

PORT STATE CONTROL COMMITTEE INSTRUCTION 43/2010/32rev3

GUIDELINES FOR PSCO's CHECKING A VOYAGE DATA RECORDER (VDR)

1. Determine, based on the age and type of vessel, whether a VDR is required.
2. For vessels that require one, check whether the Flag State has issued any exemption from carriage or from any of the required functions.
3. Vessels that require a VDR but do not have one and do not have an exemption should be detained.
4. The VDR should be of an approved type. Check that the ship has a type approval certificate. If the VDR is not type approved request the ship to provide confirmation from the manufacturer that the equipment meets the performance standards of IMO Resolution A.861(20) (amended by MSC.214(81)), MSC.97(73) (Amended by MSC.222(82), MSC.260(84), MSC.271(85)) and IEC 61996. The vessel must be detained if the VDR is not type approved and it is not provided with confirmation that the required standards have been met.
5. SOLAS requires that an annual test of the VDR is carried out by suitably qualified and experienced personnel. Check that the ship has a certificate confirming that a satisfactory test has been carried out (Certificate of conformity).
6. Locate the VDR main unit containing the controls, indicators, and alarm display. If this unit is not on the bridge then a remote visual and audible alarm repeater will be located on the bridge.
7. Ask a responsible officer to demonstrate a test of all operational indicators (lamp test), following the manufacturers instructions if necessary. Confirm that the visual indicators and audible alarm are operational. This test will also confirm that the VDR is switched on.
8. Confirm that no alarms are indicated. An existing alarm may have previously been audibly muted, but the visual alarm indication could remain.
9. The IEC technical standard for VDR's treats the interfaces and the actual VDR as separate items and requires an alarm for the VDR but not the interfaces. The existence of an alarm on the VDR does not necessarily indicate that it is not recording and in most cases it probably still is. If there is an alarm the unit may indicate the nature of the alarm. This may be in coded form which should be explained in the manufacturer's handbook.
10. In many cases however only the annual inspection or a specific investigation by service engineers is likely to determine:
 - a) the status of the interfaces;
 - b) whether an active alarm indicates a system recording malfunction;
 - c) whether (more likely) a set parameter is below the threshold (e.g. bit rate) but the system still functioning.

11. If the ship is unable to provide information about the status of an alarm the PSCO should require that it is investigated immediately, if necessary by a service engineer.
12. Once the nature of the fault is determined the PSCO will need to decide on an appropriate action. In reaching a decision the PSCO should be guided by the matrix in table 1 below which assigns a relative importance to each interface and an appropriate maximum delay for rectification.
13. The delay for rectification should be recorded using the 'As in the agreed flag State condition (code 48)' option.
14. A flowchart of this procedure is annexed to this instruction.

GUIDANCE FOR DETERMINING THE SERIOUSNESS OF VDR EQUIPMENT FAULTS

A.861(20) REFERENCE	DATA ITEM-IMO Performance Standard (Res.A.861(20) ,amended by MSC.214(81)) and IEC Information format (IEC 61996)	RISK LEVEL	SOURCE
5.4.1	Date & time	2 *	Preferably external to ship (e.g:GNSS)
5.4.2	Ship's position	2 *	Electronic Positioning system
5.4.3	Speed (through water or over ground)	2 *	Ship's Speed and Distance Measuring Equipment (SDME)
5.4.4	Heading	2 *	Ship's compass
5.4.5	Bridge Audio	1	1 or more bridge microphones
5.4.6	Communications-Audio	2 *	VHF
5.4.7	Radar data-post display selection	2 *	Master radar display
5.4.8	Water depth	3	Echo Sounder
5.4.9	Main alarms	3	All mandatory alarms on bridge
5.4.10	Rudder order & response	3	Steering gear & autopilot
5.4.11	Engine order & response	3	Telegraphs, controls and thrusters
5.4.12	Hull openings status	3	All mandatory status information displayed on bridge
5.4.13	Watertight & fire door status	3	All mandatory status information displayed on bridge
5.4.14	Acceleration & hull stresses	3	Hull stress and response monitoring equipment when fitted
5.4.15	Wind speed & direction	3	Anemometer when fitted

1. Explanation

Risk Level 1 = High risk
Risk Level 2 = Medium risk
Risk Level 3 = Low risk

This is an indication of the level of risk (associated with data loss to a casualty investigation) if a particular function is not being recorded

Level 1 item could constitute a non functioning VDR and would have to be rectified before departure.

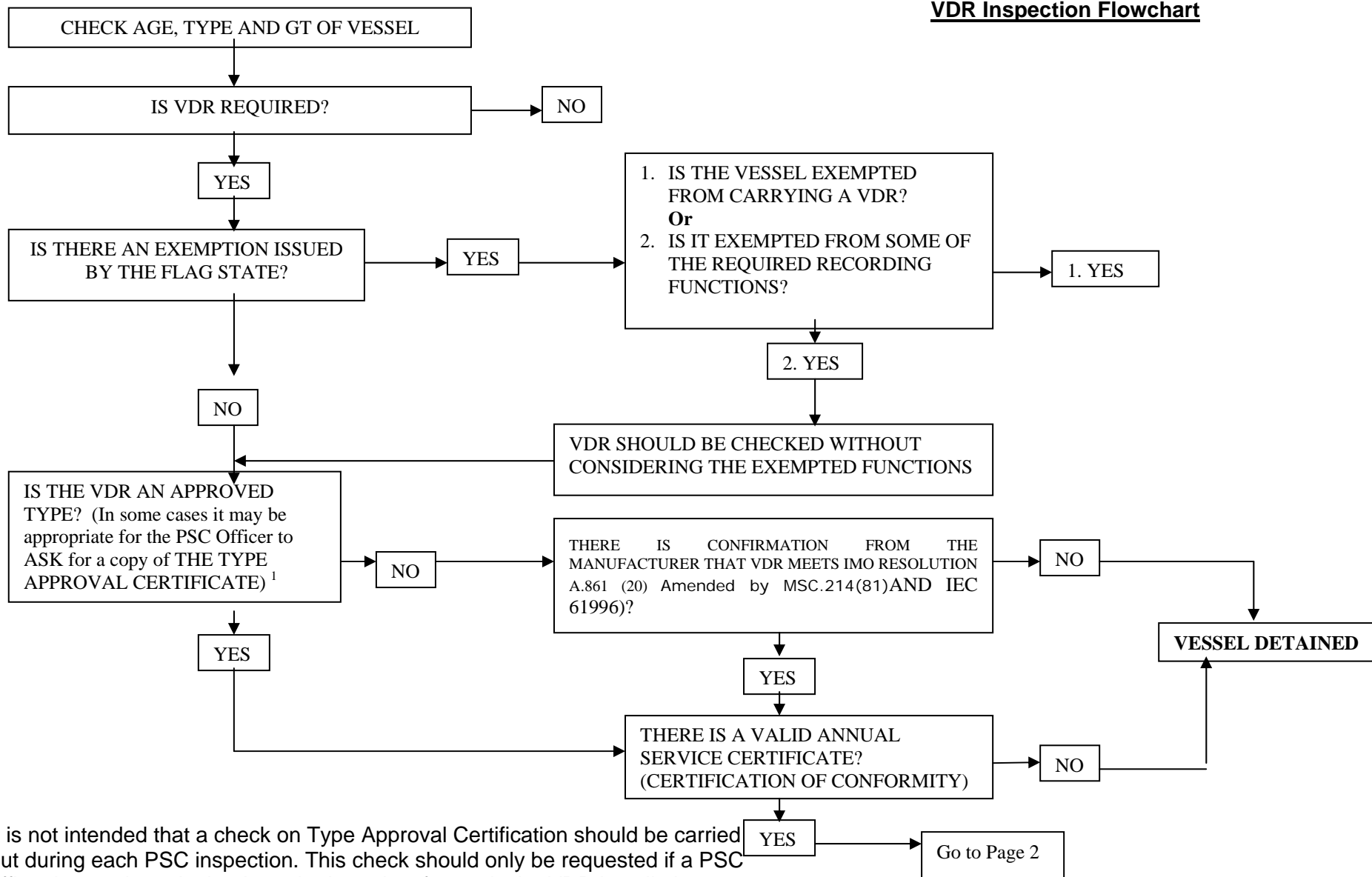
With level 2 items the VDR could be considered as still functioning if only one of these particular functions is not being recorded and a maximum period of 30 days could be allowed for rectification if necessary. Nevertheless the ship should be instructed to put in place suitable temporary arrangements for this period, e.g. bridge announcements to be made regularly by watch officers covering the loss of data caused by the deficiency in order to be recorded by the bridge audio.

* In cases where more than one level 2 item is not being recorded by the VDR, the VDR should be repaired before departure.

Level 3 items could be considered non-critical. If the faults are in the VDR system, including cabling and interfaces, the VDR should be repaired within a period not exceeding 3 months. If necessary the master should be instructed to put in place suitable temporary arrangements for this period, e.g. bridge announcements (as for category 2 above)

Faults within the equipment feeding the VDR should be rectified in accordance with existing PSC procedures.

VDR Inspection Flowchart



¹ It is not intended that a check on Type Approval Certification should be carried out during each PSC inspection. This check should only be requested if a PSC officer has serious doubt about the integrity of a particular VDR installation.

