## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 1

General – evidence for most incidents

#### **Ship details**

Ship's name.

IMO number.

Type of ship, for example: bulk carrier, containership, product tanker.

Port of registry.

Flag state.

Length overall.

Summer draught.

Beam.

Gross registered tonnage.

Net registered tonnage.

Summer deadweight.

Details of holds, tanks or other cargo spaces as applicable.

Details of number and type of hatch covers if applicable. Details of main engine(s) model and type.

Details of ship's navigation equipment, including:

- Anemometer
- Automatic identification system (AIS)
- Automatic radar plotting aids (ARPA)
- Course recorder
- Echo sounder
- Primary navigational record (ECDIS/paper charts)
- Electronic chart system
  - ECDIS
  - Raster chart display systems (RCDS)
- Gyro compass
- Magnetic compass
- Radars
- Radio equipment including VHF
- Satellite navigation equipment
- Voyage data recorder (VDR)

#### **Ship documentation**

General arrangement plan – plan of the ship which includes the distribution of cargo spaces, the position of the ship's equipment, the distribution of tanks and their capacities.

Deadweight plan.

Ship's certificates – not every investigation will require a copy of every official certificate but the more common certificates that may be required include:

- Certificate of registry
- Load line certificate

- Minimum safe manning certificate
- Ship safety construction certificate
- Ship safety equipment certificate
- Stability booklet
- Tonnage certificate

Classification society certificates, including:

- Classification certificates
- Survey status certificate
- Any outstanding conditions, reservations and recommendations

ISM Code documents, including:

- Document of compliance
- Safety management certificate

Official log book.

Deck and engine log books – for the relevant periods, including before and after the incident.

Record of ship's deadweight/freeboard calculations.

Record of stability and stress calculations.

Maintenance records, which may include:

- Inspection, repair and maintenance schedules and records
- Technical manuals and operators' manuals
- Reports of the Master, deck and engineer officers on regular inspection and maintenance of the ship and equipment
- Manufacturer's records of cargo handling equipment/systems
- Cargo system and auxiliary system test and calibration records
- Records of steel thickness measurements
- Standing orders for regular inspection and maintenance of ship prior to sailing
- Corrections and maintenance records for nautical publications.

Record of safety meeting minutes.

Training records.

#### **Personnel details**

Details of Master:

- Name
- Home address
- Home telephone number
- Age and date of birth
- Qualifications
- Date of Master's certificate and where obtained
- Details of seagoing experience
- Date when first assumed command of a ship
- Date when first sailed on present ship
- Details of current employer

Crew list.

## Guidelines for Collecting Maritime Evidence



Crew documents, including:

- Passports
- Seaman's books
- Certificates of competency including equivalent flag state certificates.

Passenger list, if applicable.

#### **Incident details**

Date, time and summary of incident and subsequent consequences and actions.

Details of navigation at time of incident, including:

- Ship position
- Course and speed, or mooring arrangements
- Draughts

Details of weather and sea conditions at time of incident, including:

- Direction and height of sea and swell
- State of tide and current
- Visibility and light conditions
- Precipitation
- Air temperature
- Sea temperature
- Wind strength and direction
- Barometric pressure
- Photographs and/or video evidencing weather experienced

Details of all individuals who were involved in the incident, including:

- Full name
- Age
- Position on board
- Employer
- Certificate of competency/licence
  - Grade
  - Date of issue
  - Issuing country/authority
  - Other certificates of competency held
- Time spent on ship
- Experience on similar ships
- Experience on other types of ship
- Experience in current rank
- Experience in other ranks
- Health and rest, including (where relevant):
  - Number of hours spent on duty on that day and the previous day
  - Number of hours sleep in the 96 hours prior to the incident
  - Any other factors that may have affected sleep
  - Whether smoker, and if so, quantity
  - Alcohol consumption in the previous 24 hours
  - Whether under prescribed medication

- Any ingested medicines or non-prescribed drugs
- Records of drug and alcohol tests

Record of accounts written by witnesses of the facts they observed.

Photographs, videos and/or sketches of incident and/or results of incident, including damage and/or injury.

Physical evidence and/or samples relating to incident.

Details of relevant communications – with company or authorities.

Details of relevant company procedures/fleet notices or equivalent.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 2

People – personal injury evidence

Details of place of the accident.

Record of date, time and place of notification of the accident.

Record of dates when the injured person stopped work and resumed work.

Factual record of the accident, including:

- Lighting and deck conditions
- Task/activity which was being performed
- Clothing worn
- Third parties involved

Details of personal protective equipment (PPE) being worn or used including:

- Type
- Age
- Inspection
- Certification

Any relevant piece of equipment must be retained, and may be used for future analysis. If possible, they should be placed in sealed bags, dated, signed for and witnessed.

Details of medical treatment – including details of all medication and treatment administered.

Details of any medical advice requested and received – including details of any radio medical advice and of all radio exchanges and any subsequent action taken.

Hospital records – all medical notes taken ashore.

Details of any pre-existing injury or poor health.

Record of 'permit-to-work' (if applicable) – details of any system on board for carrying out the particular task/ activity or any standing orders, and whether these were complied with.

Details of any applicable safety procedures and whether these were complied with.

Details of supervision of the task/activity and, if so, by whom. Record of safety meeting minutes – minutes in relation to any similar incidents, or non-compliances.

Training logs – for crew injuries, details of any training given may be helpful.

### Guidelines for Collecting Maritime Evidence



### Suggested evidence list 3

# People – additional evidence for illness

Details of the circumstances surrounding the illness.

Details of when and where the symptoms first appeared.

Detailed description of the symptoms.

Details of anyone similarly affected.

Details of any medication being taken.

If equipment was involved, for example breathing apparatus, full details of its:

- Type
- Age
- Inspection
- Certification

Any relevant piece of equipment must be retained, and may be used for future analysis. If possible, they should be placed in sealed bags, dated, signed for and witnessed.

Witness statements – where the illness is environmental rather than genetic, it may be necessary to take an account of the possible cause from the affected person and it may also be appropriate to take witness statements from anyone who observed the illness and any possible cause, for example the handling of chemicals.

Details of accommodation and cabin. Where it is not possible to establish a likely cause of the illness and/ or what medication the patient is taking, it will be necessary to search the cabin for medicines and any anomalies which may be causative.

Record of vaccination certificates – details of these can also be helpful in ruling out certain causes of illness.

Record of preventative medication – in certain parts of the world it is recommended to take preventative medication such as anti-malarial drugs. If the ship is, or has recently been, in such a region, details of whether the patient been taking the necessary medication.

Details of relevant medication provided on board Details of company advice/procedures for ships trading in malarial areas such as fleet notices.

Fleet notices.

Details of trips ashore – if the illness followed a recent trip ashore:

- Details of the port and how long the patient was ashore
- Details of anyone else similarly affected

Pre-employment certificates – these are more likely to be kept ashore, but if the crew member has a copy, it may be helpful when obtaining medical treatment.





### Suggested evidence list 4

People – disciplinary evidence

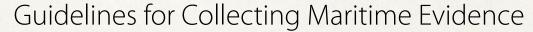
Official log book entry.

Master's report.

Copy of company disciplinary procedures.

Copy of any written notice given to the crew member or other person.

Supporting evidence – depending on the nature of the offence, it may be appropriate to gather further evidence such as witness statements and photographs.





### Suggested evidence list 5

People – industrial action evidence

#### **Crew disputes**

Details of any verbal exchanges regarding the dispute and any action taken.

Copies of all correspondence clearly dated.

Record of payment of wages.

Records of all work carried out on board.

#### **Shore disputes**

Record of any advice received in relation to any industrial action which may affect ship operations, detailing the individuals with whom there have been exchanges, dates and times. If action has been taken to minimise any potential cargo claims resulting from the dispute, this should be fully recorded. The ship's agent or the ship operator's P&I club correspondent should be able to assist with information on local conditions, strikes, labour disputes and so on.

Official notices – there may be official notices from the port or other shore-side parties, and it may also be helpful to take cuttings of local press reports.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 6

### People – stowaway evidence

Details of company stowaway procedures and advice such as fleet notices.

Details of all preventative measures taken to prevent stowaways boarding, including:

- Watch arrangements
- Access restrictions
- Lighting
- Areas that were sealed off such as the accommodation block, or holds not in use, and by what means.

Details of stowaway searches.

Record of completed stowaway checklists.

Details of stowaways found, including:

- Number of stowaways
- When stowaways were found
- Where stowaways were found
- Possessions whether these were on the stowaway's person or found after a further search
- Any documentation belonging to stowaways

Details of efforts made to establish their identities.

Details of arrangements for stowaway's treatment while on board, including:

- Record of food, water and clothing provided to the stowaways
- Any medical treatment given to the stowaways
- Record of where the stowaways were kept and the security arrangements in place
- Any additional security arrangements put in place, for example employment of shore security guards

Record of relevant log book entries.

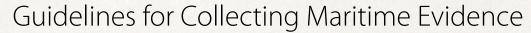
Witness statements – including statements from those who discovered the stowaways and any further information offered by the stowaways.

Details of the state of health of stowaways and details of any urgent medical assistance required.

Personal details of each stowaway:

- Full name
- Passport type photograph
- Place of birth
- Date of birth
- Nationality
- Gender
- Description:
  - Age
  - Height
  - Weight

- Complexion
- Hair
- Eyes
- Form of face
- Marks/characteristics
- Religion
- Language(s) spoken
- Home address
- Father's name
- Father's birthplace
- Mother's name
- Mother's birthplace
- Parent's address
- Marital status
- Name of spouse
- Nationality of spouse
- Spouse's address
- Occupation
- Employer's name
- Employer's address
- Date and time found
- Place of hiding
- Port of boarding
- Date and time of boarding
- Method of boarding
- Reasons for boarding
- Identity document:
  - Type
  - Number
  - Place of issue
  - Date of issue
  - Date of expiry





### Suggested evidence list 7

People – distressed people evidence

Details of rescue, including:

- Date
- Time
- Position of ship
- Details of events leading up to the rescue.

Details of number of people in distress.

Personal details – as for stowaways (see suggested evidence list 6).

Details of the state of health of people in distress and details of any urgent medical assistance required.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 8

#### Diversion evidence

Details of reason for diversion.

Record of communications – record of correspondence and communications with ship operators and other parties in relation to the diversion, including notes of any telephone conversations.

Record of position of ship when diversion commenced.

Record of date and time when diversion commenced.

Record of distance steamed and time taken to reach diversion destination.

Record of position, date and time diversion completed.

Record of distance steamed and time taken to return to original voyage plan.

Details of any port expenses.

Record of oil and water statements from point of diversion to regaining original voyage.

Details of fuel used during diversion.

Details of seamen's wages, stores and provisions used during the diversion.

Details of all cargo owners.

Cargo manifest or bills of lading.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 9

Cargo – evidence for all cargo incidents

#### Voyage preparations.

Copy of the relevant charterparty or charterparties, which should be available from the ship operator.

Record of charterer's instructions – any instructions issued by the charterer in respect of the cargo or the voyage, including copies of any written, emailed or faxed instructions from the ship operator and/or the charterer regarding the terms of the charterparty, especially loading and stowing and the Master's responsibility.

Record of voyage instructions.

Record of communications – correspondence and communications with charterers in relation to the voyage or the incident, including notes of any telephone conversations.

#### **Load port**

Load port details:

- Any port regulations that may be relevant
- Details of the terminal and the facilities in use
- Record of any ship-terminal information exchange
- Details of any draught restrictions.

#### Arrival information:

- Date(s) of arrival
- Details of previous cargo carried
- Stability and stress calculations
- Ship's arrival condition
- Notice of readiness

Shipper's declaration of cargo.

Record of instructions on cargo care, which may have been issued by the shippers/terminal.

Pre-stowage plan.

Details of planned loading sequence.

Record of loading operations:

- Dates and times of cargo operations
- Stoppages
- Record of any problems involved in loading operations.

Type, distribution and quality of cargo loaded.

Type, distribution and quality of cargo already loaded or remaining on board prior to loading.

Cargo log book.

Record of isolation procedures for fuel, ballast or other cargo. Survey reports from any attending surveyors.

Record of actual depths at the terminal and tidal levels during ship's port call.

Record of communications:

- Notes of any pre-loading meetings between Master, charterer's representatives and stevedores to discuss the loading and stowage of the cargo
- Minutes of any meetings in which the Master may have objected to a particular method of stowage
- Record of any exchanges with charterer/shipper/ terminal/supercargo on any deviation from preagreed, loadable cargo quantities, stowage plan, loading sequence or securing arrangements.

Record of visitors – record of surveyors and terminal, port, local and national authorities that attended on board the ship.

Details of visitors' identification – details including business cards of everyone the Master dealt with during loading.

Pre-departure information:

- Final stowage/loading plan
- Stability and stress calculations
- Compliance certificates issued by terminal/port/ local/national authorities
- Mates receipt(s)
- Bills of lading
- Cargo manifest
- Cargo quality certificate
- Cargo quantity certificate
- Statement of facts/time sheets.

#### Sea voyage

Voyage plan.

Details of routeing advice from ship operator and charterer.

Details of any steps to minimise or avoid adverse weather conditions.

Record of transfers of ballast, bunkers, slops and cargo, with reasons.

Record of temperatures – including:

- Cargo spaces
- Cargo
- Air
- Seawater

Record of soundings:

- Ballast
- Bunkers
- Fresh water
- Bilges
- Slops

## Guidelines for Collecting Maritime Evidence



#### **Discharge port**

Discharge port details:

- Date of arrival
- Any port regulations that may be relevant
- Terminal details
  - Details of the terminal and the facilities in use
  - Record of any ship-terminal information exchange
- Details of any draught restrictions.

Record of port agent's instructions.

Certificates from terminal, port, local and national authorities permitting discharge.

Notice of readiness.

Record of any exchanges with charterer, shipper, terminal, supercargo or others in relation to deviation from pre-agreed outturn quantities, discharge sequence, un-securing or re-securing, in case of multiple discharge ports arrangements.

Record of instructions (and by whom given) on the method of discharge.

Record of letters of protest issued and received.

Stability and stress calculations (pre-arrival).

Details of planned discharge sequence.

Record of discharge equipment used (ship and/or shore).

Discharge records:

- Dates, times and quantity of cargo discharge
- Quantities of cargo discharged
- Sequence achieved including details of actual weights, draughts and ship condition
- Record of any problems encountered during discharge
- Details of any shore labour involved, including who appointed them

Statement of facts.

Record of depths at the terminal throughout discharge.

#### **Miscellaneous**

Details of ship operator's cargo procedures, including:

- Cargo care and maintenance
- Loading, securing and discharging cargo
- Master's standing orders for watchkeeping at sea, at anchor and in port
- Chief officer's standing orders for watchkeeping during cargo operations
- Watchkeeping schedules and rest hour logs

Details of any loss, shortage, or damage:

- All reports of loss, shortage or damage, including transmission and receipt details
- Reports from joint inspections, including the parties involved and their representatives
- Record of where cargo was discharged and stored

- Details of any attempt to segregate damaged cargo from good cargo
- Record of all protests made and received
- Record of any delay to the ship while the loss, shortage or damage was investigated and addressed
- Details of any cargo abandoned

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 10

Cargo – additional evidence for dry cargo

#### **Preparations for voyage**

Details of previous cargo carried, including:

- Bills of lading
- Shipper's declaration of cargo
- Cargo manifest

Details of cargo space preparation.

Details of any chemicals (including material data sheets) used for cargo hold cleaning.

Details of any maintenance that may have been carried out in the cargo holds, including material data sheets for any paint coatings used.

Records of tests/checks carried out including:

- Cargo handling equipment
- Hatch cover inspections
- Cargo hold bilges
- Cargo hold ventilation systems
- Reefer control systems
- Inspection and maintenance of cargo gear
- Inspection and maintenance of securing gear
- Calibration checks for instrumentation

Record of the ship's constant over the last five voyages.

#### **Load port**

Record of arrival draught survey, including details of other weights on board.

Record of condition of cargo spaces prior to loading, including hold cleaning.

Record of hold surveys prior to loading.

Cargo hold inspection report.

Hatch cover/cargo space access test reports.

Details of planned cargo securing arrangements and schedule.

Details of how carriage requirements comply with applicable regulations and codes, such as the International Maritime Solid Bulk Cargoes (IMSBC) Code.

Daily time sheets.

Daily tally sheets.

Final tally reports.

Record of final draught survey, including details of other weights on board.

Third party/stevedore damage reports.

Record of lashing, stowage and trimming:

- All instructions given, and by whom
- Details of any shore labour or equipment used, including names of companies and names of the persons appointing them
- Details of all dunnage used, including the providers
- Details of who carried out trimming operations
- Details of who carried out lashing operations
- Record of number and dimension of securing arrangements used and points (if necessary include a diagram)

Cargo securing certificate including details of securing actually achieved.

Cargo sampling record.

Details of laboratory analysis results, if any analysis carried out.

Cargo fumigation certificate including details of fumigant used.

Details of hatch closing, including when (and by whom) hatches were closed, checked and sealed.

Hatch sealing certificate.

Record of hatch covers weathertightness tests.

Reports of any independent surveys that may have been carried out.

Photographs and/or videos of the loading process, cargo holds, stowage and securing arrangements – especially evidence of poor practice in packaging, handling, stowing and pilfering of cargo.

Record of letters of protest to charterer or stevedore concerning incidents such as pilferage, bad handling, bad stowage, smoking – ideally signed by addressee, even 'for receipt only'.

#### Sea voyage

Cargo hold bilge sounding record.

Cargo hold bilge pumping record.

Cargo hold bilge water acidity (pH) record.

Cargo hold gas measurement record.

Record of dew point and relative humidity for the cargo spaces.

Record of cargo space ventilation – periods during which cargo was ventilated and in which cargo spaces.

Record of hatch opening, and if so why and when.

Record of regular inspection of cargo securing arrangements.

Records of tests/checks carried out, including:

- Inspection and maintenance of cargo gear
- Inspection and maintenance of securing gear
- Calibration checks for instrumentation

## Guidelines for Collecting Maritime Evidence



#### **Discharge port**

Record of arrival draught survey, including details of other weights on board.

Hatch un-sealing certificate.

Record of cargo condition on first opening hatch covers at the port of discharge.

Daily time sheets.

Daily tally sheets.

Third party/stevedore damage reports.

Final tally reports.

Empty hold certificate.

Certificate of cargo outturn quantity.

Reports of any independent surveys that may have been carried out.

Record of final draught survey including details of other weights on board.

Photographs and/or videos of the cargo holds, stowage and securing arrangements on arrival at the port of discharge and during various stages of the discharge.

#### **Miscellaneous**

Records and certificates for cargo gear, equipment and securing arrangements.

Relevant sections of the approved grain stability booklet, if applicable.

Ship's approved cargo securing manual, if applicable.

Loss, shortage or damage:

- Details of any insufficiency of packing
- Details of stevedores' work or equipment which may have contributed to cargo damage

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 11

Cargo – additional evidence for liquid cargo

#### **Preparations for voyage**

Ship inspection questionnaire used in conjunction with the ship inspection report programme.

Tanker chartering questionnaire (for example, INTERTANKO form Q88) for own ship.

If ship is involved in ship-to-ship operations:

- Tanker chartering questionnaire for ship-to-ship ship
- Ship inspection questionnaire used in conjunction with the ship inspection report programme for ship-to-ship ship

Details of previous cargo carried including:

- Bills of lading
- Shipper's quality certificate
- Cargo manifest
- Report of cargo remaining on board from previous discharge

Details of cargo tank preparation carried out.

Details of any chemicals used for cargo tank cleaning, including material data sheets.

Details of any maintenance that may have been carried out in the cargo tanks, including material data sheets for any paint coatings used.

Records of tests/checks for relevant cargo machinery/equipment.

Records of tests/checks for instrumentation and alarms.

#### **Load port**

Initial cargo tank ullage reports (on-board quantity report). Initial sounding report for ballast, bunker and other tanks.

Cargo tank inspection report.

Certificate of slops.

Loading plan.

Details of how carriage requirements comply with applicable regulations and codes.

Hourly loading rate record indicating cargo tank and ship status.

Running time sheets indicating stoppages or deviation from pre-agreed and planned operation.

Final cargo tank ullage reports.

Final sounding report for ballast, bunker and other tanks.

Details of sampling procedure.

Record of shore tank samples placed on board.

Record of cargo tank samples kept on board/landed.

Tank sealing certificate.

Reports of any independent surveys that may have been carried out.

#### Sea voyage

Cargo tank ullage record.

Sounding records for ballast, bunker and other tanks.

Cargo tank gas measurement records.

Cargo tank pressure records.

Record of any venting that may have been carried out.

Cargo tank heating record.

Records of tests/checks for relevant cargo machinery/equipment.

Records of tests/checks for instrumentation and alarms in preparation for discharge operations.

Details of in-voyage cargo care procedures including:

- Inert gas log
- Voyage inert gas top-up procedures
- Inert gas plant maintenance records
- Inert gas quality specifications
- Maintenance records and test inspection results of crossover and isolation cargo valves

#### **Discharge port**

Initial cargo tank ullage reports.

Initial sounding report for ballast, bunker and other tanks.

Cargo tank unsealing certificate.

Record of any load port samples landed ashore.

Details of sampling procedure.

Sample analysis results, if made available.

Record of cargo tank samples obtained/kept on board/landed.

Discharge plan.

Ballast plan.

Cargo tank vapour management plan.

Crude oil washing plan, if applicable.

Hourly pumping log indicating cargo tank and ship status.

Running time sheets indicating stoppages or deviation from pre-agreed and planned operation.

Final cargo tank ullage reports.

Final sounding report for ballast, bunker and other tanks.

Empty tank certificate.

Certificate of slops.

## Guidelines for Collecting Maritime Evidence



Record of any cargo remaining on board samples (from cargo tank/pump sumps) that may have been obtained. Reports of any independent surveys that may have been carried out.

#### **Miscellaneous**

Relevant sections of the cargo record book.

Sealing record for overboard valves/connections.

Cargo pumping and piping plan.

Details of maximum cargo transfer rates for the ship.

Maintenance records and certificates for cargo gear and equipment/machinery.

Maintenance, inspection and test reports of valves, pumps and gauges as appropriate.

Maintenance, test, overhaul and calibration records of high- and high-high-level alarms.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 12

Cargo – additional evidence for containers

#### **Preparations for voyage**

Slot charter contracts.

Details of any cargo hold preparation carried out.

Details of any maintenance that may have been carried out in the cargo holds, including material data sheets for any paint coatings used.

Records of tests/checks carried out including:

- Hatch cover inspections
- Cargo hold bilges
- Cargo hold ventilation systems
- Reefer control systems
- Inspection and maintenance of cargo gear
- Inspection and maintenance of securing gear
- Calibration checks for instrumentation

#### **Load port**

Details of planned cargo stowage arrangements and schedule.

Details of planned cargo securing arrangements and schedule.

Equipment interchange reports, if any received from the terminal.

Final bay plan.

Details of stowage arrangements being in compliance with the requirements in the ship's cargo securing manual.

Details of securing arrangements being in compliance with the requirements in the ship's cargo securing manual.

Details of how carriage requirements comply with applicable regulations and codes, such as the International Maritime Dangerous Goods (IMDG) Code.

Dangerous cargo manifest.

Dangerous goods declarations.

Dangerous goods stowage plan.

Third party/stevedore damage reports.

Reports of any independent surveys that may have been carried out.

Photographs and/or videos of the loading process, stowage and securing arrangements.

#### Sea voyage

Cargo hold bilge sounding record.

Cargo hold bilge pumping record.

Cargo hold ventilation record.

Record of regular inspection of cargo securing arrangements.

Records of tests/checks carried out including:

- Inspection and maintenance of cargo gear
- Inspection and maintenance of securing gear
- Calibration checks

#### **Discharge port**

Third party/stevedore damage reports.

Equipment interchange reports, if any received from the terminal.

Reports of any independent surveys that may have been carried out.

Photographs and/or videos of the stowage and securing arrangements on arrival at the port of discharge and during various stages of the discharge.

#### **Miscellaneous**

Records and certificates for cargo gear, equipment, securing arrangements.

Ship's approved cargo securing manual.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 13

Ship – pollution evidence

#### All pollution incidents

Details of ship and cargo operations being carried out at the time of the incident.

Details of grades and types of pollutant involved.

Quantities of pollutant:

- On deck
- Overboard

Details of the extent of pollution, the area covered by the pollutant and whether it has affected other property or ships.

Details of the actions taken on board the ship and onshore to contain and clean-up the pollutant.

Retained parts of equipment and other relevant items if the pollution incident was caused by defective ship's equipment.

Details of equipment used to contain and clean up the pollutant including the type, industrial name and quantity of dispersant or any other chemical used. Inventory of the cleaning materials, dispersants and absorbent material on board the ship should always be kept.

Other reports of the pollution incident.

Record of communications.

Details of any other ships in the vicinity when the pollution occurred.

Log books, cargo work books and rough note books with records of:

- The use of equipment such as scupper plugs
- The procedures followed during the transfer of potential pollutants within the ship
- Drills and related exercises
- Details of any other pollution incident witnessed by shipboard staff (whether or not own ship is involved)

#### Oil and bunker pollution

International oil pollution prevention (IOPP) certificate. Oil record book.

Vessel response plan (VRP), shipboard oil pollution emergency plan (SOPEP) or shipboard marine pollution emergency plan (SMPEP).

Tank and pipe line diagrams including sounding pipe and ullage plug diagrams.

Details of relevant procedures from safety management system.

Maintenance, inspection and test reports of valves, pumps and gauges as appropriate.

Maintenance, test, overhaul and calibration records of high- and high-high-level alarms.

Deck and/or engine records of:

- Cargo and/or bunker supplier's instructions (or delivery note) containing an agreed
- Loading rate
- Cargo and/or bunkering procedures
- Record of ullages taken during cargo and/or bunkering operations
- Details of crew member in charge of cargo and/or bunkering operations
- Details of methods of effecting emergency stops for cargo and/or bunkering operations
- Record of times and results of inspections of equipment used in cargo and bunkering operations
- Record of use of equipment such as scupper plugs and drip travs
- Record of procedures followed during transfer of oil within the ship record of times and results of inspections of equipment used in cargo and bunkering operations

Record of refinery or shore installation instructions.

Details of tanks/spaces breached.

Details of tanks/spaces liable to be breached.

Photographs and/or videos of the extent of the spill.

Details of restricting boom used, if any.

Records of external audits – including any port state control and oil-major inspections.

Records of internal audits.

Record oil spill drills and related exercises.

Copy of oily water separator instruction manual.

Copy of oily water separator piping and installation manual.

Details of ship operator's oily water separator procedures and advice, such as fleet notices.

#### **Noxious substance pollution**

In addition to similar evidence as for the oil and bunker pollution listed above.

International pollution prevention certificate for the carriage of noxious liquid substances in bulk.

Shipboard marine pollution emergency plan (SMPEP).

#### **Harmful substance pollution**

In addition to the evidence for containers listed in suggested evidence list 12.

Document of compliance with the special requirements for ships carrying dangerous goods.

## Guidelines for Collecting Maritime Evidence



Dangerous goods declarations.

Dangerous goods stowage plan.

Details of dangerous goods stowage and segregation arrangements being in compliance with the requirements of the International Maritime Dangerous Goods (IMDG) Code.

#### **Sewage pollution**

International sewage pollution prevention certificate.

Record of operation of the treatment plant and times. Record of location of previous discharges.

Operating and maintenance records of the sewage treatment plant.

#### **Garbage pollution**

Garbage management plan.

Details of garbage disposal procedures.

Details of crew member in charge of the collection, containment, segregation and disposal of garbage.

Garbage record book with the following minimum entries:

- When garbage was discharged into the sea
- When garbage was discharged to reception facilities
- When garbage was incinerated
- Accidental or other exceptional discharges of garbage

Details of garbage record book entries including:

- Date and time of the occurrence
- Position of the ship
- Category and amount of garbage involved
- Signature of the responsible officer

Record of receipts for any garbage discharged to reception facilities ashore.

Record of quantities and types of garbage retained on board and accumulated.

#### **Air pollution**

International air pollution prevention certificate.

Oil record book.

Bunker record book.

Bunker delivery notes – for the previous three years.

Bunker analysis records – for the previous three years.

Bunker samples (taken at ship's manifold and sealed) – for the previous 12 months.

Engine log books – including dates/times/locations of switching to low sulphur fuel

Details of fuel oil changeover procedures.

Details of exhaust gas cleaning system (if fitted) – operation and maintenance manuals and maintenance records.

Record of letters of protest and correspondence relating to the inability of bunker suppliers to supply compliant fuel to the ship.

#### **Ballast water pollution**

International ballast water management certificate, if applicable.

Ballast water management plan.

Ballast water record book.

Details of ballasting operations including place of ballasting. Record of internal ballast transfers.

Ballast treatment records.

Details of ballast treatment equipment.

Ballast treatment equipment certification.

Ballast treatment equipment maintenance records.

Details of de-ballasting including place of de-ballasting.

Ballast samples.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 14

Ship – collision and damage evidence

#### **Data recorders**

Company procedures for collecting VDR data.

Data from voyage data recorder (VDR) systems:

- Data recorded from radar systems, automatic identification systems (AIS) and engine and course loggers
- It is essential that these records are saved by following the correct procedures from the manufacturer's instructions. This must be done as soon as possible because many systems store data for as little as 12 hours, after which it is automatically deleted from the recording equipment

Data from telegraph recorders.

Data from course recorders.

Data from depth recorders.

Details of ship operator's procedures for collecting voyage data recorder (VDR) data

#### **Navigation records**

Company navigational bridge procedures.

Ship watch system posted/notice.

Record of ECDIS certification.

Voyage plan.

Deck logs (fair and rough). Details of safety management system procedures including:

- Bridge watchkeeping and bridge team management
- Navigation in coastal waters
- Passage planning
- Calling the Master
- Duties of the Master
- Duties of the watchkeeping officer

Master's standing orders (signed by all deck officers).

Master's night orders.

Record of hours of work/rest of Master and watchkeepers. Navigational charts:

- Charts must be left precisely as plotted. Positions which do not match or other marks must not be erased
- Record of the exact time and position of the incident should be plotted, ideally using a variety of methods (GPS, radar range and bearing, visual bearings etc)

Chart correction record.

Movement books:

 Records should be kept in ink, and any essential alterations made in ink, signed and dated by the person making the alteration, and with deletions made with a single line, leaving the writing underneath legible (no correction fluid)

Manoeuvring records (see above).

Details of personnel on bridge immediately before incident and their duties.

Records of radars in use and what range scales they were set on

Details of position fixing system(s) in use and intervals between fixes.

Record of steering gear status including:

- Automatic or manual mode
- Number of steering motors operating

Pilotage details, if applicable, including:

- Master-pilot exchange
- Pilot briefing card
- Pilot's instructions
- Whether the pilot was communicating in a language the Master could understand
- Number of pilots on duty
- Name of pilots and details of their experience and licence.

Personnel records of the Master and watchkeeping officer(s), including:

- Recruitment
- Training
- Certificates of competency
- Previous sailing experience
- Appraisals
- Employment contracts

#### **Engine room**

Engineers' notebooks.

Oil record book.

Data from engine recorders.

#### Collisions

Record of true courses steered for four hours before collision.

Details of last position fix before sighting the other ship.

Details of first observation of other ship:

- By what means for example, visual, radar, ARPA
- Time
- Distance and bearing
- Lights and shapes observed
- Aspect
- Apparent course
- Apparent speed

## Guidelines for Collecting Maritime Evidence



- Position, course and speed of own ship at time of first observation
- Action taken by own ship at time of first observation Details of first visual sighting of other ship:
- Time
- Distance and bearing
- Lights observed and shapes
- Aspect
- Apparent course

Record of subsequent observations:

- Times
- Distance and bearing

Details of other lights and shapes (if any) that were subsequently seen before the collision.

Details of steps taken to plot other ship, such as formal plot.

Record of actions of both ships including times up to the time of collision (including engine movement).

Record of sound signals made and heard – with times.

Details of any communications between ships before collision, such as light signals or VHF communications.

Details of any VTS involvement.

Record of time of collision – with accuracy of the clocks on the bridge and in the engine room verified along with accuracy of watches of witnesses and accuracy of automatic recorders such as course recorders, telegraph loggers and data loggers.

Position of collision (state how obtained).

Details of speed and angle of blow – witness records of the ship's speed and heading at the moment of impact and the relative angle between the ships, supported by photographs or drawings.

Details of which parts of each ship first came into contact.

Record of heading of own ship at time of collision – it is important that the course recorder is marked in ink to indicate the time when the ship collided, although care should be taken not to spoil the trace. If a course recorder is not available, the heading of the ship should be determined by some other method which also should be recorded.

Record of draught of own ship at time of collision.

Record of action taken after collision:

- Description of movements of both ships after collision
- Details of communications after collision
- Details of other ships in vicinity when collision occurred
- Record of communications with other ships in vicinity

#### **Collision with moored or anchored ships**

Details of whether ship was operating main engine(s).

Detailed description of the moorings of all ships involved.

Details of whether other ship was dragging anchor.

Details of whether own ship was dragging anchor.

Details of other ships dragging anchor in the vicinity at the time of the incident.

#### **Damage to property**

Full details of the object damaged:

- Whether the damaged object was old or new
- Whether it was well used
- Whether it was well illuminated and marked
- Whether there were any signs of damage or defects to the object other than that caused by the ship

Details of the ship's manoeuvres.

Voyage plan (berth to berth), including full tidal data.

Details of any VTS involvement.

Details of status of the berth, if applicable, including:

- Condition and position of fenders/dolphins
- Condition of other berths and/or fenders in port
- Inaccuracies in the information provided by the port/pilot
- Sketch of berth arrangements and fender positions

Details of whether other ships had encountered similar problems on same berth or in same port within last year. Record of note of protest.

Detailed records of all services supplied by third parties – including reports of services provided by third parties, verified by the Master.

Record of all communications with third parties together with any hand-written notes of oral, radio or telephone communications.

Photographs and/or videos of:

- Strong currents in rivers, ice, and other hazards
- Berth's fenders and condition of concrete apron
- Approaches to locks, condition of fendering for entry and within, if appropriate
- Condition of locks and evidence of any previous damage
- Mooring arrangements
- Areas of berth particularly exposed to swell
- Other ships affected by adverse conditions
- Any lack of room to manoeuvre in port
- Fender arrangements at adjacent berths (for comparative purposes)
- Any damage to the ship or port installations

## Guidelines for Collecting Maritime Evidence



#### Details of tugs:

- Names
- Number of units available
- Horsepower/bollard pull/propulsion

#### Port/pilotage authority

Record of radar surveillance data.

Record of AIS system data.

Audio tape of port working radio communications channel.

Details of latest survey information of port/channel.

Details of port authority instructions to pilots.

Pilots' report.

Report(s) of local inquiries into the incident.

Damage survey report(s).

Best scale plan of area of incident.

Details of positions of adjacent moored/moving ships.

Record of ship movements.

Details of previous incidents.

Details of available tugs.

Summary of pilotage arrangements in the port:

- Independent or employed
- Training and qualifications
- Workloads and rotas
- Summary of local law on the liability of pilots and port authority
- Details of pilotage terms and conditions

#### **Non-contact damage**

Port movement records.

Details of all other ships manoeuvring in the vicinity.

Details of whether the other ship contributed to the incident, such as testing main engines.

Details of any moorings, including fenders – were they defective, slack or ineffective in any way.

### Guidelines for Collecting Maritime Evidence



### Suggested evidence list 15

# Ship – grounding, stranding and sinking evidence

Record of ship's position by latitude and longitude and/ or distance and direction from known landmark.

Details of the manner in which the ship went aground.

Details of type of bottom, if possible – for example, sand, sediment, rock, mud.

Details of ship's speed and estimated squat when ship went aground.

Record of soundings taken around the ship at regular intervals. Soundings of water depths around the ship including forward, aft and several on each side (or as appropriate to the situation).

Record of draughts taken at regular intervals on both sides of the ship at the bow, amidships, and aft and angle of list.

Record of tide data including times and heights and tide information at the time of the grounding.

Details of whether or not the ship is being driven further aground or moving while aground.

Details of the prospects of re-floating the ship unassisted.

Details of state of readiness of auxiliary and main engines.

Details of portion of hull estimated to be aground with reference to frames and estimated distances from centreline or side (if possible).

Details of whether the ship is hogging or sagging.

Details of damage to the ship, including divers' reports on underwater condition.

Details of any personal injuries (see suggested evidence list 2).

Details of any cargo damage (see suggested evidence lists 9–12).

Details of damaged stability calculations.

Record of communications with shore-based organisations.

Record of condition and contents of tanks at regular intervals including details of all known tanks that are damaged, noting whether the flooding is from the sea or from other tanks.

Details of any pollution (see suggested evidence list 13).

Details of port or coastal state involvement, including:

- Authorities in attendance, both people and ships/aircraft
- Orders given by authorities
- Assistance given by authorities
- Inquiries made by authorities

Details of assistance provided (see suggested evidence list 16):

- Details of tugs and all other ships giving assistance
- Record of time engaged in pulling the ship
- Details of lightering operations, including:
  - Number of gangs used
  - Names of lightering ships or identification names or numbers of barges
  - Ship's draught on commencement and completion of lightering
  - Amount of cargo discharged
  - Details and cause of cargo lost/damaged during transhipment.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 16

# Ship – salvage and general average evidence

Detailed description of the condition of the ship from the beginning of the incident until the time salvage services began.

Details of all discussions and communications concerning the salvage or other contracts.

Record of time salvage services began.

Detailed, chronological record of events taking place during a salvage operation including:

- Condition of the ship and cargo
- Ships, people and equipment being used and on standby
- Persons coming on board the ship
- Self-help measures by the Master and crew.

Details of any fire-fighting efforts, including all equipment used.

Details of any personal injuries (see suggested evidence list 2).

Details of condition of the ship's main and auxiliary machinery.

Record of ship's position taken at frequent intervals.

Details of loading plans, distribution of weights, draughts and stress calculations.

Cargo manifest and cargo records.

Details of measures taken for the preservation of specific cargoes.

Details of all ships in the vicinity, whether assisting or not.

Casualty reports prepared by the Master, salvage Master and others.

Survey reports prepared by attending surveyors.

Record of fuels and stores consumed and labour used during the salvage.

Details of tow arrangements, including:

- Positions of start and finish
- Makeup of tow lines and connections
- Whether ship or tug's gear used
- Tugs employed
- Distances towed and to go
- Speed and course made good
- Weather conditions

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 17

Hull and machinery damage evidence

#### Hull

Ship's plans and line drawings showing details of damage. Detailed description of damage.

Photographs of damage.

Details of the condition of all tanks and spaces that have lost airtight or watertight integrity.

Details of all equipment, particularly safety equipment, affected by the damage – including pumps, sounding pipes, inert gas equipment, watertight doors and bulkheads.

Details of recommendations on temporary repairs required.

Details of any necessary diversion to a place of safety/temporary repair port.

Details of any loss or damage to cargo caused by the original incident and also during the emergency response, for example during fire-fighting operations.

Survey reports made by classification society surveyors and superintendents during temporary and permanent repairs.

#### **Equipment**

Detailed description of damage.

Photographs of the damaged equipment in place and after removal.

Retained parts of the damaged equipment and other relevant items including consumables, such as old seals and broken bolts, analysis of which is often critical in determining cause of damage.

Log books and maintenance records relating to damaged equipment.

Lubricating oil records including test results, dates of changing, post-incident analysis and corrective action.

Records of work carried out.

Any other records relating to the damaged equipment showing running hours, or evidence of previous inspections or surveys.

Details of planned maintenance system – including details of running hours, maximum and actual (check that physical evidence matches the planned maintenance system records).

Condition monitoring records including lubricating oil analysis, vibrational analysis, infra-red analysis.

Details of last equipment or machinery overhaul, survey or inspection.

Record of fuel/lubricating oil purification system including:

- Equipment manuals
- Manufacturer's recommendations
- Procedures
- Details of overhaul, survey or inspection

Record of filter system including:

- Equipment manuals
- Manufacturer's recommendations
- Procedures
- Details of overhaul, survey or inspection
- Record of filter changes

Record of quotations, actual costs, disbursements, port costs, crew costs, overtime paid, spare parts used, currency exchange rates used, off-hire periods.

Record of hull and machinery insurer's agreement to repairs. Classification society records.

Survey reports made by classification society surveyors and superintendents during temporary and permanent repairs.

#### **Stoppage or delay**

Deck and engine log books covering the period of the incident.

Record of fuel remaining on board at the beginning and end of the stoppage.

Details of any diversion caused by the incident.

Details of tow arrangements, including:

- Positions of start and finish
- Makeup of tow lines and connections
- Whether ship or tug's gear used
- Tugs employed
- Distances towed and to go
- Speed and course made good
- Weather conditions

Reports or confirmation of class by classification society surveyor.

Statement of facts from port agent.

Details of all shore assistance provided that it is attributable to damage.

Record of all surveyors who have attended the ship with full details of the organisation they represent.

Record of communications and copies of messages sent or received, particularly those directed to time charterer dealing with diversion and off-hire times.

#### Impairment of ship's efficiency

Details of additional time taken.

Details of additional fuel used.

## Guidelines for Collecting Maritime Evidence



Details of the extra labour and equipment used and a record of times when they were used.

Record of communications and copies of messages sent or received, particularly those directed to port agent, charterer or other third party.

#### **Fire**

Details of where on the ship the fire started.

Details of extent of damage.

Details of combustible material on board the ship which the fire may have reached.

Details of any cargo damage.

Details of attempts made by the crew to extinguish the fire including details of the use of fixed fire-fighting systems.

Record of calculation of the ship's stability to determine which fire-fighting options were available.

Details of any personal injuries (see suggested evidence list 2).

Record of explosimeter readings, if available.

Record of whether or not there was a danger of explosion.

Record of whether or not tanks were gas-free and/or inerted.

If tugs and other fire-fighting craft are involved, their names, positions and details of their fire-fighting operations.

Details of time taken to extinguish the fire.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 18

Commercial – newbuilding warranty dispute evidence

Details of pre-delivery test and checks.

Details of ship operator's new build supervision including:

- Number and qualification of personnel
- Record of attendance
- Ship operator's instructions
- Inspections

Details of classification society surveyors' attendance. The nature of the defect or problem documented in as much detail as possible.

The nature of the defect or problem documented in as much detail as possible.

Detailed chronology of any defect or problem that developed over a period of time.

Details of any remedial steps taken on board.

Details of repairs carried out or parts replaced.

Retained parts of equipment that was replaced.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 19

Commercial – port delay dispute evidence

#### **Congestion**

Record of orders or directions given to ship by port authorities.

Observations of ships at berth, including:

- Particulars of how these observations have been made and when
- What movements there were on and off the berth

Notice of readiness.

Details of ship line-up particulars from:

- Agent
- Port authority

Particulars if a ship has lost its turn to berth.

Details of any reasons given by port/agents for delays.

Copies of letters/letters of protest (and confirmation of receipt).

Charterparty details/copy /clauses.

Record of charterer's instructions.

#### **Slow cargo operations**

Record of times of hatch closing/no work.

Details of public holidays.

Statement of facts.

Record of time sheets and tally sheets.

Details of crane, conveyor and cargo availability.

Details of who was carrying out the cargo operations.

Photographs and/or video of stevedore performance.

Record of stoppages – particulars of problems encountered during cargo operations.

Record of stoppages – protests and reports from agents and/or surveyors.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 20

# Commercial – performance disputes evidence

#### General

Record of engine setting, whether propeller rpm, combinatory setting or other record.

Record of use of shaft alternator.

Record of use of generators.

Record of fuel flow meter readings.

Record of fuel tank soundings.

Fuel loading, handling and consumption records.

Record of fuel change-over.

Details of periods of increased fuel consumption, mainly due to:

- Unusual use of air conditioning
- High electrical load
- Tank cleaning
- Cargo heating
- Ballast water operations
- Use of incinerators

Record of charterer's instruction – slow steaming or increased speed.

Details of any machinery factors/failure.

Record of change of ballast status.

Oil record book

#### **Ship routeing**

Voyage plan.

Navigational records (see suggested evidence list 14). Records of any diversion (see suggested evidence list 8). Record of messages sent to all concerned (owner, charterer, port agent etc) advising of diversion and why.

#### **Speed**

Ship's logs and any further speed information.

Details of anything that might have reduced the ship's performance, including:

- Alterations in course for traffic avoidance
- Periods of slow steaming
- Stoppages
- Engine/machinery breakdown
- Adverse tidal streams/currents

#### **Fuel consumption**

Accurate records of fuel consumption for:

- Main engines
- Boilers
- Auxiliaries

Particularly when ship is instructed to proceed at an economical speed, when navigating in congested waters or when burning marine diesel oil.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 21

# Commercial – port and berth safety disputes evidence

In addition to the relevant evidence listed in suggested evidence list 14.

#### General

Record of communications dealing with the voyage and voyage orders.

Pilotage details, including:

- Number of pilots on duty
- Number of ships berthed/taken off the berth
- Name of pilots and details of their experience/licence

Details of status of the port, including:

- Satellite images of movements in port/channel
- Hydrographic data for the port
- Port maintenance records such as dredging programmes, and positioning and monitoring of buoys/buoyed channels

Record of correspondence – including all emails, faxes and notes of telephone conversations.

Voyage orders from charterers and any assurances received from agents and/or charterers as to a port's safety.

#### Moorings - on board

Mooring arrangement plan – identifying station, material and size.

Details of anti-chafe measures.

Mooring rope/wire details – invoices, test certificates, repairs, when first used.

Details of number of lines on board.

Details of mooring rope/wire storage.

Details of mooring winches.

Details of whether auto-tensioning winches were being used.

Record of mooring advice from pilot, berthing Master and port authority.

Details of crew involved in mooring operations.

Details of terminal/berth mooring plan for prevailing conditions

Details of damaged/parted rope/wire, where parted and how secured.

Retained parts of failed or damaged equipment that was replaced.

#### Moorings - ashore

Details of bollards – including type and distance apart.

Details of mooring line lengths and leads. Details of mooring gangs.

Record of mooring arrangements approval by port authority/terminal operator.

Details of terminal/berth mooring plan for prevailing conditions.

#### Weather services - on board

Details of radio weather services monitored.

Details of weather reporting and forecast areas monitored.

Details of weather equipment such as facsimile, Navtex or VHF, including:

- Status
- Performance
- Stations used

Radio log.

Record of weather forecasts received.

Record of communications with port authority, agents, pilotage and other ships.

#### Weather services – ashore

Port information booklet.

Details of port weather service.

Record of weather reports provided by local radio.

Record of any warnings provided to ships by port authority and/or agents.

Record of any specific advice on arrival about local weather characteristics.

Details of any storm signals monitored and observed.

## Guidelines for Collecting Maritime Evidence



### Suggested evidence list 22

Commercial – bunker dispute evidence

#### Quantity

Details of tank number or designation.

Fuel tank sounding book.

Sounding or ullage tables (m<sup>3</sup>).

Record of fuel temperature (°C).

Record of fuel density (kg/m³).

Volume correction factor from table.

Details of temperature coefficients and tank volume calculation.

Record of ship's trim.

Record of ship's list.

Copies of any notes of protest.

#### Quality

Details of the ship's bunker capacity.

Ship's general arrangement plan.

Ship's fuel oil pre-heating system drawings.

Ship's fuel oil pipeline diagrams.

Tank calibration tables.

Details of procedures from engine manuals and safety management system relating to treatment of fuel oil and maintenance intervals, fuel specifications.

Details of which tanks have been loaded, the amounts and in what order they were loaded.

Details of fuel oil already on board the ship, and/or in use, its location and specification.

Details of bunker calculations, including temperature coefficients and tank volume calculations

Bunker loading plans and daily work plans.

Record of minutes of inter-departmental management meetings, particularly regarding crew requirements, cargo operations and stability implications.

Deck and engine room oil record books completed in accordance with MARPOL and other statutory requirements.

Scrap or rough logbooks.

Bunker delivery notes.

Record of personnel involved in bunkering.

Representative bunker sample taken at ships' manifold (in addition to samples required under MARPOL Annex VI).

Record of personnel present during routine sampling.

Details of laboratory analysis reports of fuel oil samples.

Record of shipboard analysis reports.

Copies of any notes of protest.

Record of ship's bunker history – records of previous bunkering operations (including bunker delivery notes and bunker requisition forms).

#### **Mechanical damage**

Record of date and time problem fuel oil was stemmed. Record of date and time fuel oil was first and last burned in engines.

Details of immediate symptoms of fuel oil problems.

Details of action taken to reduce or contain the problem and results of such actions.

Details of where engine repairs are undertaken, details of work done.

Details of which parts of the engines were overhauled or renewed.

Record of on-board location of problem fuel oil.

Details of effects on engine performance once ship ceased to burn problem fuel oil.

Details of quantity and type of any fuel oil additives used.

Record of shipboard fuel oil treatment procedures adopted (e.g. how separators, centrifuges and filters were used).

Technical details of centrifuges and maintenance reports.

Record of quantities of impurities recovered (e.g. water from tanks and centrifuges).

Reports from engineer surveyors and/or engine manufacturers as to the nature/cause of the problem and details of repairs to be carried out.

Main engine and auxiliary engines maintenance records, overhaul records and calibration data.

Retained damaged engine or machinery parts.

Photographs and/or videos of damaged parts.