

# Merchant Marine Circular

Panama Maritime Authority  
General Directorate of Merchant Marine  
Control and Compliance Department

## MERCHANT MARINE CIRCULAR MMC-161

**To:** Ship-owners/Operators, ship managers, ship masters, designers and shipbuilders. Legal Representatives of Panamanian Flagged Vessels, Panamanian Merchant Marine Consulates and Recognized Organizations (RO's)

**Subject:** Voyage Data Recorder (VDR) and Simplified Voyage Data Recorder (S- VDR) annual test, and its Performance Standards

**Reference:**

- a) Law No. 7 of October 27, 1977 - SOLAS 1974,
- b) Law No. 12 of November 9, 1981 – SOLAS Protocol 1978,
- c) Law No. 31 of July 11, 2007 – SOLAS Protocol 1988,
- d) SOLAS regulations V/ 18.8 and 20,
- e) Resolution No. 106-OMI-125-DGMM of January 27, 2014 adopted Resolution MSC.333(90) of May 22, 2012 A.861(20) of November 27, 1997 and Resolution MSC.214(81) of May 12, 2006,
- f) Resolution No. 106-OMI-52-DGMM of March 19, 2008 adopted MSC.1/Circ.1222 of December 11, 2006,
- g) MSC.1/Circ.1222/Rev.1 dated 14 June 2019 - amendments to the Guidelines on annual testing of Voyage Data Recorders (VDR) and simplified Voyage Data Recorders (S-VDR),
- h) Resolution MSC.163(78) adopted by IMO on 17 May 2004 **(only as recommendation)**,
- i) Resolution MSC.493(104) adopted by IMO on 7 October 2021 - Amendments to the Performance standards for shipborne Simplified voyage data recorders (S-VDRs) **(only as recommendation)**,
- j) Resolution MSC.494(104) adopted by IMO on 7 October 2021 - Amendments to the Performance standards for shipborne voyage data recorders (VDRs) **(only as recommendation)**,
- k) Resolution MSC.471(101) adopted by IMO on 14 June 2019 Performance standards for float-free emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz. **(only as recommendation)**



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## 1. Purpose

- 1.1. The purpose of this Merchant Marine Circular is to communicate all parties concerned with Panamanian flag ships, of the approved guidelines adopted with the purpose of having a standard method for the annual testing of the VDR and S-VDR including the last amendments adopted by IMO through MSC.493 (104) dated 7 October 2021 and Resolution MSC.494 (104) dated 7 October 2021, concerning to Performance Standards for Shipborne Voyage Data Recorders (VDRs) and shipborne Simplified voyage data recorders (S-VDRs).

## 2. Scope

- 2.1. To assist in casualty investigations, ships, when engaged on international voyages, shall be fitted with a Voyage Data Recorder (VDR) as follows:
  - 2.1.1. passenger ships constructed on or after 1 July 2002;
  - 2.1.2. ro-ro passenger ships constructed before 1 July 2002 not later than the first survey on or after 1 July 2002;
  - 2.1.3. passenger ships other than ro-ro passenger ships constructed before 1 July 2002 not later than 1 January 2004; and
  - 2.1.4. ships, other than passenger ships, of 3,000 gross tonnage and upwards constructed on or after 1 July 2002.
- 2.2. To assist in casualty investigations, cargo ships, when engaged on international voyages, shall be fitted with a VDR which may be a simplified voyage data recorder (S-VDR) as follows:
  - 2.2.1. in the case of cargo ships of 20,000 gross tonnage and upwards constructed before 1 July 2002, at the first scheduled dry-docking after 1 July 2006 but not later than 1 July 2009;
  - 2.2.2. in the case of cargo ships of 3,000 gross tonnage and upwards but less than 20,000 gross tonnage constructed before 1 July 2002, at the first scheduled dry-docking after 1 July 2007 but not later than 1 July 2010;
- 2.3. Administrations may exempt cargo ships from the application of the requirements of subparagraphs 2.1 and 2.2 when such ships will be taken permanently out of service within two years after the implementation date specified in subparagraphs 2.1 and 2.2 above.
- 2.4. Shipping companies, shipowners, ship operators, equipment manufacturers, recognized organizations, shipmasters and all parties concerned.

## 3. Background VDR and S-VDR:

- 3.1. The VDR and S-VDR systems are subjected of an annual testing. This requirement has been approved by the revision of SOLAS Regulation V/20 and established by



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Regulation V/18.8 as amended.

**3.1.1. SOLAS 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.*

**3.2.** The purpose of an annual performance test is to determine that a VDR / S-VDR is operational as defined in the manufacturer's specification.

**3.3.** The annual test for the VDR and S-VDR will be carried out by the manufacturer or a person authorized by the manufacturer.

**3.4.** Given the importance of this system and the transparency required for surveyor or inspectors of the flag Administration and Class Society/Recognized Organizations, a document which clearly lists all the interfaces which have been checked to confirm compliance with the appropriate International Electrotechnical Commission (IEC) test standards was necessary for implementation.

#### **4. Recommended items that the annual testing of the VDR and S-VDR should include:**

**4.1.** Confirmation that no alarms are present prior to the initiation of the test;

**4.2.** Confirmation that when the external power is removed, the power supply alarm is activated, the equipment continues to operate for at least 1 hours and 55 minutes and automatically stops recording no later than 2 hours 5 minutes after the external power is removed;

**4.3.** Confirmation that the acoustic beacon is functional using the appropriate manufacturer's test equipment or by the substitution of a certified fully operational unit;

**4.4.** Confirmation that the overall condition of the equipment is satisfactory and that any battery within the equipment (acoustic beacon and power supply) is not expired;

**4.5.** Confirmation that accurate maintenance records of the VDR are available;

**4.6.** 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) adopted by IMO on 27 November 1997 and Resolution MSC.163(78) adopted by IMO on 17 May 2004 for VDR and S-VDR respectively, are satisfactorily stored for the duration of the 12-hour recording period;

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- 4.7. 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 items are within their expiry date; and,
- 4.8. Confirmation that the equipment is restored to normal operation mode following completion of the tests.

## 5. Recommended periods to conduct Annual Test to VDR & S-VDR and record keeping:

### 5.1. The annual test may be carried out as follows:

5.1.1. For passenger ships: Up to 3 months before the due date of the survey of Passenger Ship Safety Certificate. The maximum period between subsequent checks is therefore 15 months, unless either certificate has been extended as permitted by SOLAS regulation I/14, in which case a similar extension may be granted.

5.1.2. For cargo ships: 3 months before or after the due date of the annual survey of the Cargo Ship Safety Construction Certificate. The maximum period between subsequent checks is therefore 18 months, unless the certificate has been extended as permitted by SOLAS regulation I/14, in which case a similar extension may be granted.

5.1.3. 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).

5.1.4. The annual test should be registered on the form from the model report about the test that figures on the appendix of the MSC.1/Circ.1222 adopted by IMO on 11 December 2006. A copy of the report from the test will remain on board of the vessel. Also these forms will be available for all Port State Control Inspectors and Panamanian Flag Inspectors.

## 6. Performance Standards S-VDRs

6.1. Owners, Operators of Panamanian Ships, Recognized Organizations, Masters, designers and shipbuilders are recommended to ensure that S-VDRs conform the following performance standards:

6.1.1. Shipborne Simplified voyage data recorders (S-VDRs) installed **on or after 1 July 2022**, conform to performance standards not inferior to those specified in the



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annex to Resolution MSC.163(78) adopted by IMO on 17 May 2004, as amended by Resolution MSC.214(81) adopted by IMO on 12 May 2006 and the Resolution MSC.493(104) adopted by IMO on 7 October 2021;

**6.1.2.** Shipborne Simplified voyage data recorders (S-VDRs) installed **on or after 1 June 2008, but before 1 July 2022**, conform to performance standards not inferior to those specified in the annex to Resolution MSC.163(78) adopted by IMO on 17 May 2004, as amended by Resolution MSC.214(81) adopted by IMO on 12 May 2006; and

**6.1.3.** Shipborne Simplified voyage data recorders (S-VDRs) installed **before 1 June 2008**, conform to performance standards not inferior to those specified in the annex to Resolution MSC.163(78) adopted by IMO on 17 May 2004.

## 7. Performance Standards VDRs

**7.1.** Owners, Operators of Panamanian Ships, Recognized Organizations, Masters, designers and shipbuilders are recommended to ensure that VDRs conform the following performance standards:

**7.1.1.** Shipborne voyage data recorders VDRs installed **on or after 1 July 2022**, conform to performance standards not inferior to those specified in the annex to Resolution MSC.333(90) adopted by IMO on 22 May 2012, as amended by the Resolution MSC.494(104) adopted by IMO on 7 October 2021,

**7.1.2.** Shipborne voyage data recorders VDRs installed **on or after 1 July 2014 and before 1 July 2022**, conform to performance standards not inferior to those specified in the annex to Resolution MSC.333(90) adopted by IMO 22 May 2012;

**7.1.3.** Shipborne voyage data recorders VDRs installed **on or after 1 June 2008, but before 1 July 2014**, conform to performance standards not inferior to those specified in the annex to Resolution A.861(20) adopted by IMO on 27 November 1997, as amended by Resolution MSC.214(81) adopted by IMO on 12 May 2006; and

**7.1.4.** Shipborne voyage data recorders VDRs installed **before 1 June 2008**, conform to performance standards not inferior to those specified in the annex to Resolution A.861(20) adopted by IMO on 27 November 1997.

**8.** In both cases VDR and S-VDR installed **on or after 1 July 2022** should comply with the construction aspect of the float-free recording medium requirements specified in the Resolution MSC.471(101) adopted by IMO on 14 June 2019 "Performance standards for



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float-free EPIRB's operating on 406 MHz" to: facilitate grappling and recovery, minimize risk of damage during recovery operations; and continue transmitting an initial satellite distress alerting signal and further locating and homing signals over a period of not less than seven days/168 hours.

**September, 2023** – *reference g) and scope added. Point 3 amended.*

**July, 2022** – *New reference added, paragraphs renumbered and topics added: including the last amendments MSC.493(104) and MSC.494(104) concerning Performance Standards for Shipborne Voyage Data Recorders (VDRs) and shipborne Simplified voyage data recorders (S-VDRs).*

**April 2014** – *Renumbering of paragraphs, include new paragraph 3, regarding the performance standards.*

**March 2008**

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Inquiries concerning the subject of this Merchant Marine Circular or any other request should be forward to:

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