
| 132 | Mobile AtoN: TBD |
| 133 | Mobile AtoN: TBD |
| 134 | ODAS |
| 135 | Wreckage (e.g., containers, debris) |
| 136 | Mobile AtoN: Container Marker |
| 137 | Mobile AtoN: Debris Marker |
| 138 | Water quality and pollution monitoring equipment |
| 139 | Mobile AtoN: Pollution Spill Marker |

| | | |
|---|---|---|
| 50 | Caution Area: Swim area | |
| 51 | Caution Area: Traffic congestion | |
| 52 | Caution Area: Underwater operation | |
| 53 | Caution Area: Underwater vehicle operation | |
| 54 | Distress Area: Pollution response area | |
| 55 | Distress Area: SAR area | |
| 56 | Chart Feature: Channel obstruction | |
| 57 | ~~Chart Feature: Shoal area due west~~ | |
| 58 | Anchorage Area: Anchorage closed | |
| 59 | Anchorage Area: Anchorage open | |
| 60 | Anchorage Area: Anchoring prohibited | |
| 61 | Anchorage Area: Deep draft anchorage | |
| 62 | Anchorage Area: Shallow draft anchorage | |
| 63 | Anchorage Area: Vessel transfer operations | |
| 64 | Restricted Area: Active military OPAREA | |
| 65 | Restricted Area: Drifting Mines | |
| 66 | Restricted Area: Entry approval required prior to transit | |
| 67 | Restricted Area: Entry prohibited | |
| 68 | Restricted Area: Firing – danger area. | |
| 69 | Restricted Area: Fishing prohibited | |
| 70 | Restricted Area: No anchoring. | |
| 71 | Report from ship: Icing info | |
| 72 | Environmental Caution Area: Heavy icing | |
| 73 | Environmental Caution Area: Restricted visibility (fog, rain, etc.) | |
| 74 | Environmental Caution Area: Strong currents | |
| 75 | Environmental Caution Area: Hazardous sea ice | |

| | | |
|---|---|---|
| | 140 | Mobile AtoN: Water Sampling Platform |
| | 141 | Dynamic guard zones and convoys |
| | 142 | Spare |
| | 143 | Spare |
| | 144 | Spare |
| | 145 | Spare |
| | 146 | Spare |
| | 147 | Spare |
| | 148 | Mobile AtoN: Divers Down Marker |
| | 149 | Enhancing navigational safety during military operations, target mark |
| | 150 | Mobile AtoN: Military Area Marker |
| | 151 | Spare |
| | 152 | Towed and deployed applications (e.g., cable laying) |
| | 153 | Mobile AtoN: Pipe Marker |
| | 154 | |
| | 155 | Spare |
| | 156 | Mobile AtoN: Cable Marker |
| | 157 | Search & Rescue applications, datum mark |
| | 158 | Mobile AtoN: SAR Area Mark |
| | 159 | Spare |
| | 160 | Special event, event mark |
| | 161 | Mobile AtoN: Regatta Marker |
| | 162 | Mobile AtoN: Rendezvous Marker |
| | 163 | Spare |
| IMO SN/Circ.289, Message 8, Marine Traffic Signal | 164 | IALA port traffic signal 1: Serious emergency – all vessels to stop or divert according to instructions. |
| | 165 | IALA port traffic signal 2: Vessels shall not proceed. |

| Code | Description | | Code | Description |
|---|---|---|---|---|
| 76 | Environmental Caution Area: High waves | | 166 | IALA port traffic signal 2a: Vessels shall not proceed, except that vessels which navigate outside the main channel need not comply with the main message. |
| 77 | Environmental Caution Area: High wind | | 167 | IALA port traffic signal 3: Vessels may proceed. One way traffic. |
| 78 | Environmental Caution Area: Storm front (line squall) | | 168 | IALA port traffic signal 4: Vessels may proceed. Two way traffic. |
| 79 | Environmental Caution Area: Storm warning (storm cell or line of storms) | | 169 | IALA port traffic signal 5: A vessel may proceed only when it has received specific orders to do so. |
| 80 | ~~Chart Feature: Shoal area due north~~ | | 170 | IALA port traffic signal 5a: A vessel may proceed only when it has received specific orders to do so; except that vessels which navigate outside the main channel need not comply with the main message. |
| 81 | ~~Chart Feature: Shoal area due south~~ | | 171 | Japan Traffic Signal - F = both "in- and out-bound" acceptable. |
| 82 | Chart Feature: Shoal area | | 172 | Japan Traffic Signal - I = "in-bound" only acceptable. |
| 83 | ~~Chart Feature: Shoal area due east~~ | | 173 | Japan Traffic Signal - O = "out-bound" only acceptable. |
| 84 | Information: Icebreaker waiting area | | 174 | Japan Traffic Signal - X = Vessels shall not proceed, except a vessel which receives the direction from the competent authority. |
| 85 | Information: Places of refuge | | 175 | Japan Traffic Signal - XI = Code will shift to "I" in due time. |
| 86 | Instruction: Await instructions prior to proceeding beyond this point/juncture | | 176 | Japan Traffic Signal - XO = Code will shift to "O" in due time. |
| 87 | Instruction: Contact Port Administration at this point/juncture | | 177 | |
| 88 | Instruction: Contact VTS at this point/juncture | | 178-190 | Reserved for future use |
| 89 | Instruction: Do not proceed beyond this point/juncture | | 191-255 | Reserved for regional use |

NOTE 1 - This code should identify an obstruction that is fitted with an AtoN AIS station.

NOTE 2 - This code should be used one when on station or off-station (if off-station parameter is being used not to be used during deployment, transit, and/or if being towed.

NOTE 3 - If Dimension Type = 5/6/7 is used; then Dimension A represents the orientation of the structure, Dimension B represents ½ the diagonal length of a rectangle.

NOTE 4 - If Dimension Type = 5/6/7 is used; then Dimension A represents the orientation of the berth or bridge, Dimension B represents ½ its length and the reported position its centre.

NOTE 5 - If Dimension Type = 1/2/3 is used; then Dimension A represents the length of the vessel and Dimension B represents its breadth.

NOTE 6 – This code must only be available to maritime authorities and is not for public use.

**Message 29: Extend Ship Data Report**

Used to provide extended information about a ship (i.e., numbers of persons and crew on board, hazardous cargo on board, type and quantity of bunker oil, and compliance with ITU-R Recommendations). It is expected that the user will have the ability to manually input this data using the AIS MKD or similar Human Machine Interface of the AIS or of an interfaced navigational system, i.e., INS.

Reporting interval should be 20 min.  Using RATDMA or ITDMA access scheme.

**Message 29 - Extended Ship Data**

| Parameter | No. of bits | Description |
|---|---|---|
| Message ID | 6 | Identifier for Message 29; always 29. |
| Repeat Indicator | 2 | Used by the repeater to indicate how many times a message has been repeated. 0 - 3, 0 = default, 3 = do not repeat anymore. |
| Source ID | 30 | Identity (in the MMS) of the source of the message (see Article **19** of the RR and Recommendation ITU R M.585). |
| Retransmit Flag | 1 | Retransmit Flag should be set upon retransmission. 0 = no retransmission = default, 1 = retransmitted. |
| Spare | 3 | Should be set to zero. Reserved for future use. |
| Lloyd's Ship type | 42 | Lloyd's Register STATCODE 5 (e.g., A11A1AA); 7-character 6 bits ASCII alpha-numeric text, "@@@@@@@" = not available = default. |
| Number of Persons on Board | 14 | Number of persons on-board: 1-16,383. 0 = not available = default. |
| Number of Persons on Board Other Than Passengers | 12 | Number of persons on-board, other than passengers: 0-1,023. 0 = not available = default, 1 – 4,095, 4,096 greater than 4,095. |
| Hazardous Cargo Flag | 2 | 0 - Not carrying DG, HS, or MP, IMO hazards or pollutants; 1 - Carrying DG, HS, or MP, IMO hazard or pollutant category X; 2 - Carrying DG, HS, or MP, IMO hazard or pollutant category Y; 3 - Carrying DG, HS, or MP, IMO hazard or pollutant category Z; 4 - Carrying DG, HS, or MP, IMO hazard or pollutant category OS. |
| Type of bunker fuel: Fuel oil | 2 | 0 = Not available = default;1 = no; 2 = yes; 3 = not in use |
| Diesel/MDO/MGO | 2 | 0 = Not available = default;1 = no; 2 = yes; 3 = not in use |
| Bio Diesel/HVO | 2 | 0 = Not available = default;1 = no; 2 = yes; 3 = not in use |
| LNG/LPG | 2 | 0 = Not available = default;1 = no; 2 = yes; 3 = not in use |
| Ammonia | 2 | 0 = Not available = default;1 = no; 2 = yes; 3 = not in use |
| Hydrogen | 2 | 0 = Not available = default;1 = no; 2 = yes; 3 = not in use |
| Other | 2 | 0 = Not available = default;1 = no; 2 = yes; 3 = not in use |

| | | |
|---|---|---|
| Total amount of fuel in tonnes | 14 | 0 - 16,381;16,382 = 16,382 tonnes or greater; 16,383 = not available = default |
| Version indicator | 3 | 0 = station compliant with Recommendation ITU-R M.1371-6; 1-3 reserved for future use |
| VDES Capabilities | 3 | This field indicates the VDES capabilities supported by the equipment Note that all equipment will have AIS as the minimum capability. Bit 0 – ASM (0 – Not Supported, 1 – Supported) Bit 1 – VDE-TER ( 0 – Not Supported, 1 – Supported) Bit 2 – VDE-SAT ( 0 – Not Supported, 1 – Supported) |
| Spare | 24 | Should be set to zero. Reserved for future use |
| Total bits | 168 | Occupies one slot |

## 4    Action requested

The ITU is requested to note the information provided and act, as appropriate.