

Loss Prevention Surveys

A Guide for Surveyors

July 2025



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Read these notes before carrying out the survey

If after reading these guidance notes further advice is needed, contact the BM Loss Prevention Department

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General Procedures and Administration



British Marine has vessels insured for P&I cover, Hull & Machinery cover, or both. The survey report has therefore been designed to cover both aspects of insurance. However, the surveyor should concentrate their report on matters which are relevant to the risk; for instance, if a vessel is insured for Hull & Machinery, a lot of detail about cargoworthiness or personnel risk may not be relevant. Of course, there is a considerable overlap as many aspects of the vessel and its operation, and therefore the report, will have relevance to both types of cover, e.g. Navigation, fire-fighting and general management of the vessel. H&M surveys should include an enhanced review of machinery.

We expect a survey to be completed within a day, but if it is felt that a surveyor needs to attend longer then the Loss Prevention Department of British Marine should be advised immediately.

The surveyor should test items wherever appropriate whilst conducting the survey, such tests only being carried out with the prior knowledge and co-operation of the ship's staff. If particular areas appear to be well maintained and operational then it will be beneficial, due to possible time constraints, to limit testing to the more important items or those which condition gives cause for concern. **Passenger carrying vessels** should be subjected to "Safety Audits of Passenger Vessels" and Towage Approvals should include a review of all aspects of the tow, as described on page 7 of this guide, which includes a note on reporting.

Ballast tanks must be pressed-up and holds must be inspected on all general cargo and bulk carriers (if not possible, record this on the risk analysis). Also, for P&I Surveys the hatch covers must be tested.

Enclosed spaces should not be entered unless the surveyor is completely satisfied that the space is safe for entry.

Reporting

The <u>report</u> consists of a front and second page to be filled in with details of the vessel and the survey, the risk analysis pages, and the <u>"Additional Comments Confidential to British Marine"</u> page(s). The Master, or other representative, must sign the risk analysis and a signed copy is to be left on board. All items on the risk analysis should be discussed with the Master, or representative, and serious defects or deficiencies should be particularly emphasised to the Master, or representative.

A typed Microsoft "Word" format version of the <u>report</u> (not pdf) must be e-mailed to the British Marine Loss Prevention Department, **and no other party**, as soon as possible after completion of the survey, but normally within one working day/24 hours. The <u>report</u> should include the necessary photographs and the hatch cover leak test report for **P&I surveys only** (if applicable).

The invoice (if applicable) and any other supplementary material can be sent via e-mail at a later date.

The report sent to British Marine, **and no other party**, should include a scanned version of the original risk analysis page signed by the Surveyor and Master/Representative. Other documents copied from the vessel can also be sent as scanned attachments, if relevant.

There is no need to return the aide memoire checklist or copies of the vessel's certificates. A copy of the crew list should not be taken or sent to this office.

The "Summary" on page 2 of the report is intended to provide an indication of the quality for each of the nine listed sections. Please use your opinion to select from the following:

E	Excellent	G	Good	S	Satisfactory
Р	Poor	D	Dangerous		

If 'P' or 'D' is assigned to any section this should be:-

- supported by the content of the risk analysis
- notified to us immediately, if there is likely to be a delay in the sending/receiving of the report. This notification should advise the reason for assigning the rating of "P" or "D".

Page 2 of the report also includes space for a written "General Overview Comment", which should be a brief statement of the surveyor's opinion regarding the vessel and its operation. More space is provided for "Additional Comments Confidential to British Marine" at the end of the report and we require surveyors to use this to help us understand their assessment. These "additional comments confidential to British Marine" should be no more than one or two pages long unless the vessel is notably sub-standard.



Photographs



We require approximately 15 – 20 photographs to provide an indicative representation of the vessel condition; these should include a sample of the following:

- General views of the ship, deck, hatch coamings, hatch covers, seals and compression bars.
- General internal views of the holds, the engine room and accommodation, as appropriate.

In addition, we also require clear photographs of each hazard item discovered where practicable.

We do not require a large number of photographs showing satisfactory items.

Risk Analysis

When making entries in the report about the probability, the consequence, and the risk factor the surveyor is referred to the following notes and the relevant tables.

Loss prevention surveys have traditionally focused on the condition of the ship and in some cases the manner in which it is managed or operated. Whilst acknowledging the value of this, we require the surveyor to look at the RISK involved and to make judgements on our behalf, as insurers of the vessel, whether it is for Hull & Machinery, or P&I, or both. The surveyor is required to look at the vessel and its operation, so far as they are able, and to identify those aspects that may lead to an incident, which may result in a claim.

Each identified hazard, (structure, equipment, procedures or management), must include the reason why it affects the insured risk, be assessed for probability and consequence, and a corrective action.

A systematic approach is required using the following steps:

- 1. What omission, defective practice / management, ship or equipment defect has been identified? Identify the Hazard.
- 2. What can go wrong?
 - Relate the hazard to the risk covered by the insurance.
- 3. How likely is it that an incident will occur?
 Assess the likelihood (probability) of the incident occurring (See Table 1 below).
- 4. What effect may it have?
 - Assess the potential severity (consequences) if the incident occurs (See Table 2 below).
- 5. How serious is the risk?
 - Compute the Risk Factor by multiplying the probability and consequence ratings (See Table 3 below)
- 6. How can the risk be reduced?

 Methods of risk reduction to be proposed.

Unjustified defect reporting is not acceptable.

The following notes give some assistance with the terms used in the report form.

Hazard Description

Situations or events that are a potential source of harm, accident, or damage.

Examples are:

Defective or worn structure or equipment due to corrosion, lack of maintenance or damage.

Missing safety equipment, e.g. guards on machinery, or fire-fighting equipment.

Dangerous or inadequate procedures, e.g. unsafe working practices, or poor supervision.

It is most important that the hazard is reported, not just a 'defect'.





Perceived Risk

The reason why the identified hazard should be addressed.

Examples are:

Hazard - Defective structure (steel wastage or cracks in main structural members).

Risk - the vessel breaking up with potential for loss of life, pollution, cargo loss, hull loss, wreck removal etc.

Hazard - No enclosed space entry procedure.

Risk - Loss of life.

It is most important that the most likely risks arising from a hazard are identified.

The hazard must be evaluated for the frequency or probability of its occurrence and the consequence(s) that may arise, should the incident actually occur, assuming that no newly initiated preventive measures are taken. Risk is assessed according to the probability of an event occurring and the potential severity of the consequences.

Probability

The surveyor should consider how likely it is that the identified hazard will cause or contribute towards an incident. This should be evaluated according to Table 1.

Table 1 - Probability

Probability	Code	Description
High	4	Almost certain to cause or contribute
Probable	3	Likely
Possible	2	Not likely
Improbable	1	Not impossible but most unlikely

Consequence

the severity of the outcome if a hazardous incident occurs. The surveyor should consider how severe the consequences could be in the event of such incident occurring. This should be evaluated according to Table 2.

Table 2 - Consequence

Consequence	Code	Description
Catastrophic	4	Loss of life, total loss of ship and/or cargo, or Widespread and very severe environmental damage.
Major	3	Serious injury, major fracture or loss of limb – requires hospitalisation. Severe damage to ship and/or cargo, or severe environmental damage.
Moderate	2	Injury/illness requiring medical attention; some temporary impairment. Significant damage to ship and/or cargo, or significant but localised environmental damage.
Minor/negligible	1	Minor injury. Medical expertise not required; no impairment of ability. Minor or inexpensive damage to ship and/or cargo, or none or very limited local environmental damage.

The **Risk Factor** is then determined by multiplying the probability code by the consequence code and using Table 3 to determine 3 risk regions.





		Probability			
		1 Improbable	2 Possible	3 Probable	4 High
	4	4	8	12	16
	Catastrophic	Significant	Significant	Intolerable	Intolerable
Inence	3	3	6	9	12
	Major	Significant	Significant	Intolerable	Intolerable
Consequence	2	2	4	6	8
	Moderate	Negligible	Significant	Significant	Significant
	1	1	2	3	4
	Minor	Negligible	Negligible	Significant	Significant

Risk Regions

Intolerable Region, (Risk Factor 9-16) – the risk is absolutely unacceptable. Immediate or urgent action must be taken to reduce the risk.

Significant Region, (Risk Factor 3 - 8) – whilst the risk is acceptable in the short term, preventive action must be taken promptly for risk reduction.

Negligible Region, (Risk Factor 1-2) - the risk is acceptable, but risk reduction may be recommended if justified.

Risk Reduction (and recommendations for action).

This can be achieved by:

- Reducing the probability or likelihood of the occurrence
- Reducing the severity or seriousness of the occurrence consequences
- Reducing both the probability and the severity of the occurrence

Risk reduction may be implemented, for example, by adjusting management procedures, engineering or maintenance action, reviewing and changing operational procedures or emergency procedures, or by training. The surveyor should make appropriate recommendations.

The risk analysis page(s) should clearly state any hazards found, including anything related to crew or management. It is important that the nature and extent of the hazard is clearly stated so that it is apparent to the owner. A recommendation for risk reduction should also be made, but in suitable broad terms to allow the operator or owner to make his own arrangements as appropriate.

Completing the Risk Analysis Report Form

Item

Number each item sequentially, ie 1, 2, 3, 4 etc.

Section

See the summary section on page 2 of the report and the section numbers of the checklist.

Hazard and Risk Description

Identify and briefly describe a situation or procedure that may lead to an accident or damage. State the reason why this hazard affects the insured risk.

Probability and Consequence

Enter the values by reference to the Tables.



Risk Factor

Enter the value of (Probability x Consequence).



Corrective action for risk reduction

Describe the action that is required to eliminate or reduce the hazard and therefore the risk, but do not be too specific e.g. Do not advise renewal hatch seals; because more in-depth repairs may also be required.

Follow Up Surveys

When supplied with a survey instruction for a follow-up survey, the list of hazards from the original survey will also be provided. All deficiencies from the previous survey must be re-checked and confirmed rectified.

When reporting, it must be clearly shown for each original hazard, whether it has been completed or not. Any additional relevant information and pictures should be provided as necessary.

The priority is to check for completion of the original list of hazards. However, if the surveyor becomes aware of any notable hazards, this should be brought to the attention of the vessel Master and new items added to the original list of hazards. When reporting back to this office, these must be clearly marked as NEW and be supplemented with pictures.

Safety Audits of Passenger Vessels

Requires a review of the vessels safety procedures and should cover the ability of the vessel's crew to respond to an emergency situation.

It should incorporate areas such as passenger safety information, clarity of signs for muster stations, evacuation routes and life jacket location.

The effectiveness of the fire detection system should be tested as well as procedures for ventilation, flooding control and passenger evacuation.

The crew should be questioned regarding their knowledge and understanding of their duties in an emergency together with the company procedures for emergency situations.

Whilst it is not a safety equipment survey, random inspections and testing of safety equipment should be included in this survey and records of safety equipment maintenance and safety drills reviewed.

Identified hazards and shortcomings in the systems and crew should be reported using the same form as for the Loss Prevention Survey as described in the first part of these guidelines.

Towage Approvals

Require a surveyor to survey and certify the Tug, Tow and towage arrangements (including but not limited to weather routing and voyage planning) as fit for the intended voyage/employment. The surveyor should make it clear to the Assured's Representative that they shall comply with the surveyor's requirements at all times.

Voyage Approvals

Requires a review of the vessel's suitability and preparedness for the planned voyage. As well as the surveyor's own judgement and experience, we request completion of the separately supplied 'VOYAGE APPROVAL SURVEY – A GUIDE FOR SURVEYORS' form.

Reporting for Non-Standard Surveys

The reporting on non-standard surveys, such as voyage/towage approvals and passenger safety audits, should be done using the standard forms, as closely as possible, by noting "Not Applicable" (N/A) against sections, where appropriate and using the "General Overview Comment" and "Summary Comment" sections to report relevant items that do not readily fit into the other headings. Separate attachments may also be used, where appropriate, if diagrams etc are required.



Surveyors Optional Checklist



Note that this checklist is not part of the report

The purpose of this checklist is to provide an aide-memoire for the surveyor. It is not intended to be comprehensive and the surveyor should use his own experience and opinion to report and assess anything that may be a hazard and lead to a

Ships Certificates & Documents	Check box as app	ropri	ate
All Ships			
Registry			
Classification			
International Loadline – Issue/Annual			
Safety Construction - Issue/Annual/Intermediate			
Safety Equipment - Issue/Annual			
Safety Radio			
Hull - Special/Annual/Intermediate			
Machinery - Special/Annual			
Drydock Survey			
Firefighting Appliances			
ISM Safety Management Certificate			
ISM Document of Compliance			
ISPS Certificate			
Enhanced Survey report			
Refrigeration Machinery			
Cargo Gear - Quadrennial/Annual/Renewal			
Intl. Oil Pollution Prevention Cert - Issue/Annual/Intermediate			
Intl. Sewage Pollution Prevention Cert.			
Intl. Air Pollution Prevention Cert Issue/Annual/Intermediate			
Anti-Fouling Certificate			
Bunker Civil Liability Cert. (BCLC)			
Marpol Garbage Certificate			
Record of last Port State Control inspection			
Last flag state inspection			
Minimum safe manning document			
Maritime Labour Certificate			
Wreck Removal Certificate (WRC)			
Recent class status report			
Approved Inventory of Hazardous Materials – Part I			
In addition, for Oil, Chemical and Gas tankers, as appropriate			
Noxious Liquid Substances Certificate			
Certificate of Fitness for Dangerous Chemicals in Bulk			
Certificate of Fitness for Liquefied Gases in Bulk			
Civil Liability Cert. (CLC)			
The following should be reported as a hazard:			
Any surveys that are overdue			
Conditions of Class, Memoranda and Recommendations			
Port state control deficiencies not satisfactorily closed			
Flag state inspection deficiencies not satisfactorily closed			





Section 1 - Navigation & Communications

Gyrocompass and repeaters	
Magnetic compass and deviation calibration curve	
Record of compass error observations	
Radar sets, ARPA	
GMDSS equipment and logbook	
Echo sounder	
Engine order recorder	
Speed and distance measuring equipment	
Shaft revolution indicators	
Rudder angle indicator	
Propeller pitch angle	
Procedure for changeover of steering/engine/thruster control	
Satellite Navigation Receiver	
ECDIS	
Bridge Navigational Watch Alarm System	
Notices to Mariners (Latest edition on board)	
Charts for next passage(s) corrected to date	
Master-Pilot exchange documented	
Berth to Berth voyage planning	
UKC calculation included in voyage plan	
ICS/IMO Bridge Procedures Guide	
Sailing Directions for current voyage (Pilot books)	
Navigation publications, as appropriate	
List of Radio Signals	
List of Lights	
Navtex receiver	
Daylight signalling lamp	
VHF radios	
EPIRB	
AIS	
VDR	
Deck Log Book	
Pyrotechnics & Line throwing appliance	
General alarm system	
Section 2 - Management & Manning	
Company Standing Orders and Instructions	
Master's/Chief Engineer's Standing Orders	
Superintendent or other head office attendance on board	
Intact stability book	
Loading manual	
Method of calculating stability condition at all stages of the voyage	
Calculations of bending and torsion moments and shear forces	
Record of previous cargoes and ship loading and stability condition	
Compliance with appropriate codes of practice	
Emergency response procedures and their effectiveness	
Compliance with safe manning certificate	
Certificates of competency	
Dangerous cargo endorsements	
Adequate experience for cargoes carried and trading pattern	
Knowledge of English	
Common working language on board	
Opinion of on-board management	
Use of risk assessments	
Permit to work system in use	
Drug and alcohol policy enforced	





Safety Management System (ISM)	
SMS Manuals on board and in use	
Master's understanding of the safety management system	
Do officers know who the Designated Person is?	
Records of non-conformances	
Reports of accidents and hazards	
Records of corrective action	
Internal safety audits	
Section 3 Fire Prevention & Emergency Response	
Identification of fire hazards in ALL parts of the ship	
Measures to control ventilation and the spread of heat and smoke	
Fire detection system	
Muster List posted, in date, and all crew aware of and understand their duties	
Firefighting appliances and equipment ready for immediate use	
Firefighting appliance servicing documentation	
Lifesaving appliances and equipment ready for immediate use	
Lifesaving appliance servicing documentation	
Instructions in suitable language for all FFE and LSA	
Equipment checks and record of maintenance as required by SOLAS Chap III	
Procedures for pollution prevention (SOPEP)	
Drills and exercises for different emergency situations	
Public address system functioning and audible in all manned areas	
Continue 4 Livil O Churching	
Section 4 - Hull & Structure	
Watertight doors	
Fan flaps and ventilator closures - labelled as to space and opened/closed	
Sounding pipes and screwed caps - labelled as to space served	
Air pipes and gauzes – labelled as to space served Guardrails	
Steps, ladders, gangways and safety nets Shell plating decks and superstructure	
Doublers fitted only as a temporary measure and class approved	
Date of last measurements of steel thickness	
Draught marks and load lines clear and visible	
Draught marks and load lines clear and visible	Ш
Ballast tanks	
Extent and seriousness of any wastage	
Type and condition of coating	
Fitting and wastage of sacrificial anodes	
Section 5 - Machinery	
Does the ship operate with UMS?	
General condition of machinery spaces, stores and workshop	
Main engine	
Auxiliaries, generators and power source	
Adequate lighting	
Emergency escape routes clearly signed	
Lift to have current test/maintenance certificate	
Class approved planned maintenance system	
Maintenance records for all machinery	
Records of lube oil analysis	
Insulation tests	
Engine room log	
Testing of alarms and shutdowns	
Quick closing valves / remote stops	
Oil water separator working & overboard valve locked closed	





Seawater inlets and discharge valves Bilge alarms Stern seal Pipe systems labelled or colour coded Steering gear Adequate spares on board Emergency generator Fuel quality testing Engine room log book Valves labelled with function Floor plates secured properl	
Section 6 - Cargoworthiness Cargo holds Fitness for the intended cargo Bilges clean and free of debris Bilge suctions and non-return tested Air pipes and sounding pipes pressure tested, visual condition & protection Tanktops and manholes pressure tested and examined	
General cargo ships and bulk carriers Opening and closing of hatchcovers Overall condition of covers Compression bars and sealing arrangements Securing devices Drain channels and non-return devices Tarpaulins, battens and wedges, and locking bars (where fitted) Coaming structure Access hatches – good condition and clearly labelled Container fittings on covers Check for watertightness - ultrasonic preferred. Complete a separate report form. Water ingress alarms Hold coatings Presence of corrosion and scale Access ladders and guard rails Tween deck covers Spar ceiling Hold ventilation system Lighting Procedures for fumigation	
Refrigerated cargo vessels Cleanliness and suitability for cargo Insulation and lagging Refrigerant / brine Ventilation control Temperature monitoring Air delivery and return sensors Airflow measurement; changes per hour CO2 monitoring Humidity recording Emergency alarms Temperature records of previous cargoes Classification requirements	



Container vessels

Stowage plan, Class approved	
Lashing manual, Class approved	
Sufficient lashing equipment tested and examined; record maintained	
Sufficient fixed and portable securing devices	
Cell guides and pads	
Officers aware of tier and weight restrictions	
Hazardous cargo separation	
Temperature control facilities and electrical connections	
Reefer sockets	
Reefer monitoring	
Lashing platform condition	
Temporary guardrails available for open hatches	
Passenger and/or RoRo vessels	
Fire detection system	
Fixed firefighting system	
Fire control boundaries and doors	
Watertight doors	
Bow, shell and stern doors	
Water ingress and flooding alarms	
CCTV monitoring	
Crew clearly identifiable as such	
Passengers cleared from RoRo spaces before passage commences	
Safety in public spaces	
Galley and food handling and consumption areas	
Safety notices and information for passengers	
Passenger control and assistance in an emergency	
Escape routes clearly marked	
Condition and certificates of ramps and lifts	
Clear separation between passenger and vehicle access	
Vehicle lashings	
Tankers	
Safe access to bow	
Emergency towing arrangements	
Technical and operational information	
Awareness of operational parameters of pressure, loading rate, venting etc	
Cargo handling plan and procedures	
Availability of product data sheets	
Implementation of safe operating procedures	
Valve operating system	
Pipeline condition	
Manifold valves, blanks and savealls	
Oily water discharge at manifold ('Marpol' line)	
Venting system and P/V valves	
Seals of ullage ports and tank lids	
Ullaging system	
Level alarms	
Tank washing system	
Tank cleaning guide	
Heating coils	





Pumproom Permanent warning signs at entrances Rescue equipment immediately available Gas detection system Firefighting system and equipment Lighting Ladders and guardrails General cleanliness П Ventilation Bilges and bilge level alarm Pipework and valves - permanent identification Pumps and prime movers Cargo pump relief valves; last tes Bulkhead seals Pump emergency stops Stripping pumps Instrumentation and controls Communications to CCR and ER Inert gas system Fixed and portable measuring equipment Fixed and portable oxygen measuring equipment Pressure recording equipment for system and in tanks Oxygen levels at generator and in tanks П Pressure in tanks (random checks) Deck water seal Alarms **Chemical tankers IMO Ship Type** Coating compatibility guide Cargo compatibility guide Cargo handling manual Deck tanks Protective clothing and SCBA Decontamination showers Eyewash stations **Gas carriers** Cargo tank type and construction Permitted temperature and temperature Void spaces; inert condition Cargo pumps Emergency cargo pump Tank relief valves Instrumentation and recording equipment Emergency Shut Down (ESD) Systems **Section 7 - Pollution Prevention** Crew awareness Oily water separator and instructions for operation Entries in Oil Record Book (Part I and Part II) Approved Shipboard Oil Pollution Emergency Plan (SOPEP) Oil spill control measures Emergency response procedures



Connections, valves, scupper plugs and manifold savealls

Written procedures sighted and understood by ship's staff



Named responsible officer and assistants Communications between ship and bunker point Bunkering procedure, sample and Bunker Delivery Note (BDN) retention Fuel changeover procedure NOx technical file Approved Garbage Management Plan Garbage Record Book Entries (Part I and Part II) Approved Ballast Water Management Plan Ballast water logbook entries	
Section 8 - Personal Safety Protective clothing and safe working equipment Safe stowage of flammable stores and chemicals All gas cylinders safely stowed in sheltered external location Are all enclosed spaces clearly identified Medical facilities Care and security of dangerous/restricted drugs Adequate instruction and maintenance manuals in suitable language Notices and labels in suitable language ISPS related activities, including gangway security and stowaway searches Safe access arrangement Equipment fitted with necessary safety guards as required Appropriately rated insulated matting in use at switchboards Portable gas detector available	
Section 9 - Deck Machinery & Miscellaneous Deck machinery - including capstans, winches Cranes, derricks, wires and ropes Swing radius of crane marked or barriers provided Mooring ropes, wires, bitts and fairleads Windlass and anchor chain condition All parts of lifting machinery examined at least annually by competent person Record of maintenance and examinations Proof load certificates for all derricks and cranes - SWL clearly marked Test certificates for all wires Condition of blocks, wires and shackles Condition of winches and cranes Adequate spares Pilot ladders Accommodation ladders / gangways Galley and stores	

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