
To: Relevant shipowners, ship management companies, shipyards and designers, product manufacturer, related departments of the Headquarters of CCS, the Society's surveyors, Plan Approval Centers

Technical notice on MSC.1/Circ.1222/Rev.1-Guidelines on annual testing of VDR and S-VDR Issued by IMO

1. Background

The Maritime Safety Committee of International Maritime Organization (IMO), at its 101st session in 14 June 2019, approved amendments to the Guidelines on annual testing of Voyage Data Recorders (VDR) and simplified Voyage Data Recorders (S-VDR) by means of MSC.1/Circ.1222/Rev.1.

This circular supersedes MSC.1/Circ.1222. Any reference to MSC.1/Circ.1222 should henceforth be read as reference to this circular.

2. Main contents

The MSC.1/Circ.1222 is revised as follows:

2.1 With regard to the amendment of the annex to the circular:

In Section 2 on the examination of the VDR/S-VDR installation, the next sentence is added: " for float-free capsules approved in accordance with resolution MSC.333(90), the examination should be carried out in accordance with MSC.1/Circ.1040/Rev.1".

2.2 With regard to the amendment of the appendix to annex to the circular:

(1) In Table 8 "Interfaces: operation and recording", the verification requirements for ECDIS, AIS, Rolling motion, Configuration data and Electronic logbook are

added.

(2) Table 9 " Float-free capsule " is added: "For float-free capsules approved in accordance with resolution MSC.333(90): an examination according to MSC.1/Circ. 1040/Rev.1 has been conducted".

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Annex: MSC.1/Circ.1222/Rev.1— Guidelines on annual testing of Voyage Data Recorders (VDR) and simplified Voyage Data Recorders (S-VDR)

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. In addition, for float-free capsules approved in accordance with resolution MSC.333(90), the examination should be carried out in accordance with MSC.1/Circ.1040/Rev.1; 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 \pm 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. 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

| | |
|----------------|--|
| 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 of 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"/> |
|---|--------------------------|--------------------------|--------------------------|

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"/> |
|--|--------------------------|--------------------------|--------------------------|

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 (both radars, where applicable) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ECDIS | ECDIS display in use, where fitted | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| AIS | All AIS data | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Rolling motion | Electronic inclinometer, where fitted | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Configuration data | Where applicable | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Electronic logbook | Where fitted | <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 Float-free capsule

| | Yes | No | N/A |
|---|--------------------------|--------------------------|--------------------------|
| For float-free capsules approved in accordance with resolution MSC.333(90): an examination according to MSC.1/Circ.1040/Rev.1 has been conducted. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

10 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 | | |

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.

11 Manufacturer's analysis

Note – 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. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Date and time of above log. | | | |

12 Observations and additional manufacturer's requirements

Note – 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.

| |
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| |
|--|

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.
