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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.
- 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.
- 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.
- 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.
- 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;
  - 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.
- 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
Ship's details		<u> </u>		
Ship's name				
Flag				
IMO number				
Date keel laid				
Gross tonnage				
Voyage data recorder de	tails			
Manufacturer				
Model				
System serial number				
Software version number				
Date fitted				
Inspection Details				
Name person conducting t	esting			
Company				
Inspection date				
Inspection location				
1. Pre-existing alar	ms			
Confirm that no alarms we	ere present at start of procedure			
2. Power supply ala	rm check			
Remove source of external power. Confirm that alarm is activated.				
Record time (hh.mm)				
3. Reserve power so	ource check			
Allow VDR to continue ru	nning for 1 hour 55 minutes from '2' above.			
Confirm that equipment alarms.	is still operating at this time, with no additional			
Record time (hh.mm)				
4. Reserve power so	ource shutdown check			
2 hours 05 minutes from	'2' above confirm that the VDR has automatically			
stopped recording.	·			
Record time (hh.mm)				
5. Battery expiry da	ates			
Battery	Expiry date (where applicable)			
Acoustic beacon				
Reserve power source				
6. Acoustic beacon	test			
	Using manufacturer's test equipment confirm that acoustic beacon is junctional or by the substitution of a certified fully operational unit			

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## 7. Overall condition of equipment

Inspect equipment and rec	cord condition, tick if satisfa	actory:					
Sub unit	Notes on condition						
Protective capsule							
External cables				] [			
Main unit						ı J	
8. Interfaces: Oper	ration and recording						
Date and time	Preferably external to			] [			
	ship (e.g. Global					•	
	Navigation Satellite						
	System.)						
Ship's position	Electronic Positioning			] [		ı	
* *	system				•	•	
Speed (through water or	Ship's designated speed			] [		ı	
over ground)	and distance measuring		<u> </u>			-	
	equipment						
Heading	Ship's compass			] [		ı İ	
Bridge audio	1 or more bridge			<b>1</b> [		ı	
	microphones		L			•	
Communications Audio	VHF			] [			
						•	
Radar data- post display	Master radar display			] [		ı	
selection			<u> </u>			-	
Water depth	Echo sounder			] [		ı	
Main alarms	All mandatory alarms			1 [		ı	
	on bridge		<u> </u>			•	
Rudder order and	Steering gear and			] [		ı	
response	autopilot				•	•	
Engine order and	Telegraphs, controls					ı İ	
response	and thrusters					-	
Hull openings status	All mandatory status					ı J	
• •	information displayed					-	
	on bridge						
Watertight and fire door	All mandatory status			] [		ı	
status	information displayed					-	
	on bridge						
Acceleration and hull	Hull stress and response						
stresses	monitoring equipment			] [		ı	
	where fitted				•	•	
Wind speed and	Anemometer where			] [		ı J	
direction	fitted			-			
9. Change or repair	r of sensors						
Check maintenance record	ds of VDR			] [		ı [	
Confirm any defects prop							
Person authorized by the		Ship's representative		lı			
•							
Th. 1							
Date		Date					

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If the manufacturer does not complete a review and issue a completed test report within 45 days, this test report should go forward for certification.

10. Manufacturer's analysis
<b>Note</b> – This confirms the endorsement by the manufacturer of the tests and that the master record/database has been checked.
Manufacturer's analysis of 12-hour log is attached and in accordance with International Electrotechnical Commission (IEC) 61996 Maritime navigation and radiocommunication equipment and systems – Shipborne voyage data recorder (VDR) – Performance requirements – Methods of testing and required test results section 4.6 – Data items to be recorded (resolution A.861(20), section 5.4). Confirmation that all data is available throughout the 12-hour recording.
Date and time of above log.
11. Observations and additional manufacturer's requirements
<b>Note</b> – This specifically provides for the logging of significant events that may have occurred on board since the previous test, including the refitting of equipment or major unit change to existing equipment. – Any or all of which may have an impact on the availability or quality of the VDR/S-VDR input signal.
This performance test was conducted in accordance with SOLAS regulation V/18.8 and forms part of the procedure for the issue of the Annual Performance Test Certificate. The results, information and any comments should be relayed to the manufacturer in accordance with the instructions contained within the Operation Manual. Subject to satisfactory results, an Annual Performance Test Certificate will then be issued.
In accordance with the principles of harmonization of Certificates, the Certificate, when issued, will remain valid until the next annual re-validation of that Certificate, subject to the equipment being maintained in appropriate operational condition.