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## **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.

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**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)			
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 <b>where fitted</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wind speed and direction	Anemometer <b>where fitted</b>	<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"/>
<b>Person authorized by the Manufacturer</b>	<b>Ship's representative</b>		
<b>Date</b>	<b>Date</b>		

