Maritime & Coastguard Agency

MARINE GUIDANCE NOTE

MGN 465 (M+F)

Navigation - Automatic Identification Systems (AIS) - Annual Testing.

Notice to all Ship Owners, Managers, Ship Operators, Masters, Class Societies, Surveyors, VTS Stations & MRCCs

Summary

The purpose of this MGN is to provide guidance on the United Kingdom implementation of the requirements of IMO document, MSC.1/Circ.1252, *GUIDELINES ON ANNUAL TESTING OF THE AUTOMATIC IDENTIFICATION SYSTEM (AIS).*

The MGN also provides guidance on how an annual Functional Test should be carried out on vessels to which SOLAS does not apply, but that are fitted with Class "A" AIS.

1. Introduction

1.1 SOLAS Chapter V Regulation 18.9 requires an annual test of shipborne Class "A" AIS systems, carried on the vessels described in SOLAS Chapter V Regulation 19.2.4

The guidelines for this annual testing are laid down in IMO Document, MSC.1/ Circ.1252, the text of which is attached at Annex 1.

1.2 For fishing vessels of more than 15 metre in length to which SOLAS V/18.9 does not apply, but that are fitted with Class "A" AIS in accordance with EU Directive 2011/15/EU (amending Directive 2002/59/EC of the European Parliament and of the Council establishing a Community vessel traffic monitoring and information system), an annual "Functional Test" is recommended by the MCA.

The guidelines for this functional test are attached at Annex 2.

1.3 The purpose of an annual testing regime is to confirm that the AIS performance is not inferior to the International Maritime Organization (IMO) Performance Standard (MSC 74(69)) and IEC standard, IEC 61993-2: Maritime Navigation and Radio Communications Equipment and Standards – Automatic Identification Systems (AIS).

1.4 After any maintenance or repair work to the AIS system is completed, appropriate tests, equivalent to those in the corresponding annual test, should be carried out to confirm the required system performance is achieved.

More Information

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Safer Lives, Safer Ships, Cleaner Seas

An executive agency of the Department for Transport

GUIDELINES ON ANNUAL TESTING OF THE AUTOMATIC IDENTIFICATION SYSTEM (AIS)

1 The annual testing of the automatic identification system (AIS) should be carried out by a qualified radio inspector authorized by the administration or a recognized organization.

2 The annual testing of the AIS installation should include:

.1 installation details including antenna layout, initial configuration report, interconnection diagrams, provision of the pilot plug and power supply arrangements;

.2 checking the correct programming of the ships static information;

.3 the ability of the AIS to receive ships dynamic information from the appropriate sensors;

.4 the ability to correctly input the ships voyage related data;

.5 a performance test of the equipment including radio frequency measurements; and

.6 an on-air test that the unit is working correctly using for example an appropriate Vessel Traffic Service (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:

.1 up to 3 months before the due date of the passenger ship renewal survey or the cargo ship safety equipment renewal survey; and

.2 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 I/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 annex. If the language used is neither English, nor French, nor Spanish, the text should include a translation into one of these languages. A copy of the test report should be retained on board the ship.

AUTOMATIC IDENTIFICATION SYSTEM (AIS) TEST REPORT

Name of ship / call sign			
MMSI number			
Port of registry			
IMO number			
Gross tonnage			
Date keel laid			
Date		**Testing Officer**	

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)	

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 Master's 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"	

6.	"On air" performance test	
6.1	Check reception performance	
6.2	Confirm reception of own signal from other ship/VTS	
6.3	Polling by VTS/shore installation	

Electromagnetic interference from AIS observed to other installations?

Remarks:

GUIDELINES ON ANNUAL FUNCTIONAL TESTING OF THE AUTOMATIC IDENTIFICATION SYSTEM (AIS) FOR VESSELS WHICH CARRY CLASS "A" AIS BUT DO NOT REQUIRE A MANDATORY ANNUAL TEST

The annual testing of the automatic identification system (AIS) should take place as a FUNCTIONAL TEST and may be carried out by a person competent in the operation of the system, such as the master.

1 The annual testing of the AIS installation should include:

.1 checking the correct programming of the ship's static information;

.2 the ability of the AIS to receive ship's dynamic information from appropriate sensors; and

.3 an on-air test that the unit is working (transmitting and receiving) correctly using, for example, an appropriate Vessel Traffic Service (VTS) Station* or employing suitable test equipment.

On-air test of transmission and reception includes:

- able to detect a vessel at or over 10 Nautical Mile range;
- contacting a vessel, VTS or MRCC at or over 10 Nm and confirming own ship's detection on their AIS; and
- polling** by a shore station.

* Details of VTS stations can be found in Admiralty List of Radio Signals Vol-6;

**Polling is a function by which a shore AIS station can interrogate ship's AIS in between the ship's normal broadcast. Ships should contact local VTS station or MRCC by radio-telephone. This should be followed by a confirmation back from them via radio-telephone.

2 The annual testing should be recorded as a self-declaration on the form provided below.

SELF DECLARATION

AUTOMATIC IDENTIFICATION SYSTEM (AIS) FUNCTIONAL TEST REPORT

Name of ship / call sign			
Type of ship			
MMSI number			
Port of registry			
IMO number			
Gross tonnage			
Date keel laid			
Date		**Testing Officer**	

1.	**AIS programming - Static information**	
1.1	MMSI number	
1.2	IMO number	
1.3	Radio call sign	
1.4	Name of ship	
1.5	Type of ship	
1.6	Ship length and beam	
1.7	Location of GNSS receiver antenna	

2.	**AIS programming - Dynamic information**	
2.1	Ships position with accuracy and integrity status (Source: GNSS receiver)	
2.2	Time in UTC (Source: GNSS receiver)	
2.3	Course over ground (COG) (will fluctuate at dockside) (Source: GNSS receiver)	
2.4	Speed over ground (SOG) (zero at dockside) (Source: GNSS receiver)	
2.5	Heading (Source: Gyrocompass, Transmitting Heading Device)	
2.6	Navigational status	
2.7	Rate of turn, where available (RoT indicator)	
2.8	Angle of heel, pitch and roll, where available	

3.	**"On air" performance test**	
3.1	Check reception performance	
3.2	Confirm reception of own signal from other ship/VTS	
3.3	Polling by VTS/shore installation	

Remarks: