

JOINT IMO/ITU EXPERTS GROUP ON  
MARITIME RADIOCOMMUNICATION  
MATTERS  
17th meeting  
Agenda item 7

IMO/ITU EG 17/7/[..]  
[date issued]  
ENGLISH ONLY

## CONSIDERATION OF THE PROPOSED REVISIONS TO RECOMMENDATION ITU-R M.1371-5

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

Submitted by CIRM & IALA

### SUMMARY

**Executive  
summary:**

This document raises ITU-R Working Party 5B's need for guidance from IMO on the way forwards regarding the 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*). Contributions to the discussion from CIRM and IALA are set out as annexes.

**Action to be taken:** Paragraph 6

**Related  
documents:** IMO/ITU EG 17/7, Recommendation ITU-R M.1371-5, 5B/266-E,  
5B/322-E

### INTRODUCTION

1 IMO, IALA and CIRM received a liaison statement from the November 2020 meeting of ITU-R Working Party 5B (WP 5B) which invited those organisations to consider several proposals relating to the revision of Recommendation ITU-R M.1371-5.

2 The May 2021 meeting of WP 5B considered responses from IALA and CIRM to this liaison statement, and was informed during the meeting by a representative of the IMO that more time was needed for IMO to develop a response.

### DISCUSSION

3 The May 2021 meeting of WP 5B decided that guidance was required from IMO on the proposals relating to the revision of Recommendation ITU-R M.1371-5 and the responses received from IALA and CIRM, due to complexity of the issues and their impact on the safety of navigation.

4 The WP 5B meeting sent a reply to IALA and CIRM, copying IMO, asking for close cooperation between IALA, IMO and CIRM on this issue, and for the information provided to WP 5B by IALA and CIRM to be shared with IMO.

5 The responses from IALA and CIRM are accordingly set out as annexes to this document.

#### **ACTION REQUESTED OF THE EXPERTS GROUP**

6 The Joint IMO/ITU Experts Group is invited to note WP 5B's request for guidance from IMO and to consider the responses from IALA and CIRM on the proposals related to the revision of Recommendation ITU-R M.1371-5, and to advise the Sub-Committee on this issue.



Received: 21 April 2021

Subject: Recommendation ITU-R M.1371-5

**Document 5B/266-E**

**22 April 2021**

**English only**

### **Comité International Radio-Maritime (CIRM)**

#### **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**

##### **Background**

CIRM thanks ITU-R Working Party 5B (WP 5B) for the liaison statement ([Annex 44 to Document 5B/225-E](#)) in which CIRM 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 and Long-range equipment interface.

Herewith CIRM provides comments on these issues.

##### *Navigational Status*

WP 5B proposes to amend the descriptors of the Navigational Status parameter of AIS messages 1, 2 and 3 as follows:

- 1 = at anchor,
- 2 = not under command,
- 3 = restricted manoeuvrability,
- 4 = constrained by her draught,
- 5 = moored,
- 6 = aground,
- 7 = engaged in fishing,
- 8 = under way under sail,
- 9 = under way not making way,
- 10 = reserved for future use
- 11 = power-driven vessel towing astern (regional use),
- 12 = power-driven vessel pushing ahead or towing alongside (regional use),
- 13 = reserved for regional use,
- 14 = active locating device,
- 15 = undefined (default) or a locating device under test

CIRM understands that these proposed changes to navigational status have resulted from a safety recommendation, and notes that they would have implications across SAR training, documentation, navigation displays on ships and how SAR authorities respond to information.

While performance standards for equipment applicable for SOLAS vessels require AIS related information to be presented only on AIS Minimum Keyboard and Display (MKD), Radar and Integrated Navigation Systems (INS), in practice, because of its clear benefit, the presentation of AIS information has been implemented in other equipment, such as Electronic Chart Systems (ECS) and Electronic Chart Display and Information Systems (ECDIS).

CIRM is concerned regarding the impact of these proposed changes in the context of already installed related navigation presentations such as Radar, AIS (MKD), INS, ECS and ECDIS. The resulting updates required on individual equipment and systems are not an easy task for manufacturers to solve alone.

CIRM suggests that a dangerous situation could result from individual vessels using different definitions of navigational status indicators. Such a situation could arise when one vessel has all related equipment updated and is using the new definitions, but equipment on another vessel is still using the old definitions.

It is therefore CIRM's view that further discussion is necessary in order to ensure that the proposed changes do not result in heightened risk in the context explained above.

#### *Autonomous Maritime Radio Devices (AMRD)*

Regarding the proposal to include Mobile AtoN (MAtoN) as another type of aid to navigation (AtoN) in message 21 (AIS AtoN Report), the same issue applies as discussed above regarding the update of already installed equipment.

Regarding the proposal to create new more efficient, single slot, carrier-sense access (CSTDMA) AIS message for MAtoN and other AIS AtoN Reports, that would operate on a non-interfere basis with other AIS devices, CIRM notes that navigational presentations will come to recognize this new message only gradually unless it is mandated.

Regarding the proposal to add a safety related text message for DSC Class M (MOB), AIS SART and EPIRB AIS to indicate when they are manually deactivated, CIRM has no view on this.

#### *Ship Type*

WP 5B proposes to update the 'Type of ship and cargo type' parameter of AIS messages 5 and 23 to mitigate the ambiguity of using 'engaged' to define a 'type' of ship, and, add more types to improve the granularity of AIS data. In CIRM's view, this raises the same issue as set out above regarding update of existing equipment. If the proposed changes are additions only, then this is of less concern. If the proposal is to change existing text, then the likely short-term result is that different definitions between different equipment onboard the same vessel exist.

#### *Channel Management*

Regarding the proposal to remove channel management, CIRM supports this, given that AIS-1 and AIS-2 channels are available for AIS globally, also noting that not all equipment participating in AIS VDL support channel management (for example AIS SART operates on AIS-1/-2 only).

#### *Transmit power*

WP 5B proposes to use a spare bit in the VDL messages 1, 2, 3, and 18 to indicate whether said broadcasts are at low or high power.

CIRM does not have a view on this. AIS station transmit power is more useful for shore based systems than ship navigation.

*VDES capability indicators*

WP 5B proposes to add an additional parameter to message 24B to indicate VDES capabilities, such as whether the unit is AIS only, AIS/ASM, AIS/VDE ASM/VDE-TER, or AIS/ASM/VDE-TER/VDE-SAT. Knowing this information will be integral to deploying VDES networks in the future.

CIRM does not have a view on this, but notes again that existing equipment would not understand this use of the spare bits, and suggests that WP 5B considers the development of a new ASM message for this indication, which would keep the spare bits available for another purpose.

*Number of persons on board*

WP 5B proposes to create a new standard VDL message which will contain information about the number of persons on board a vessel.

CIRM notes that the AIS message ID is a finite pool of only 63 messages in total, and suggests that adopting a principle where one Message ID can be taken into use to deliver one single piece of information could potentially exhaust the Message ID reserve relatively quickly.

CIRM further notes that the total amount of vessels in need of this solution (POB above 8 192 persons) is relatively small.

CIRM suggests an alternative approach would be to develop or amend an AIS (GSMK) compatible ASM for this instead (noting the existing message FI=16 in IMO SN.1/Circ.289). AIS (GMSK) compatible ASM is automatically transported through the PI of existing AIS equipment (e.g. in case of shore infrastructure where this could be of interest of VTS and SAR authorities).

*Long-range equipment interface*

WP 5B proposes to remove the long-range interface to other equipment requirements. CIRM supports this on the grounds that this interface is not used in practice.

**Action proposed**

CIRM kindly requests WP 5B to consider the information above and take action as appropriate.

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**Radiocommunication Study Groups**

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Received: 3 May 2021

References: G/C/C73/21-062

**Document 5B/322-E**  
**3 May 2021**  
**English only****International Association of Marine Aids to Navigation and Lighthouse Authorities****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 (WP) 5B for the liaison statements (Annex 43 and Annex 44 to Document 5B/225) 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<sup>1</sup>. 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:

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<sup>1</sup> 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.

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
- 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.
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 ( $\pm 180^\circ$ , East = positive, West = negative, 181 = (6791AC0h) = not available = default).
Latitude	27	Latitude in 1/10 000 min of an AtoN ( $\pm 90^\circ$ , 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. “

Parameter	Bits	Description
Navigational Point of Interest (NPOI) Type	3	<p>0 - Physical AIS AtoN, its reported position is that of an AIS AtoN station fitted to a physical AtoN (i.e., buoy, beacon).</p> <p>1 - Synthetic AIS AtoN, its reported position is for a physical AtoN (i.e., buoy, beacon), but broadcasted from a different location.</p> <p>2 - Virtual AIS AtoN, its reported position is not associated with a physical AtoN.</p> <p>3 - Mobile AIS AtoN, its reported position is from an AIS AtoN station fitted to a mobile buoy, object, or vehicle.</p> <p>4 - Electronic Navigation overlay its reported position and dimensions are intended to aid in navigation when portrayed in an electronic navigational display.</p> <p>5 - Reported from a vessel, e.g., NPOI code 24, Status 5, would denote a Port Hand Mark as off-position.</p> <p>6-7 - Reserved for future use.</p>
Nature of the Navigational Point of Interest (NPOI)	8	Identifies the nature of the NPOI and/or its purpose. See Table XX.
Dimension Type and Scale	3	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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).</p>
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. 1 - Operating properly. 2 - Operating erratically. 3 - Operating at reduced functionality or intensity. 4 - Not Operational 5 - Off-station (in the vicinity). 6 - Off-station (adrift). 7 - Off-station (location unknown). 8 - Damaged, occulted or submerged. 9 - Removed or discontinued. 10 - Open (Bridge Span, Lock, Gate). 11 - Closed (Bridge Span, Lock, Gate). 12 - Active (used to denote status of a Special Area). 13 - Inactive (used to denote status of a Special Area). 14 - Not applicable 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
AIS Message 21, Table 74		0	Unknown or unspecified = default
		1	Reference point
		2	RACON
		3	Fixed structures <sup>1</sup> , such as oil platforms, wind farms. <sup>2</sup>
	IALA Maritime Buoyage System (MBS)	4	IALA Emergency Wreck Marking Buoy
		5	Light, without sectors
		6	Light, with sectors
		7	Leading Light Front
		8	Leading Light Rear
		9	Beacon, Cardinal N
		10	Beacon, Cardinal E
		11	Beacon, Cardinal S
		12	Beacon, Cardinal W
		13	Beacon, Port Hand
		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,		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 <sup>6</sup>

Source	Code	Description
IMO SN/Circ.289, Message 8, Route Information, DAC = 001, FI = 28, Route Type	90	Clearance granted – proceed to berth <sup>3</sup>
	91	Proceed to this location – await instructions
	92	Route: Alternative route
	93	Route: Mandatory Route
	94	Route: Recommended route
	95	Route: Recommended route through ice
	96	Route: Ship Route Plan
	97	
IMO SN/Circ.289, Message 8, Area Notice, DAC=001, FI=23, Table 11.11 – Notice Description	98	
	99	
	100	Security Alert – Level 1
	101	Security Alert – Level 2
	102	Security Alert – Level 3
	103	Security Alert – Level 4
	104	Security Alert – Level 5
	105	Chart Feature: Sunken vessel <sup>4</sup>
	106	Distress Area: Vessel abandoning ship <sup>4</sup>
	107	Distress Area: Vessel collision <sup>4</sup>
	108	Distress Area: Vessel disabled and adrift <sup>4</sup>
	109	Vessel requesting non-distress assistance <sup>4</sup>
	110	Distress Area: Vessel fire/explosion <sup>4</sup>
	111	Distress Area: Vessel flooding <sup>4</sup>
	112	Distress Area: Vessel grounding <sup>4</sup>
	113	Distress Area: Vessel listing/capsizing <sup>4</sup>
	114	Distress Area: Vessel requests medical assistance <sup>4</sup>
	115	Distress Area: Vessel sinking <sup>4</sup>
	116	Distress Area: Vessel under assault
	117	Information: Location of response units
	118	Information: Position of icebreakers
	119	Rogue or suspicious vessel <sup>4</sup>
	120	VTs active target <sup>4</sup>
	121	Distress Area: Person overboard
	122	Chart Feature: Semi-submerged object
	123	Chart Feature: Bridge closed <sup>3</sup>
	124	Chart Feature: Bridge fully open <sup>3</sup>
	125	Chart Feature: Bridge partially open <sup>3</sup>
	126	Chart Feature: Reduced vertical clearance
	127	Chart Feature: Submerged object

	38	Caution Area: Harbour closed		128	Information: Pilot boarding position
	39	Caution Area: Marine event		129	Mobile AtoN: TBD
	40	Caution Area: Marine mammals habitat		130	Mobile AtoN: TBD
	41	Caution Area: Marine mammals in area – reduce speed		131	Mobile AtoN: TBD
	42	Caution Area: Marine mammals in area – report sightings		132	Mobile AtoN: TBD
	43	Caution Area: Marine mammals in area – stay clear		133	Mobile AtoN: TBD
	44	Caution Area: Protected habitat – no fishing or anchoring		134	ODAS
	45	Caution Area: Protected habitat – reduce speed		135	Wreckage (e.g., containers, debris)
	46	Caution Area: Protected habitat – stay clear		136	Mobile AtoN: Container Marker
	47	Caution Area: Seaplane operations		137	Mobile AtoN: Debris Marker
	48	Caution Area: Risk (define in Associated text field)		138	Water quality and pollution monitoring equipment
	49	Caution Area: Survey operations		139	Mobile AtoN: Pollution Spill Marker
	50	Caution Area: Swim area		140	Mobile AtoN: Water Sampling Platform
	51	Caution Area: Traffic congestion		141	Dynamic guard zones and convoys
	52	Caution Area: Underwater operation		142	Spare
	53	Caution Area: Underwater vehicle operation		143	Spare
	54	Distress Area: Pollution response area		144	Spare
	55	Distress Area: SAR area		145	Spare
	56	Chart Feature: Channel obstruction		146	Spare
	57	<del>Chart Feature: Shoal area due west</del>		147	Spare
	58	Anchorage Area: Anchorage closed		148	Mobile AtoN: Divers Down Marker
	59	Anchorage Area: Anchorage open		149	Enhancing navigational safety during military operations, target mark
	60	Anchorage Area: Anchoring prohibited		150	Mobile AtoN: Military Area Marker
	61	Anchorage Area: Deep draft anchorage		151	Spare
	62	Anchorage Area: Shallow draft anchorage		152	Towed and deployed applications (e.g., cable laying)
	63	Anchorage Area: Vessel transfer operations		153	Mobile AtoN: Pipe Marker
	64	Restricted Area: Active military OPAREA		154	
	65	Restricted Area: Drifting Mines		155	Spare
	66	Restricted Area: Entry approval required prior to transit		156	Mobile AtoN: Cable Marker
	67	Restricted Area: Entry prohibited		157	Search & Rescue applications, datum mark
	68	Restricted Area: Firing – danger area.		158	Mobile AtoN: SAR Area Mark
	69	Restricted Area: Fishing prohibited		159	Spare
	70	Restricted Area: No anchoring.		160	Special event, event mark
	71	Report from ship: Icing info		161	Mobile AtoN: Regatta Marker

IALA G1154 - Mobile AtoN

	72	Environmental Caution Area: Heavy icing		162	Mobile AtoN: Rendezvous Marker
	73	Environmental Caution Area: Restricted visibility (fog, rain, etc.)		163	Spare
	74	Environmental Caution Area: Strong currents		164	IALA port traffic signal 1: Serious emergency – all vessels to stop or divert according to instructions.
	75	Environmental Caution Area: Hazardous sea ice		165	IALA port traffic signal 2: Vessels shall not proceed.
	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	<del>Chart Feature: Shoal area due north</del>	IMO SN/Circ.289, Message 8, Marine Traffic Signal, DAC=001, FI=19	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	<del>Chart Feature: Shoal area due south</del>		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	<del>Chart Feature: Shoal area due east</del>		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:	2	0 = Not available = default; 1 = no; 2 = yes; 3 = not in use
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.

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