



TUVALU SHIP REGISTRY

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MARINE CIRCULAR

MC-23/2012/1

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FOR: Ship Owners, Ship Managers, Ship Operators, Ship Masters, Ship Officers, Classification Societies

SUBJECT: AUTOMATIC IDENTIFICATION SYSTEM (AIS)

DEFINITIONS:

The following abbreviations stand for:

- "AIS" - Automatic Identification System
- "CSO" – Company Security Officer
- "GT" – Gross Tonnage in accordance to ITC 69
- "IACS" – International Association of Classification Societies
- "IMO" – International Maritime Organization
- "ITC 69" – International Convention on the Tonnage Measurement of Ships, 1969
- "RO" – Recognized Organization as defined by IMO Resolution A.789(19)
- "SOLAS" – International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended
- "SSP" – Ship Security Plan
- "VTS" – Vessel Traffic System

The following term shall mean:

- "Administration" – Tuvalu Ship Registry;

PURPOSE:

This Marine Circular serves to explain the carriage requirements for AIS and provide performance standards and guidelines for its installation. It also elaborates on the new SOLAS regulation that requires the annual testing of AIS from 1 July 2012.

REFERENCES:

- (a) IMO Resolution MSC.74(69), Annex 3
- (b) IMO Resolution MSC.308(88)
- (c) MSC.1/Circ.1252
- (d) SN/Circ.227

APPLICATION:

The IMO established mandatory carriage requirements for approved AIS equipment under SOLAS Chapter V Regulation 19.2.4 which became effective on 1 July 2002. Carriage requirements apply to:

- (a) all ships of 300 GT and upwards engaged on international voyages;
- (b) cargo ships of 500 GT and upwards not engaged on international voyages; and
- (c) all passenger ships irrespective of size.

Note: All Ships means any ship, vessel or craft irrespective of type and purpose. Therefore, these regulations shall apply to all registered private and commercial yachts and fishing vessels.

CONTENTS:

1. Implementation

- 1.1. All ships constructed on or after 1 July 2002 must be fitted with an approved AIS.
- 1.2. Existing ships engaged on international voyages constructed before 1 July 2002 must be fitted according to the following timetable:
 - 1.2.1. Passenger ships – not later than 1 July 2003;
 - 1.2.2. Tankers – not later than the first Safety Equipment Survey after 1 July 2003.
- 1.3. Existing ships other than passenger ships and tankers:
 - 1.3.1. 50,000 GT and upwards – not later than 1 July 2004;
 - 1.3.2. 300 GT and upward but less than 50,000 GT – not later than the first Safety Equipment Survey after 1 July 2004 or by 31 December 2004, whichever occurs earlier.

Note: The first Safety Equipment Survey means the first annual survey, the first periodical survey, or the first renewal survey for safety equipment, whichever is due first after 1 July 2004 and, in addition, in the case of ships under construction, the initial survey.
- 1.4. Existing ships not engaged on international voyages, constructed before 1 July 2002 must be fitted not later than 1 July 2008.
- 1.5. All vessels are expected to comply in accordance with the above schedule of implementation.

2. Operation

- 2.1. There is a companion 2002 amendment to SOLAS that requires that all ships fitted with AIS maintain the AIS in operation at all times except where international agreements, rules or standards provide for the protection of navigational information. With respect to this requirement, Masters should be aware of SOLAS Chapter XI-2 Regulation 8, titled "Master's discretion for ship safety and security." This regulation reinforces and provides the Master with significant discretion concerning the safety and security of his or her ship where continued operation of the AIS would pose a higher risk.
- 2.2. In way of examples, within ports, information on the location of all ships will be particularly valuable to port authorities. However, there may be circumstances that would be considered high risk, such as during volatile cargo transfers within storage terminals, where continued use of the AIS may not be allowed. Continued use of the AIS while transiting areas known for incidents of armed robbery and piracy, such as the Straits of Malacca, may also be considered a very high risk.
- 2.3. For the above or similar other reasons, the ship's Master may exercise discretionary authority to switch the device off if safety is deemed to be compromised by its continued operation. Such action, however, shall be properly recorded in the official log and reported to the CSO and any Coastal State Authority with a vested interest in accordance with SSP provisions. Safety concerns shall always override those of maritime security.

3. Annual Testing

- 3.1. An amendment in SOLAS Chapter V Regulation 18 resulted in a new regulation (SOLAS V/18.9) that entered into force on 1 July 2012 requires the AIS to be subjected to an annual test.

- 3.2. The test shall be conducted by an approved surveyor or an approved testing or servicing facility. The test shall verify the correct programming of the ship static information, correct data exchange with connected sensors as well as verifying the radio performance by radio frequency measurement and on-air test using, e.g., a VTS. A copy of the test report shall be retained on board the ship.

- 3.3. This Administration understands that the Guidelines on Annual Testing of the Automatic Identification System (AIS) as contained in MSC.1/Circ.1252 (see ANNEX of this Marine Circular), although predating the new SOLAS regulation, have not been revoked; therefore this Administration accepts the use of these guidelines on condition that the approved surveyor or approved testing or servicing facility is authorized by an IACS member and/or RO duly recognized by Tuvalu.

Yours sincerely,

Deputy Registrar
Tuvalu Ship Registry

ANNEX

GUIDELINES ON ANNUAL TESTING OF THE AIS

1. The annual testing of the AIS should be carried out by a qualified radio inspector authorized by the Administration or a RO.
2. The annual testing of the AIS installation should include:
 - 2.1. installation details including antenna layout, initial configuration report, interconnection diagrams, provision of the pilot plug and power supply arrangements;
 - 2.2. checking the correct programming of the ships static information;
 - 2.3. the ability of the AIS to receive ships dynamic information from the appropriate sensors;
 - 2.4. the ability to correctly input the ships voyage related data;
 - 2.5. a performance test of the equipment including radio frequency measurements; and
 - 2.6. an on-air test that the unit is working correctly using for example an appropriate VTS station or a suitable test equipment.
3. To accommodate performance test to align with the appropriate survey under the Harmonized System of Survey and Certification (HSSC), the annual testing may be carried out:
 - 3.1. up to three (3) months before the due date of the passenger ship renewal survey or the cargo ship safety equipment renewal survey; and
 - 3.2. three (3) months before or after the due date of the cargo ship safety equipment periodical/annual survey (the maximum period between subsequent test is governed by the time window associated to the subsequent surveys, unless either certificate has been extended as permitted by SOLAS regulation 1/14, in which case a similar extension may be granted by the Administration).
4. The annual testing should be recorded in the form of the model test report given in the APPENDIX. If the language used is neither English, nor French, nor Spanish, the text should include a translation into one of these languages, as appropriate. A copy of the test report should be retained on board the ship.

APPENDIX

AUTOMATIC IDENTIFICATION SYSTEM (AIS) TEST REPORT

Name of ship/call sign:	
MMSI number:	
Port of registry:	
IMO number:	
Gross Tonnage:	
Date keel laid:	

1. Installation details		
	Item	Status
1.1	AIS transponder type:	
1.2	Type approval certificate	
1.3	Initial installation configuration report on board?	
1.4	Drawings provided? (Antenna, AIS-arrangement and block diagram)	
1.5	Main source of electrical power,	
1.6	Emergency source of electrical power,	
1.7	Capacity to be verified if the AIS is connected to a battery	
1.8	Pilot plug near pilots operating position?	
1.9	120 V AC provided near pilot plug? (Panama and St. Lawrence requirement)	

2. AIS programming - Static information		
2.1	MMSI number	
2.2	IMO number	
2.3	Radio call sign	
2.4	Name of ship	
2.5	Type of ship	
2.6	Ship length and beam	
2.7	Location of GPS antenna	

3. AIS programming – Dynamic information		
3.1	Ships position with accuracy and integrity status (Source: GNSS)	
3.2	Time in UTC (Source: GNSS)	
3.3	Course over ground (COG) (will fluctuate at dockside) (Source GNSS)	
3.4	Speed over ground (SOG) (zero at dockside) (Source: GNSS)	
3.5	Heading (Source: Gyro)	
3.6	Navigational status	
3.7	Rate of turn, where available (ROT)	
3.8	Angle of heel, pitch and roll, where available	

4. AIS programming – Voyage related information		
4.1	Ships draught	
4.2	Type of cargo	
4.3	Destination and ETA (at masters discretion)	
4.4	Route plan (optional)	
4.5	Short safety-related messages	

5. Performance test using measuring instrument		
5.1	Frequency measurements AIS ch. 1 and 2, GMDSS ch. 70	
5.2	Transmitting output, AIS ch. 1 and 2, GMDSS ch. 70	
5.3	Polling information ch. 70	
5.4	Read data from AIS	
5.5	Send data to AIS	
5.6	Check AIS response to “virtual vessels”	

