



Technical Notice

TD **9727/2018**

Dated: 29.11.2018

SUBJECT:

Annual testing of VDR, S-VDR

Annual testing of VDR, S-VDR

Present circular is developed followed a PSC detention of an INSB Classed/certified ship where a **detainable deficiency assigned also with "RO responsibility"** because the annual performance test of VDR/S-SDR had not been carried out together with the annual Safety Equipment survey, despite the fact that the test certificate was still valid during the surveys.

In above respect we would like to bring to your attention the following:

- a. The **purpose of an annual performance** test is to determine that a VDR/S-VDR is operational as defined in the manufacturer's specification. In addition, because of the "black box" nature of this equipment, there is a need to have a document which clearly lists all the interfaces which have been checked to confirm compliance with the appropriate International Electrotechnical Commission (IEC) test standards. This transparency is essential for surveyors or inspectors of flag Administrations port States or recognized organizations
- b. **SOLAS Regulation V/18.9 states:**

*"The automatic identification system (AIS) shall be subjected to an annual test. 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 Vessel Traffic Service (VTS). A copy of the test report shall be retained on board the ship."*

- c. As per **IMO NCSR 4/24 and IACS interpretation** of the proper time of annual test performance the annual performance test of VDR (or S-VDR) shall be carried out within the "time window" of the annual / periodical / renewal survey under the Harmonized System of Survey and Certification (HSSC), but not later than the date of completion of the survey for endorsement / renewal of the relevant Certificate.

All **INSB Class Surveyors** are kindly requested to follow the above interpretation and request the **annual performance test of VDR (or S-VDR)** to be carried out **not later than the date of completion of the survey** for endorsement / renewal of the relevant Certificate and ensure that the test conducted by an **approved** surveyor or an approved testing or servicing facility.

Thanks for your attention,

INSB Class | Statutory Dpt

Attachments

- IMO NCSR 4/24 "Annual testing of the VDR, S-VDR, AIS and EPIRB"
- MSC.1/Circ.1222 "Guidelines on annual testing of voyage data recorders (VDR) and Simplified Voyage Data Recorders (S-VDR)"

Attachment No 1

TD 9727/2018

SUB-COMMITTEE ON NAVIGATION,
COMMUNICATIONS AND SEARCH AND
RESCUE
4th session
Agenda item 24

NCSR 4/24
1 November 2016
Original: ENGLISH

**UNIFIED INTERPRETATION OF PROVISIONS OF IMO SAFETY, SECURITY, AND
ENVIRONMENT RELATED CONVENTIONS**

Annual testing of the VDR, S-VDR, AIS and EPIRB

Submitted by the International Association of Classification Societies (IACS)

SUMMARY

Executive summary: This document provides an interpretation of the provisions of SOLAS relating to the annual testing of the VDR, S-VDR, AIS and EPIRB, which has been developed by IACS to facilitate the uniform implementation of these requirements

Strategic direction: 1.1

High-level action: 1.1.2

Output: 1.1.2.3

Action to be taken: Paragraph 8

Related documents: SOLAS regulations IV/15.9, V/18.8 and V/18.9; MSC.1/Circ.955, MSC.1/Circ.1222 and MSC.1/Circ.1252

Introduction

1 SOLAS regulation V/18.8 states:

"The voyage data recorder system, including all sensors, shall be subjected to an annual performance test. The test shall be conducted by an approved testing or servicing facility to verify the accuracy, duration and recoverability of the recorded data. In addition, tests and inspections shall be conducted to determine the serviceability of all protective enclosures and devices fitted to aid location. A copy of the certificate of compliance issued by the testing facility, stating the date of compliance and the applicable performance standards, shall be retained on board the ship."

In addition, paragraph 3 of the annex to MSC.1/Circ.1222 states:

"The manufacturer must complete a review, record any changes and **issue the completed test report within 45 days**. To accommodate performance checks to align with the appropriate survey under the Harmonized System of Survey and Certification (HSSC), the annual performance check may be carried out up to 3 months before the due date for a passenger ship and +/- 3 months of the due date for a cargo ship. (The maximum period between subsequent checks is, therefore, 15 months for passenger ships and 18 months for cargo ships, unless either certificate has been extended as permitted by SOLAS regulation I/14, in which case a similar extension may be granted.)"

2 SOLAS regulation V/18.9 states:

"The automatic identification system (AIS) shall be subjected to an annual test. 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 Vessel Traffic Service (VTS). A copy of the test report shall be retained on board the ship."

In addition, paragraph 3 of the annex to MSC.1/Circ.1252 states:

"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)."

3 SOLAS regulation IV/15.9 states:

"Satellite EPIRBs shall be:

- .1 annually tested for all aspects of operational efficiency, with special emphasis on checking the emission on operational frequencies, coding and registration, at intervals as specified below:
 - .1 on passenger ships, within 3 months before the expiry date of the Passenger Ship Safety Certificate; and
 - .2 on cargo ships, within 3 months before the expiry date, or 3 months before or after the anniversary date, of the Cargo Ship Safety Radio Certificate.

The test may be conducted on board the ship or at an approved testing station; and

- .2 subject to maintenance at intervals not exceeding five years, to be performed at an approved shore-based maintenance facility."

In addition the second subparagraph of paragraph 1 and paragraph 4 of MSC.1/Circ.955 state:

"The servicing intervals of the aforementioned life-saving appliances and satellite EPIRBs required by SOLAS regulations III/20.8, III/20.9 and IV/15.9, respectively, shall not exceed 12 months which may be extended to 17 months where in any case this is impracticable in exceptional circumstances. In the meantime, according to regulations I/8 and I/9 of the 1988 SOLAS Protocol, the said appliances shall be subjected to an annual or a periodical survey within 3 months before or after each anniversary of the Cargo Ship Safety Equipment Certificate and of the Cargo Ship Safety Radio Certificate, respectively, or the Cargo Ship Safety Certificate, i.e. maximum 18 months interval."

"The Committee, in pursuance of the HSSC's objectives to "simplify survey requirements, thereby reducing the burden on Administrations, operators of ships and the crews of ships", decided that:

"the servicing intervals of life-saving appliances and radiocommunication equipment for ships, whose flag States implement the HSSC, may be in concert with the terms of the HSSC annual, periodical and renewal survey stipulated in the 1988 SOLAS Protocol notwithstanding regulations III/20.8, III/20.9 and IV/15.9 of the 1974 SOLAS Convention, as amended".

Discussion

4 The issue of the execution of the annual VDR performance test as part of the Safety Equipment periodical survey was brought to the attention of IACS and, **in particular, whether:**

- the test needs to be carried out **at the same time, or in advance** of (by respecting the limit of minus three months from the survey anniversary date), the completion of the survey; or
- if the test may be carried out **after the completion of the survey on the basis that,** according to the provisions of the MSC.1/Circ.1222, the previous test may be considered valid till to the end of the time window allowed for the completion of the Safety Equipment periodical survey (taking account of the "additional" three months from the anniversary date).

5 Having extensively discussed the issue, IACS Members agreed **that the intent of MSC.1/Circ.1222 is to align the performance test with the intervals of the surveys specified in the Harmonized System of Survey and Certification (HSSC).** Therefore, the validity of the previous performance test can be maintained, even if it was last conducted more than one year ago, **if the periodical survey is undertaken in accordance with the HSSC schedule,** including the "additional" three-month window. Therefore IACS considers that the annual performance test is to be carried out within the "time window" of the annual/periodical/ renewal survey under the HSSC, but not later than the date of completion of the survey for endorsement/renewal of the relevant Certificate.

6 It was agreed to broaden the scope of this discussion beyond the VDR (or S-VDR) to include the annual test of the AIS and the EPIRB. In this regard it was noted that SOLAS regulation IV/15.9 regarding the annual testing of the EPIRB is independent of the HSSC System. Consequently, the interpretation relating to the testing of the EPIRB refers to the relevant survey in a generic manner, without any reference to the HSSC.

7 Based on the above understandings IACS has developed and finalized a Unified Interpretation (IACS UI SC279), a copy of which is provided in the annex to this document. The Sub-Committee is invited to note that IACS Members intend to implement UI SC279 from 1 July 2017, unless they are provided with written instructions to apply a different interpretation by the Administration on whose behalf they are authorized to act as a recognized organization.

Action requested of the Sub-Committee

8 The Sub-Committee is invited to:

1. consider the foregoing, the copy of the Unified Interpretation provided in the annex and the implementation provisions discussed in paragraph 7 above; and
2. take action as appropriate.

ANNEX

SC279 (June 2016)

Annual testing of VDR, S-VDR, AIS and EPIRB

- SOLAS regulation V/18.8 – Annual performance test of Voyage Data Recorder (VDR) and Simplified Voyage Data Recorder (S-VDR)
- SOLAS regulation V/18.9 – Annual performance test of Automatic Identification System (AIS)
- SOLAS regulation IV/15.9 – Annual test of EPIRB

The SOLAS 74 as amended at regulation V/18 paragraph 8 reads:

SOLAS regulation V/18.8

The voyage data recorder system, including all sensors, shall be subjected to an annual performance test. The test shall be conducted by an approved testing or servicing facility to verify the accuracy, duration and recoverability of the recorded data. In addition, tests and inspections shall be conducted to determine the serviceability of all protective enclosures and devices fitted to aid location. A copy of the certificate of compliance issued by the testing facility, stating the date of compliance and the applicable performance standards, shall be retained on board the ship.

Moreover, the annex to MSC.1/Circ.1222 at paragraph 3 expects:

3 The manufacturer must complete a review, record any changes and issue the completed test report within 45 days. To accommodate performance checks to align with the appropriate survey under the Harmonized System of Survey and Certification (HSSC), the annual performance check may be carried out up to 3 months before the due date for a passenger ship and +/- 3 months of the due date for a cargo ship. (The maximum period between subsequent checks is, therefore, 15 months for passenger ships and 18 months for cargo ships, unless either certificate has been extended as permitted by SOLAS regulation I/14, in which case a similar extension may be granted.)

Interpretation

The annual performance test of VDR (or S-VDR) shall be carried out within the "time window" of the annual / periodical / renewal survey under the Harmonized System of Survey and Certification (HSSC), but not later than the date of completion of the survey for endorsement / renewal of the relevant Certificate.

Note:

1. This UI is to be applied by IACS Members when acting as recognized organizations, authorized by flag State Administrations to act on their behalf, unless otherwise advised, from 1 July 2017.

The SOLAS 74 as amended at regulation V/18 paragraph 9 reads:

SOLAS regulation V/18.9

9. The automatic identification system (AIS) shall be subjected to an annual test. 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 Vessel Traffic Service (VTS). A copy of the test report shall be retained on board the ship.

Moreover, the annex to MSC.1 Circ./1252 at paragraph 3 expects:

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).*

Interpretation

The annual performance test of the Automatic Identification System (AIS) shall be carried out within the "time window" of the annual / periodical / renewal survey under the Harmonized System of Survey and Certification (HSSC), but not later than the date of completion of the survey for endorsement / renewal of the relevant Certificate.

The SOLAS 74 as amended at regulation IV/15 paragraph 9 reads:

SOLAS regulation IV/15.9

9 Satellite EPIRBs shall be:

- .1 annually tested for all aspects of operational efficiency, with special emphasis on checking the emission on operational frequencies, coding and registration, at intervals as specified below:*
 - .1 on passenger ships, within 3 months before the expiry date of the Passenger Ship Safety Certificate; and*
 - .2 on cargo ships, within 3 months before the expiry date, or 3 months before or after the anniversary date, of the Cargo Ship Safety Radio Certificate.*

The test may be conducted on board the ship or at an approved testing station; and

- .2 *subject to maintenance at intervals not exceeding five years, to be performed at an approved shore-based maintenance facility.*

Moreover, the MSC.1/Circ.955 at paragraph 2 and 4 reads:

.....omission.....

The servicing intervals of the aforementioned life-saving appliances and satellite EPIRBs required by SOLAS regulations III/20.8, III/20.9 and IV/15.9, respectively, shall not exceed 12 months which may be extended to 17 months where in any case this is impracticable in exceptional circumstances. In the meantime, according to regulations I/8 and I/9 of the 1988 SOLAS Protocol, the said appliances shall be subjected to an annual or a periodical survey within 3 months before or after each anniversary of the Cargo Ship Safety Equipment Certificate and of the Cargo Ship Safety Radio Certificate, respectively, or the Cargo Ship Safety Certificate, i.e. maximum 18 months interval.

.....omission.....

The Committee, in pursuance of the HSSC's objectives to "simplify survey requirements, thereby reducing the burden on Administrations, operators of ships and the crews of ships", decided that:

"the servicing intervals of life-saving appliances and radiocommunication equipment for ships, whose flag States implement the HSSC, may be in concert with the terms of the HSSC annual, periodical and renewal survey stipulated in the 1988 SOLAS Protocol notwithstanding regulations III/20.8, III/20.9 and IV/15.9 of the 1974 SOLAS Convention, as amended".

Interpretation

The annual test of the EPIRBs shall be carried out within the "time window" of the prescribed survey, but not later than the date of completion of the survey for endorsement / renewal of the relevant Certificate.

End of Document

Attachment No 2

TD 9727/2018



Ref. T4/8.01

MSC.1/Circ.1222
11 December 2006

**GUIDELINES ON ANNUAL TESTING OF VOYAGE DATA RECORDERS (VDR) AND
SIMPLIFIED VOYAGE DATA RECORDERS (S-VDR)**

1 The Maritime Safety Committee at its seventy-third session (27 November to 6 December 2000) approved the revision of SOLAS regulation V/20 which included the requirement for voyage data recorder (VDR) systems to be the subject of an annual performance test.

2 At its seventy-ninth session (1 to 10 December 2004), the Maritime Safety Committee adopted amendments to regulation V/20 to include the requirement for VDRs which may be simplified voyage data recorders (S-VDR), to be fitted on existing cargo ships on a phased-in carriage requirement. Such VDRs were also to be the subject of an annual performance test.

3 The Maritime Safety Committee, at its eighty-second session (29 November to 8 December 2006), approved the Guidelines on annual testing of Voyage Data Recorders (VDR) and simplified Voyage Data Recorders (S-VDR), as set out in the annex.

4 The purpose of an annual performance test is to determine that a VDR/S-VDR is operational as defined in the manufacturer's specification. In addition, because of the "black box" nature of this equipment, there is a need to have a document which clearly lists all the interfaces which have been checked to confirm compliance with the appropriate International Electrotechnical Commission (IEC) test standards. This transparency is essential for surveyors or inspectors of flag Administrations port States or recognized organizations.

5 To assist in achieving this aim, it is recommended that all VDR and S-VDR be subject to a standard method of testing as detailed in the annexed Guidelines.

6 Member Governments are invited to bring these Guidelines to the attention of shipping companies, shipowners, ship operators, equipment manufacturers, recognized organizations, shipmasters and all parties concerned.

ANNEX**GUIDELINES ON ANNUAL TESTING OF VDR AND S-VDR**

- 1 The annual testing of VDR/S-VDR required by SOLAS regulation V/20 should be carried out by the manufacturer or a person authorized by the manufacturer.
- 2 The examination of the VDR/S-VDR installation should include:
 - .1 confirmation that no alarms are present prior to commencement of the test;
 - .2 confirmation that when the external power is removed the power supply alarm is activated, the equipment continues to operate for at least 1 h 55 min and automatically stops recording no later than 2 h 5 min after the external power is removed;
 - .3 confirmation that the acoustic beacon is functional using the appropriate manufacturer's test equipment or by the substitution of a certified fully operational unit;
 - .4 confirmation that the overall condition of the equipment is satisfactory and that any batteries within the equipment (acoustic beacon and power supply) are in date;
 - .5 confirmation that accurate maintenance records of the VDR are available;
 - .6 confirmation that the items to be recorded, specifically those data items available and required to be recorded at the time of original commissioning as defined in resolution A.861(20) and resolution MSC.163(78) for VDR and S-VDR, respectively, are satisfactorily stored for the duration of the 12-hour recording period;
 - .7 confirmation that the capsule float-free arrangements, where required or fitted, are satisfactory as originally accepted at commissioning; and that any battery, release mechanism or other datable items are within their expiry date; and,
 - .8 confirmation that the equipment is restored to normal operation mode following completion of the tests.
- 3 The manufacturer must complete a review, record any changes and issue the completed test report within 45 days. To accommodate performance checks to align with the appropriate survey under the Harmonized System of Survey and Certification (HSSC), the annual performance check may be carried out up to 3 months before the due date for a passenger ship and +/- 3 months of the due date for a cargo ship. (The maximum period between subsequent checks is, therefore, 15 months for passenger ships and 18 months for cargo ships, unless either certificate has been extended as permitted by SOLAS regulation I/14, in which case a similar extension may be granted.)
- 4 The annual test should be recorded in the form of the model test report given in the appendix to this document. If the language used is neither English nor French nor Spanish, the text should include a translation into one of these languages.

APPENDIX

VOYAGE DATA RECORDER PERFORMANCE TEST REPORT

Note – Insert **Yes** for success, **No** for failure or **N/A** for non fitted interfaces in these boxes, as appropriate.

Yes	No	N/A
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Ship's details

Ship's name	
Flag	
IMO number	
Date keel laid	
Gross tonnage	

Voyage data recorder details

Manufacturer	
Model	
System serial number	
Software version number	
Date fitted	

Inspection Details

Name person conducting testing	
Company	
Inspection date	
Inspection location	

1. Pre-existing alarms

Confirm that no alarms were present at start of procedure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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2. Power supply alarm check

Remove source of external power. Confirm that alarm is activated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Record time (hh.mm)			

3. Reserve power source check

Allow VDR to continue running for 1 hour 55 minutes from '2' above.

Confirm that equipment is still operating at this time, with no additional alarms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Record time (hh.mm)			

4. Reserve power source shutdown check

2 hours 05 minutes from '2' above confirm that the VDR has automatically stopped recording.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Record time (hh.mm)			

5. Battery expiry dates

Battery	Expiry date (where applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acoustic beacon		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reserve power source		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Acoustic beacon test

Using manufacturer's test equipment confirm that acoustic beacon is functional or by the substitution of a certified fully operational unit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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7. Overall condition of equipment

Inspect equipment and record condition, tick if satisfactory:

Sub unit	Notes on condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Protective capsule		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External cables		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Main unit		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Interfaces: Operation and recording

Date and time	Preferably external to ship (e.g. Global Navigation Satellite System.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ship's position	Electronic Positioning system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speed (through water or over ground)	Ship's designated speed and distance measuring equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heading	Ship's compass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bridge audio	1 or more bridge microphones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communications Audio	VHF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radar data- post display selection	Master radar display	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water depth	Echo sounder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Main alarms	All mandatory alarms on bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rudder order and response	Steering gear and autopilot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Engine order and response	Telegraphs, controls and thrusters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hull openings status	All mandatory status information displayed on bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Watertight and fire door status	All mandatory status information displayed on bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acceleration and hull stresses	Hull stress and response monitoring equipment where fitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wind speed and direction	Anemometer where fitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Change or repair of sensors

Check maintenance records of VDR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Confirm any defects properly rectified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Person authorized by the Manufacturer	Ship's representative		
Date	Date		

