



RISK AWARENESS

CARGO CLAIMS: BULK CARRIERS/ GENERAL CARGO/ REEFERS

An aid to risk identification and loss reduction

UK P&I CLUB
IS MANAGED
BY **THOMAS
MILLER**

DEFINITIONS

In this checklist, colour is used to denote the various elements in the risk awareness process

Threat

Something that if not controlled could cause a P&I incident

Consequence

The monetary cost to the Club/Member

Control

Something which reduces the possibility of a 'Threat' causing an incident

Something that should be in place after the incident to help reduce the cost of the claim

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USING THIS CHECKLIST / SCORING

This booklet is a guide to the Controls and key points that the UK Club's Risk Assessors look for when inspecting a vessel.

It will allow you to carry out a similar check on the Threats and Controls and make sure the vessel has a good risk profile.

Each booklet in the *Risk Awareness* series deals with an area of Risk – Personal injury, collision, pollution, etc – and these are sub-divided into Threats and then Controls.

Each Threat is followed by a 'score' section where the individual Controls can be graded according to how effective they are:

- 1 Very good control
- 2 Good control
- 3 Average control
- 4 Poor control
- 5 Very poor control (maybe non-existent)

Furthermore, there is space to make comments on certain Controls; to note ways in which deficient ones could be improved.

At the back, there is a section on Consequences, which is also divided into Controls that should be in place to mitigate the cost of any claim, i.e. after the event controls. These too can be graded.

Cargo loss or damage

THREAT: WET DAMAGE

CONTROLS:

Weather routeing

- 1 Does vessel participate in weather routeing service?
- 1 Does ship receive weather maps and messages?
- 1 Is master advised in ample time from weather routeing service?
- 1 Does ship follow routeing advice and adjust course and speed?
- 1 Are adequate records kept?
- 1 Are protests made?

Cargo equipment inspection, maintenance, operation

- 1 Ship's hatches, vents and all sounding pipe opening on the deck are to be weather tight in all respects, and in good condition
- 1 Hatches and all openings under a PMS
- 1 Sufficient spares on board to maintain hatches weather tight
- 1 Hatches/vents/sounding pipes and openings regularly inspected by ship's staff and class
- 1 Crew trained in maintaining hatches, vents and sounding pipes and all openings
- 1 Hatch tents – in good order and condition and fit for purpose to prevent water ingress
- 1 Items commonly found to need addressing from claims files:
 - Quick acting side cleats properly aligned, tensioned, washers still elastic
 - Cross joint wedges/cleats/bolts in place and free moving
 - Rubber packing correct material and no short inserts
 - Corner packing frequent cause for concern
 - Permanent set of packing less than 50% design compression
 - Rubber packing indent off center
 - Rubber packing retaining channels not distorted by rust or damage
 - Distortion of hatch panels
 - Misalignment of hatch panels
 - Misalignment of hatch cleats
 - Hatch drain hole channels not blocked, non returns working and cross joint channels clear of debris
 - Coaming compression bars rust free, no distortion and fit for purpose

- Cross joint seals in good condition
 - Bearing pads not worn
 - Hatch chain not stretched and correctly tensioned
 - Do hatch lids close in acceptable time (hydraulic motors in good condition no leaks, etc)
 - Signs of inner coaming rusting
 - Booby hatch condition
 - Grain/cement loading ports condition
 - Gas sampling points watertight and clearly marked
- 1 Condition of pipework: air, sounding, ballast, scupper, fire main/sprinkler
 - 1 Ventilators: marked, free (hinges, flaps, dogs), watertight (seals effective), no corrosion of trunk, no rust stains in hold.
 - 1 Brine piping (reefers) free of corrosion
 - 1 Tanktop/ballast tank plating – mechanical damage, corrosion, inserts, wastage.
 - 1 Cranes/derricks and all associated items in good condition and fit for purpose
 - 1 Lifting gear register and test certificates for all equipment

Pre-loading checks – tanktops/manholes/bilge wells/strum boxes/eductors/valves

- 1 All tank tops inspected for leaks
- 1 All manholes to have correct seal and all bolts in situ and covered by hessian or similar approved protection
- 1 All manholes, bilges and hold eductors (if fitted) covered by hessian or similar approved protection
- 1 Bilge wells and sounding pipes clear, no obstructions, bilges sweet smelling, and non returns tested and visually confirmed as fully operational
- 1 Water ballast valves to cargo holds working correctly, with no leaks (blanks fitted as required)
- 1 Hold water ingress alarms tested

Pre-loading/closing checks – hatch sealing arrangements

- 1 Hatch rubber in good condition, indentations should not exceed 50% of design compression, no sections missing and rubbers free of cargo debris
- 1 Hatch rubber retaining channels and compressor bars not damaged
- 1 Hatch drainage channels and non returns clear of cargo debris
- 1 Hatch drainage channels to have sufficient lip to prevent water ingress
- 1 Hatch cleats free moving and greased, rubber washer pliant
- 1 Hatch cleats should be fastened in the correct sequence

Regular hose test/chalk test or ultra sonic test on hatch covers

- 1 Hose test – water pressure 4 bar with nozzle inside diameter 35/40mm
- 1 Distance of nozzle from hatch joints 1.5 metres, progress rate 1 metre every 3 sec
- 1 Chalk test – use chalk lumps or sticks and rub along full length of compression bar. Close fully and re-open hatch – gaskets checked for any place with no chalk mark
- 1 Ultrasonic test carried out (industry limit presently 10% of open hatch reading)?
- 1 Are records kept of tests?

Cargo loading/discharge supervision

- 1 Is there a dedicated cargo care officer?
- 1 Is there a cargo watch system in place?
- 1 Is there an efficient communication system between ship/shore?
- 1 Does cargo officer know who is in charge of stevedores?
- 1 Are names/responsibilities of shore people known/logged?
- 1 Is there a procedure in place for bad weather rain/wind?
- 1 What procedures are in place for clausing mates receipts?
- 1 Is a rough cargo log book kept (port log)?
- 1 Is quality of dunnage approved for cargo to be loaded (unseasoned, wet, contaminated, untreated, etc)?
- 1 Is cargo stored/protected from ship's side/tank top if needed?
- 1 Is OOW monitoring the condition of the cargo to ensure cargo is in good condition on loading/discharge?
- 1 Are procedures in place for noting protest/photos/log entries, if any damage found?

Regular tank/bilge soundings

- 1 Are tank soundings taken regularly and logged?
- 1 Are bilge soundings taken regularly and logged?

Effective bilge/ballasting systems/procedures

- 1 Who is responsible for bilge and ballast operations and are operations properly planned, supervised and monitored throughout – manual soundings taken?
- 1 Are proper communications established between deck and engine room?
- 1 Are internal transfers of liquids properly monitored and strictly controlled to prevent overflow?
- 1 Use of hold isolation valves correct?
- 1 Air and sounding pipe checks?
- 1 Transfer failure procedures in place?

- 1 Are all tanks correctly secured?
- 1 Are tanks and pipelines leak free?
- 1 Do tanks, pipes and valves have any changes without written approval from class?
- 1 Are bilge returns tested each voyage and bilges cleaned each voyage – written log entries?

SCORE

Threat: Wet damage

Weather routeing	
Cargo equipment inspection, maintenance, operation	
Pre-loading checks	
Pre-loading/closing checks	
Regular tests on hatch covers	
Cargo loading/discharge supervision	
Regular tank/bilge soundings	
Effective bilge/ballasting systems/procedures	

COMMENTS

THREAT: CARGO SECURING

CONTROLS:

Inspection and planned maintenance (lashings and fixtures)

- 1 Any lashings used to be suitable for cargo securing
- 1 All lashings and equipment are inspected and checked regularly
- 1 Lashing equipment in poor condition is removed from service

Vessel has a cargo securing manual and the manual is followed

- 1 Stevedores aware of loading plan (bulk) and lashing requirements (general cargo and reefer)?
- 1 Tank top limits not exceeded (are crew aware of limits?)
- 1 Steel cargoes require special stowage requirements

Control of cargo stowage and securing to prevent cargo shift and damage

- 1 Ship is suitable and cargo is stowed in an approved manner as per custom of the trade and relevant regulations (IMSBC/IMDG, etc)?

Cargo securing supervision

- 1 Is there a dedicated officer responsible for securing?
- 1 Is securing monitored and logged?
- 1 Is there a system in place for confirming/logging that securing has been checked and verified as being satisfactory prior to sailing?

Ship suitable

- 1 Is the ship approved/fit to carry the cargo?
- 1 Hold suitability for cargo cleanliness?
- 1 Hold shape and obstructions – loading pallets/rolls, paper/bales?
- 1 Point loading on tank top/tween deck/hatch cover – loading steel/heavy lifts/project cargo?
- 1 Lashing points – availability and possibility of welding pad eyes on tank top?
- 1 Presence of container shoes and lashing (if applicable)?
- 1 Stanchions fitted for timber deck cargo?
- 1 Are ship's staff familiar with the cargo carriage?
- 1 Have ship's staff had training/instructions for the type of cargo?
- 1 Is the manning level sufficient for the trade/cargo carried?

SCORE

Threat: Cargo securing

Inspection/planned maintenance (lashings/fixtures)	
Vessel cargo securing manual	
Control of cargo stowage/securing	
Cargo securing supervision	
Ship suitable	

COMMENTS

THREAT: THEFT/SHORTAGE/ CALCULATION ERROR

CONTROLS:

Cargo fit for sea transport (IMO/IMSBC Code)

- 1 Written confirmation from agent/shipper prior to load that the cargo is fit for sea transport and complies with IMSBC Code restrictions and IMO requirements
- 1 Ensure cargo is within transportable moisture limits and is not liable to spontaneous combustion

Cargo declaration procedures/carriage instructions

- 1 Is the cargo declaration presented to the ship in sufficient time for the cargo plan to be produced?
- 1 Is the cargo declaration and description clear and precise and in a language understood by ship's staff?
- 1 Have any clear special carriage instructions or stowage precautions been received?
- 1 Instructions are not beyond ship's staff or machinery capabilities?
- 1 Bill of lading and instructions received and fully understood?
- 1 Contact details of consignee received and understood?
- 1 Cargo to be delivered to the ship in good order and condition?

Cargo calculations – draft survey

- 1 Survey completed by competent trained person on board (chief mate)
- 1 Survey completed by competent trained surveyor ex shore
- 1 Correct density of dockwater obtained using a draft survey hydrometer (Zeal Type or similar)
- 1 Ship's draft marks/load line marks clear
- 1 Correct density of ballast water used
- 1 Ship retains written record of ship's draft surveys and they are signed by shore representative
- 1 Ship has copy of shore draft survey
- 1 Ship's calibration tables must be class approved and in good condition
- 1 Tank soundings taken by competent person using accurate, approved, undamaged, sounding tape or line
- 1 Are any concerns over accuracy recorded in log book rough/fair, sea and swell conditions, etc?

Cargo calculations – tally control

- 1 Ship tally of cargo completed by trained competent person?
- 1 Written records of tally/mate's receipts agree with written tally?
- 1 Bill lading agrees with mate's receipts?
- 1 Shore tally – reputable tally company used, experienced tally clerks?
- 1 Are numbers of tallymen used adequate?
- 1 Where they are tallying from (hatch/deck/shore) adequate?
- 1 Is any concern over quality of tally, is concern logged in rough cargo log book?
- 1 Are there any procedures for loading/discharging damaged/leaking bags, etc?
- 1 Procedures for endorsing mate's receipts and letters of protest when there are discrepancies?

Control for security ashore/on board to prevent theft

- 1 Security ashore controlled by reputable firm?
- 1 Prior to load, cargo stowed in a safe secure area?
- 1 Cargo loaded under supervision by ship's staff?
- 1 Broached bags/packages rejected?
- 1 Holds secured and padlocked when not being worked?
- 1 Holds secured, sealed and padlocked prior to sailing?
- 1 Hatch seals inspected during voyage?
- 1 Adequate security during discharge?

Control preventing loss overboard

- 1 Cargo is stowed in an approved area?
- 1 Lashings and fitments are in good condition?
- 1 Lashings checked regularly during the voyage and log entries made?

Cargo survey

- 1 Is a surveyor appointed to survey the loading process and quality of the cargo to be loaded?
- 1 Is surveyor qualified/experienced enough to do the job?
- 1 Are crew aware on whose behalf surveyor appointed (charterer/sub-charterer/receiver/owner, etc)?
- 1 Is survey monitored by ship's staff?
- 1 Are survey records left on board/signed (for receipt only)?
- 1 Are surveys challenged as required (letters of protest, etc)?

Cargo loading/discharge supervision

- 1 Is there a dedicated cargo care officer?
- 1 Is there a cargo watch system in place?
- 1 Regular visual drafts taken at the end of each pour or run to compare with calculated draft on cargo load/discharge form (bulk). Visual drafts entered on cargo load/discharge form (bulk)?
- 1 Is there an efficient communication system between ship and shore?
- 1 Does cargo officer know who is in charge of stevedores?
- 1 Are names/responsibilities of shore people known/logged?
- 1 What procedures are in place for clausing mate's receipts?
- 1 Is a rough cargo log book kept (port log)?
- 1 Is OOW monitoring the condition of the cargo to ensure cargo is in good condition (ie. no damage), no foreign bodies or debris included?
- 1 Are procedures in place for noting protest/photos/log entries if cargo is damaged, wet, breached or in poor condition?

SCORE

Threat: Theft/shortage/calculation error

Cargo fit for sea transport	
Cargo declaration procedures/carriage instructions	
Cargo calculations – draft survey	
Cargo calculations – tally control	
Security to prevent theft	
Preventing loss overboard	
Cargo survey	
Cargo loading/discharge supervision	

COMMENTS

THREAT: CARGO TEMPERATURE

CONTROLS:

Cargo declaration procedures/ carriage instructions

- 1 Have any special carriage temperature instructions been supplied to the ship?
- 1 Carriage instructions supplied in ample time
- 1 No ambiguity in carriage instructions
- 1 Carriage temperature instructions not beyond ship's staff or machinery capabilities
- 1 Is the cargo declaration and description clear and precise and in a language understood by ship's staff?
- 1 Is there confidence that the cargo declaration details are correct?
- 1 Have any special instructions or stowage precautions been received?
- 1 Documentation to clearly state any special carriage requirements
- 1 Ship to be advised of any special IMO category, if applicable, or special needs
- 1 Is the cargo declaration a true declaration of the cargo to be carried?
- 1 Check documentation that delivery is correct
- 1 Bill of lading and instructions received – shipper and consignee details are correct?
- 1 Contact details of consignee?

Inspection and planned maintenance (refrigeration machinery)

- 1 Machinery and equipment on ship in all areas under a PMS
- 1 Clear records maintained on board ship
- 1 Regular checks on equipment completed
- 1 Equipment in poor condition is removed from service and replaced as soon as possible
- 1 All personnel are instructed to inspect equipment prior to use and to replace any worn or dangerous tools

Control of carriage temperature - prior to load/ during sea passage/during discharge

- 1 Cargo to be stored ashore in an approved area with full temperature control
- 1 Cargo transportation to ship to be in an approved manner with no risk of temperature being adversely affected by weather
- 1 Cargo temperature and samples (if applicable) to be taken ashore prior to loading and written notice given to master before commencing cargo load
- 1 Ship to be fit for purpose and suitable for cargo carriage

- 1 Cargo hold to be at correct temperature to receive cargo
- 1 Full cargo monitoring with clear written records during the voyage as per carriage instructions
- 1 During discharge full temperature monitoring by ship's staff to ensure cargo discharged in good condition
- 1 Precautions taken to restrict cargo temperature fluctuations due to weather
- 1 Is a protecting surveyor appointed for temperature-sensitive cargoes at load and discharge ports (surveyor's details recorded in log)?

Cargo survey

- 1 Is a surveyor appointed to survey the loading process and quality of the cargo to be loaded?
- 1 Is surveyor qualified/experienced enough to do the job?
- 1 Are crew aware on whose behalf surveyor appointed (charterer/sub-charterer/receiver/owner, etc)?
- 1 Is survey monitored by ship's staff?
- 1 Are survey records left on board/signed (for receipt only)?
- 1 Are surveys challenged as required (letters of protest, etc)?
- 1 Quality of reefer cargoes/temperature in storage ashore, etc?
- 1 Hold suitability for cargo/cleanliness?

Ship suitable

- 1 Is the ship approved/fit to carry the cargo?
- 1 Hold suitability for cargo cleanliness?
- 1 Cargo ventilation system suitable for sensitive cargoes?
- 1 Are ship's staff familiar with the cargo carriage?
- 1 Have ship's staff had training/instructions for the type of cargo?
- 1 Is the manning level sufficient for the trade/cargo carried?

SCORE

Threat: Cargo temperature

Cargo declaration procedures/carriage instructions	
Inspection/planned maintenance (refrigeration)	
Control of carriage temperature	
Cargo survey	
Ship suitable	

COMMENTS

THREAT: CONTAMINATION/ INFESTATION

CONTROLS:

Hold and bilge preparation/checks prior to loading

- 1 Holds to be cleaned as per carriage requirements/charterparty instructions
- 1 Holds to be fit to load as per custom of the trade
- 1 All previous cargo remains to be removed
- 1 Look for previous cargo trapped between pipes, beams, ledges and under hatch covers
- 1 No loose scale in hatches
- 1 No hydraulic leakage
- 1 Bilges clean, dry and sweet smelling. Bilge filters to be protected by hessian as required
- 1 Any hydrant access points in the hold to be cleaned and sealed as per custom of the trade
- 1 Any hydrant access points in the hold to be cleaned and sealed as per the custom of the trade
- 1 Cargo hold to be inspected by approved cargo surveyor and cleanliness certificate issued

Cargo loading/discharge supervision

- 1 Is there a dedicated cargo care officer?
- 1 Is there a cargo watch system in place?
- 1 Is there an efficient communication system between ship and shore?
- 1 Does cargo officer know who is in charge of stevedores?
- 1 Are names/responsibilities of shore people known/logged?
- 1 What procedures are in place for clausung mate's receipts?
- 1 Is a rough cargo log book kept (port log)?
- 1 Is quality of dunnage approved for cargo to be loaded (unseasoned, wet, contaminated, untreated, etc)?
- 1 Is cargo stored/protected from ship's side/tank top, if needed?
- 1 Is OOW monitoring the condition of the cargo to ensure cargo is in good condition?
- 1 Are procedures in place?

Infestation prevention procedures

- 1 If carriage instructions require cargo fumigation, master to seek professional guidance from approved fumigation company
- 1 Master to refer to IMO publication Recommendations on the safe use of pesticides in ships and MSC 1/Circ 1264 (available in IMSBC Code supplement)

- 1 Fumigation pipes and machines to be in situ before any loading commences
- 1 Position of fumigation pipework inspected and approved by master and shore representative of fumigation company
- 1 During cargo load, regular inspections of cargo to ensure that infestation is not being loaded with the cargo
- 1 If fumigant is loaded with the cargo, then full details of safety precautions to be given to ship's master prior to loading
- 1 Fumigation instructions must be in a language understood by ship's crew
- 1 If fumigation capsules distributed after cargo load, hatches and all cargo openings to be closed promptly
- 1 Hatches to be sealed and secured and fumigation notices posted
- 1 Is there sufficient advice on the dangers of fumigation on board?

Cargo segregation procedures

- 1 To prevent contamination between two different cargoes loaded in the same hatch
- 1 The separation barrier between the two cargoes should be fit for purpose and approved by a cargo surveyor and cargo barriers clearly marked

Cargo survey

- 1 Is a surveyor appointed to survey the loading process and quality of the cargo to be loaded?
- 1 Is surveyor qualified/experienced enough to do the job?
- 1 Are crew aware on whose behalf surveyor appointed (charterer/ sub-charterer/receiver/owner, etc)?
- 1 Is survey monitored by ship's staff?
- 1 Are survey records left on board/signed (for receipt only)?
- 1 Are surveys challenged as required (letters of protest, etc)?

Ship suitable

- 1 Is the ship approved/fit to carry the cargo?
- 1 Hold suitability for cargo cleanliness?
- 1 Are ship's staff familiar with the cargo carriage?
- 1 Have ship's staff had training/instructions for the type of cargo?
- 1 Is the manning level sufficient for the trade/cargo carried?

SCORE

Threat: Contamination/Infestation

Pre-loading hold and bilge preparation/checks	
Cargo loading/discharge supervision	
Infestation prevention procedures	
Cargo segregation procedures	
Cargo survey	
Ship suitable	

COMMENTS

THREAT: VENTILATION

CONTROLS:

Cargo declaration procedures/carriage instructions

- 1 Is the cargo declaration presented to the ship in sufficient time for the cargo plan to be produced?
- 1 Correct documentation to be supplied to the ship in ample time for ship's staff to understand all requirements
- 1 Is the cargo declaration and description clear and precise and in a language understood by ship's staff?
- 1 Is there confidence that the cargo declaration details are correct?
- 1 Have any clear special carriage instructions re ventilation or stowage precautions been received?
- 1 No ambiguity in carriage instructions?
- 1 Instructions are not beyond ship's staff or machinery capabilities?
- 1 Bill of lading and instructions received and understood?
- 1 Contact details of consignee received and understood?
- 1 Cargo to be delivered to the ship in good order/condition/quality?

Inspection and planned maintenance (mechanical ventilation)

- 1 All mechanical ventilation controls to be in a good condition, fully operational and under a PMS with written records
- 1 Vents to be weather tight and clearly marked
- 1 Failure of any ventilation machinery or associated parts to be fully documented

Ventilation procedures

- 1 Are there ventilation procedures readily available on the ship, and are they followed?
- 1 Cargo to be stowed to allow adequate ventilation as per carriage instructions or custom of the trade
- 1 Written records to be maintained of ventilation status as per custom of the trade, carriage instructions, IMSBC Code
- 1 Daily written records kept

Ship suitable

- 1 Is the ship approved/fit to carry the cargo?
- 1 Hold suitability for cargo/cleanliness?
- 1 Cargo ventilation system suitable for sensitive cargoes?
- 1 Are ship's staff familiar with the cargo carriage?
- 1 Have ship's staff had training/instructions with the type of cargo?
- 1 Is the ship's manning level sufficient for the trade/cargo carried?

SCORE

Threat: Ventilation

Cargo declaration procedures/carriage instructions	
Inspection/planned maintenance (ventilation)	
Ventilation procedures	
Ship suitable	

COMMENTS

THREAT: PHYSICAL DAMAGE TO CARGO

CONTROLS:

Gas control – CO₂/dangerous gasses

- 1 Excessive or dangerous gasses from the cargo (if any) to be controlled as per cargo carriage instructions
- 1 IMSBC Code recommendations followed
- 1 Clear, full, unambiguous written records maintained of any cargo control on board

Correct handling/loading procedures

- 1 Are cargo documents normally available in good time prior to cargo arriving, and in a language understood by the master?
- 1 Does cargo declaration (if bulk cargo) normally contain correct information, ie. sulphur content/moisture limit/ spontaneous combustion limits/ angle of repose, etc?
- 1 Declaration to follow IMSBC Code recommendations
- 1 Are there procedures in place for checking if cargo is loaded:
 - Too hot?
 - Too wet, moisture content too high (rice, iron ore fines, etc)?
 - Salt water wet (steel)?
 - Rusty?
 - Damaged?
 - Old crop (grain cargoes, etc)?
 - Cargo generally in poor condition?
- 1 What procedures are in place for signing/clausing mates receipts/bills of lading?
- 1 Does master/chief officer feel confident in such situations?
- 1 Is he/she aware that clear, unambiguous statements must be used when clausing bills?
- 1 Ensure photo evidence is taken and a third party surveyor is there to record reason for clausing
- 1 Correct handling procedures ashore by trained stevedores prior to cargo load?
- 1 Cargo to be correctly and carefully loaded on board ship
- 1 Lifting gear to be approved for custom of the trade and lifting wires/ropes/savealls in a good condition and approved for lifting cargo without causing damage
- 1 Cargo lifted/handled in correct manner as per custom of the trade
- 1 See '*Carefully to Carry*' for advice on clausing steel bills/ mate's receipts

Adequate packing of cargo

- 1 Is the cargo suitably packed and protected?
- 1 Is packaging fit for purpose and provides adequate protection from the elements?
- 1 Will packaging withstand transportation to and from the ship and stowage ashore or during sea transport?
- 1 Will the packaging damage the 'said' cargo or other cargo?
- 1 Is the packaging correctly marked with lifting points?
- 1 Is the packaging adequately marked with precautions ie. 'stow this way up'/'do not crush'/'keep dry', etc?
- 1 Is the packaging provided with suitable lifting wires/strops/lugs?
- 1 What is the procedure for rejecting/recording damage caused by poor packaging (big claims issue)?

Correct stowage

- 1 Cargo to be stowed in an approved area as per custom of the trade (not next to heated tanks, if heat sensitive)
- 1 Cargo stowage to be secure and cargo protected and adequately dunnaged
- 1 Surrounding cargoes to be of compatible nature (if applicable)
- 1 Cargo not to be loaded in a damaged condition ie. wet/pilfered/poor quality
- 1 Cargo not to be loaded in adverse weather conditions

Correct loading procedures (stability and stress calculations)

- 1 Cargo to be loaded as per ship's load/stress form (Calculations made and recorded to ensure overall stability and stress are within bounds for all periods of loading, carriage and discharge of cargo)
- 1 Heavy density cargoes to be loaded evenly over tank top to prevent damage to the ship and possible water ingress into the hold
- 1 Rate of load to be consistent with de ballasting procedures/stress calculations
- 1 Heavy density cargoes should not be directed at holds internal fittings and fitments
- 1 Stowage to comply with IMSBC Code
- 1 During bulk loading/discharge any damage caused by shore equipment to be noted and repaired. Notes of protest to be issued

Cargo loading/discharge supervision

- 1 Is there a dedicated cargo care officer?
- 1 Is there a cargo watch system in place?
- 1 Is there an efficient communication system between ship and shore?

- 1 Does cargo officer know who is in charge of stevedores?
- 1 Are names/responsibilities of shore people known/logged?
- 1 Is there a procedure in place for bad weather rain/wind?
- 1 What procedures are in place for clausing mates receipts?
- 1 Is a rough cargo log book kept (port log)?
- 1 Is quality of dunnage approved for cargo to be loaded?
- 1 Is cargo stored/protected from ship's side/tank top, if needed?
- 1 Is OOW monitoring the condition of the cargo to ensure cargo is in good condition, ie. no damage, no foreign bodies or debris included?
- 1 Are procedures in place for noting protest/photos/log entries if cargo is damaged, wet broached or in poor condition?

Cargo survey

- 1 Is a surveyor appointed to survey the loading process and quality of the cargo to be loaded?
- 1 Is surveyor qualified/experienced enough to do the job?
- 1 Are crew aware on whose behalf surveyor appointed (charterer/sub-charterer/receiver/owner, etc)?
- 1 Is survey monitored by ship's staff?
- 1 Are survey records left on board/signed (for receipt only)?
- 1 Are surveys challenged as required (letters of protest, etc)?

Ship suitable

- 1 Is the ship approved/fit to carry the cargo?
- 1 Hold suitability for cargo cleanliness?
- 1 Hold shape and obstructions – loading pallets/rolls paper/bales/containers?
- 1 Point loading on tank top/tween deck/hatch cover – loading steel/heavy lifts/project cargo?
- 1 Lashing points – availability and possibility of welding pad eyes on tank top?
- 1 Container lashing equipment on board (if applicable)?
- 1 Stanchions fitted for timber deck cargo?
- 1 Cargo ventilation system suitable for sensitive cargoes?
- 1 Are ship's staff familiar with the cargo carriage?
- 1 Have ship's staff had training/instructions for the type of cargo?
- 1 Is the manning level sufficient for the trade/cargo carried?

SCORE

Threat: Physical damage to cargo

Gas control – CO ₂ /dangerous gasses	
Correct handling/loading procedures	
Adequate packing of cargo	
Correct stowage	
Correct loading (stability and stress calcs)	
Cargo loading/discharge supervision	
Cargo survey	
Ship suitable	

COMMENTS

THREAT: PRE-SHIPMENT QUALITY

CONTROLS:

Correct handling/loading procedures

- 1 Are cargo documents normally available in good time prior to cargo arriving and in a language understood by the master?
- 1 Does cargo declaration (if bulk cargo) normally contain correct information, ie. sulphur content/moisture limit/spontaneous combustion limits/angle of repose, etc?
- 1 Declaration to follow IMSBC Code recommendations
- 1 Are there procedures in place for checking if cargo is loaded:
 - Too hot?
 - Too wet, moisture content too high (rice, iron ore fines, etc)?
 - Salt water wet (steel)?
 - Rusty?
 - Damaged?
 - Old crop (grain cargoes, etc)?
 - Cargo generally in poor condition?
- 1 What procedures are in place for signing/clausing mate's receipts/bills of lading?
- 1 Does master/chief officer feel confident in such situations?
- 1 Is he/she aware that clear, unambiguous statements must be used when clausing bills?
- 1 Ensure photo evidence is taken and a third party surveyor is there to record reason for clausing
- 1 Correct handling procedures ashore by trained stevedores prior to cargo load?
- 1 Cargo to be correctly and carefully loaded on board ship
- 1 Lifting gear to be approved for custom of the trade, and lifting wires/ropes/savealls in a good condition and approved for lifting cargo without causing damage
- 1 Cargo lifted/handled in correct manner as per custom of the trade?
- 1 See '*Carefully to Carry*' for advice on clausing steel bills/mate's receipts

Control to prevent change of state during voyage

- 1 Cargo/carriage instructions must contain information if there is any risk of the cargo changing its state during the voyage, which may cause damage or loss to both cargo and ship

Cargo fit for sea transport (IMO/IMSBC Code)

- 1 Written confirmation from agent/shipper prior to loading that the cargo is fit for sea transport and complies with IMSBC Code
- 1 Ensure cargo is within transportable moisture limits and is not liable to spontaneous combustion

Cargo survey

- 1 Is a surveyor appointed to survey the loading process and quality of the cargo to be loaded?
- 1 Is surveyor qualified/experienced enough to do the job?
- 1 Are crew aware on whose behalf surveyor appointed (charterer/ sub-charterer/receiver/owner, etc)?
- 1 Is survey monitored by ship's staff?
- 1 Are survey records left on board/signed (for receipt only)?
- 1 Are surveys challenged as required (letters of protest, etc)?
- 1 Quality of reefer cargoes/temperature in storage ashore?

SCORE

Threat: Pre-shipment quality

Correct handling/loading procedures	
Change of state prevention controls during voyage	
Cargo fit for sea transport	
Cargo survey	

COMMENTS

THREAT: TRADE ROUTE EXPERIENCE

CONTROLS:

Discharge port awareness

- 1 Is crew aware of any cargo issues at discharge port(s)?
- 1 Is any information given to them from owners/charterers?

SCORE

Threat: Trade route experience



COMMENTS

THREAT: FIRE DAMAGE

CONTROLS:

Hot work outside ER subject to specific approval

- 1 All hot work in any cargo area is subject to approval and a proper check-list and permit to work system being in place
- 1 No hot work on tanks or hatches unless the possible fire/explosion risk from the cargo is fully assessed (Welding fittings on hatch tops with cargo in hold regularly causes claims)

Fire detection system in place accommodation/ER/stores and cargo holds

- 1 Fire detection system in hold spaces, PMS included for this item, regularly tested and verified, and log maintained?
- 1 Are procedures in place for checking/testing/maintaining remote sensors?
- 1 Dead man alarms in use, where required for checks?

Regular inspection (fire rounds)

- 1 Are procedures in place for checking/testing/maintaining remote sensors?
- 1 Are procedures in place for manual checking of areas?
- 1 Defined checks, hourly and at the end of each watch?
- 1 UMS system checks made on a regular basis?
- 1 Dead man alarms in use where required for checks?

Stowage position procedures

- 1 Has the cargo unit been stowed in a safe position both ashore:
 - During delivery to the ship?
 - During the load on board ship?
 - During the sea voyage?
 - During the discharge ashore and transportation to a safe secure stowage area prior to collection?
- 1 Is the cargo plan accurate and has the cargo been stowed as per the plan?
- 1 Has the stowage of the cargo on board ship been supervised by ship's staff/OOW?
- 1 Has the cargo plan been approved by the chief mate/master (Problems have occurred to DG cargoes stowed next to ER bulkheads or heated oil tanks)?

Declaration control prior to shipment

- 1 Correct documentation to be supplied to the ship in ample time for ship's staff to understand all requirements
- 1 Documentation to clearly state any special carriage requirements
- 1 Documentation in a language understood by the ship's staff

- 1 Ship to be advised of any IMO category, if applicable, or special needs
- 1 Is the cargo declaration a true declaration of the cargo to be carried?
- 1 Check documentation that delivery is correct
- 1 Bill of lading and instructions received – shipper and consignee details are correct?
- 1 Contact details of consignee?
- 1 Cargo to be delivered to the ship in good order/condition/quality?

Smoking controls on board

- 1 Designated smoking areas?
- 1 Are smoking controls effectively policed (Problems have occurred due to discarded cigarettes being left in cargo holds)?

SCORE

Threat: Fire damage

Hot work outside ER	
Fire detection system in place	
Regular inspection (fire rounds)	
Stowage position procedures	
Pre-shipment declaration control	
Smoking controls on board	

COMMENTS

THREAT: PRE-LOADING/ DISCHARGE PLANNING

CONTROLS:

Cargo declaration procedures/carriage instructions

- 1 Is the cargo declaration and documentation presented to the ship in sufficient time for the cargo plan to be fully understood and produced by ship's staff?
- 1 Is the cargo declaration and description clear and precise and in a language understood by ship's staff?
- 1 Is there confidence that the cargo declaration details are correct?
- 1 Have any clear special carriage instructions re ventilation or stowage precautions been received?
- 1 There is no ambiguity in carriage instructions?
- 1 Instructions are not beyond ship's staff or machinery capabilities?
- 1 Documentation to clearly state any special carriage requirements?
- 1 Ship to be advised of any IMO category, if applicable, or of any special needs?
- 1 Check documentation that delivery is correct?
- 1 Bill of lading and instructions received and understood?
- 1 Contact details of consignee received and understood?
- 1 Cargo to be delivered to the ship in good order and condition?

Ship suitable

- 1 Is the ship approved/fit to carry the cargo?
- 1 Hold suitability for cargo cleanliness/hold shape and obstructions – loading pallets/rolls paper/bales/containers?
- 1 Point loading on tank top/tween deck/hatch cover – loading steel/heavy lifts/project cargo?
- 1 Lashing points – availability and possibility of welding pad eyes on tank top?
- 1 Presence of container shoes on tank top and hatch top?
- 1 Container lashing equipment on board?
- 1 Stanchions fitted for timber deck cargo?
- 1 Cargo ventilation system suitable for sensitive cargoes?
- 1 Are ship's staff familiar with the cargo carriage?
- 1 Have ship's staff had training/instructions for the type of cargo?
- 1 Is the ship's manning level sufficient for the trade/cargo carried?

Stability/Stress calculations

- 1 Is loadicator approved by class?
- 1 Prior to any load or discharge, is the stability loadicator test program run and are written records maintained?

- 1 Are ship's stability calculations completed by certificated officers approved by flag state?
- 1 Do all officers have required STCW documentation/training requirement?
- 1 Are officers familiar with ship and voyage/stability requirements?
- 1 Are officers fully competent in use of loadicator instrument?
- 1 Are full and comprehensive written stability calculations retained on board?
- 1 Are full clear and comprehensive lists of all tanks/cargo weights of the vessel maintained in an approved format?
- 1 Is the master updated regularly on ship's stability criteria?
- 1 Is the loadicator checked and serviced by the manufacturer on a regular basis (eg. each dry dock)?

Effective bilge/ballasting systems/procedures

- 1 Who is responsible for bilge and ballast operations and are they properly planned?
- 1 Are proper communications established between deck and engine room?
- 1 Are internal transfers of liquids properly monitored and strictly controlled to prevent overflow?
- 1 Use of hold isolation valves correct?
- 1 Air and sounding pipe checks?
- 1 Transfer failure procedures?
- 1 Manual sounding procedures?
- 1 Are bilges cleaned each voyage?
- 1 Are bilge non-returns checked and tested each voyage?
- 1 Are written log entries made of all bilge tests?
- 1 Are all ship's tanks, bilges, pipes and couplings carrying seawater, fresh water, oil, or any other mixture of liquids, well maintained under a PMS inspection?
- 1 Are all tanks secured tightly with all bolts/gaskets in good order?
- 1 Are tanks and piping leak/hole free?
- 1 Are tank valves working correctly/regularly tested?
- 1 Do tanks, pipes and valves have any changes without written approval from class?

Trade competency of personnel to perform required duties

- 1 Do all personnel have required certification for the jobs they do, are these certificates valid?
- 1 Training checks, HR and ship follow up on joining, full familiarisation and training on board the vessel as required for tasks to be performed?

Continuous on board training as required carried out in all areas (ISM requirement)

- 1 On job training to be carried out by supervisors (if applicable) and not workmates
- 1 Continuation training by senior officers for junior ranks and on job supervision during training
- 1 Some workmate intervention is allowed in training as well, if appropriate
(Safety awareness for all can be enhanced if a 10 minute 'buddy overview' is used. A colleague watches what the worker is doing, makes notes on both the good and bad points and then critiques the on job safety starting with the good points. Both persons can learn from this type of interaction and safety awareness promotion on board)
- 1 Ongoing training and proper familiarisation of all officers and ratings on vessel type

Toolbox talks and work planning meetings

- 1 Are these pre-work meetings held on board?
- 1 They should include, as far as practical to do so, the following:
 - Risk assessment of operation to include the plan to be discussed and evaluated with the team members?
 - Safety matters, to include:
 - Discuss the job plan overall
 - What is the job, and procedure to follow?
 - Who will do what?
 - Discuss the safety rules for the area of work to be done
 - What could go wrong?
 - What are the main hazards?
 - Assess the risks and how do you eliminate them?
 - Get all to participate to create ownership of safety in the job to be done and full safety awareness
 - Ensure as far as possible, all personnel understand the safety rules for the job to be done
 - Remind all of the STOP procedure, if the job changes

Cargo loading/discharge supervision

- 1 Is there a dedicated cargo care officer?
- 1 Is there a cargo watch system in place?
- 1 Is there an efficient communication system between ship and shore?
- 1 Does cargo officer know who is in charge of stevedores?
- 1 Are names/responsibilities of shore people known/logged?
- 1 Is there a procedure in place for bad weather rain/wind?
- 1 What procedures are in place for clausuring mates receipts?
- 1 Is a rough cargo log book kept (port log)?

- 1 Is quality of dunnage approved for cargo to be loaded?
- 1 Is cargo stored/protected from ship's side/tank top if needed?
- 1 During loading/discharge, strict officer supervision to ensure that the correct cargo is being loaded/discharged?
- 1 Is OOW monitoring the condition of the cargo to ensure cargo is in good condition, ie. no damage, no foreign bodies or debris included?
- 1 Are procedures in place for noting protest/photos/log entries if cargo is damaged, wet, breached or in poor condition?

Cargo survey

- 1 Is a surveyor appointed to survey the loading/discharge process and quality of the cargo to be loaded/discharged?
- 1 Is surveyor qualified/experienced enough to do the job?
- 1 Are crew aware on whose behalf surveyor appointed (charterer/sub-charterer/receiver/owner, etc)?
- 1 Is survey monitored by ship's staff?
- 1 Are survey records left on board/signed (for receipt only)?
- 1 Are surveys challenged (letters of protest, etc)?
- 1 Quality of reefer cargoes/temperature in storage ashore, etc available?
- 1 Hold suitability for cargo/cleanliness?

Documentation control during loading

Correct documentation presented to load the cargo:

- 1 Mate's receipts – procedures?
- 1 MSDS sheets for dangerous goods?
- 1 Transportation moisture limit (TML) certificates?
- 1 Quality certificates?
- 1 Samples receipts?
- 1 IMO class of cargo?
- 1 Cargo plan?

Documentation control during discharge

- 1 Correct documentation to be presented to the master prior to releasing the cargo (bills of lading)?
- 1 Landing orders checked?
- 1 Discharge plan confirmed as correct?
- 1 Correct consignee details?
- 1 Cargo landed in correct port to secure area to correct receiver?

Hold and bilge preparation/checks prior to loading

- 1 Holds to be cleaned as per carriage requirements/charterparty
- 1 All previous cargo remains to be removed

- 1 Look for previous cargo trapped between pipes, beams, ledges and under hatch covers
- 1 Bilges to be cleaned sweet smelling and dry (all cargoes)
- 1 Sacking over bilge filters to prevent cargo ingress into bilges
- 1 Bilge non-returns cleaned and tested with signed log entry that all in good order and condition
- 1 Sounding pipes clear and checked with sounding rod. Eductors, if fitted, cleaned and space dried out
- 1 Any tank top lids to be secured in a seamanlike manner with all bolts in situ. All bolts to be taped over with approved non contaminating tape
- 1 Pre-loading/closing checks – hatch sealing arrangements
- 1 As a general rule, permanent set indentations should not exceed 50% rubber
- 1 All hatch cleats to be free moving, greased, good compression rubbers and well maintained
- 1 No sections of rubber missing – no damage – no cargo debris stuck to rubbers – hatch rubber retaining channels not damaged. Drainage channels swept clear, drains clear, no cargo debris – no obstructions whatsoever
- 1 Cleats should be fastened in the correct sequence
- 1 Non-returns visually confirmed no obstructions or cargo debris whatsoever
- 1 Hatch channels well maintained, free from cargo debris or scale channels not damaged and of sufficient 'lip' to prevent water ingress into hold
- 1 Any hydrant access points in the hold to be cleaned and sealed as per the custom of the trade and blank spool pieces fitted. Cargo hold to be free from rust, or scale, or staining and any protective hold coating both weathered and approved for cargo stowage
- 1 Any fixed or portable hold washing devices either secured in situ or removed as per manufacturer's instructions
- 1 Hold access and manholes all in good condition and all fittings and securing devices in situ
- 1 Cargo hold to be inspected by approved cargo surveyor and cleanliness certificate issued for each cargo hold (see survey)
- 1 All tank tops inspected for leaks
- 1 All manholes secured correctly
- 1 All manholes to have correct seal and all bolts in situ
- 1 Bilge wells and sounding pipes clear, no obstructions, bilges sweet smelling, and non-returns tested and visually confirmed as fully operational
- 1 All manual and automatic valves to cargo hold confirmed as working correctly with no leaks on controls or past valve face
- 1 Hold water ingress alarms tested

SCORE

Threat: Pre-loading/discharge planning

Cargo declaration procedures/carriage instructions	
Ship suitable	
Stability/Stress calculations	
Bilge/Ballasting systems/procedures	
Trade competency of personnel	
Continuous on board training	
Toolbox talks	
Cargo loading/discharge supervision	
Cargo survey	
Documentation control during loading	
Documentation control during discharge	
Pre-loading hold and bilge preparation/checks	

COMMENTS

THREAT: STABILITY ERROR

CONTROLS:

Stability/stress calculations

- 1 Is loadicator approved by class?
- 1 Prior to any load or discharge, is the stability loadicator test program run and are written records maintained?
- 1 Are ship's stability calculations completed by certificated officers approved by flag state?
- 1 Do all officers have required STCW documentation/training requirement?
- 1 Are officers familiar with ship and voyage/stability requirements?
- 1 Are officers fully competent in use of loadicator instrument?
- 1 Are full and comprehensive written stability calculations retained on board?
- 1 Are full clear and comprehensive lists of all tanks/cargo weights of the vessel maintained in an approved format?
- 1 Is the master updated regularly on ship's stability criteria?
- 1 Is stability checked throughout cargo loading/discharge (visual drafts compared to calculated drafts)?

Effective bilge/ballasting systems/procedures

- 1 Who is responsible for bilge and ballast operations and are they properly planned?
- 1 Are proper communications established between deck and engine room?
- 1 Are internal transfers of liquids properly monitored and strictly controlled to prevent overflow?
- 1 Use of hold isolation valves correct?
- 1 Air and sounding pipe checks?
- 1 Transfer failure procedures?
- 1 Manual sounding procedures
- 1 Are bilges cleaned each voyage?
- 1 Are bilge non-returns checked and tested each voyage?
- 1 Are written log entries made of all bilge tests?
- 1 Are all ship's tanks, bilges, pipes and couplings carrying seawater, fresh water, oil, or any other mixture of liquids, well maintained under a PMS inspection?
- 1 Are all tanks secured tightly with all bolts/gaskets in good order?
- 1 Are tanks and piping leak/hole free?
- 1 Are tank valves working correctly/regularly tested?
- 1 Do tanks, pipes and valves have any changes without written approval from class?

SCORE

Threat: Stability error

Stability/stress calculations	
Bilge/ballasting systems/procedures	

COMMENTS

Consequences

CONTROLS:

Damage mitigation procedures

- 1 What procedures are in place to help reduce the effects of a cargo, pollution, collision, PI, FFO incident and how effective are they?
- 1 Have all possible measures been taken and recorded to limit physical damage to: Cargo/ship/personnel in every possible way, as appropriate to the trade and type of the vessel?
- 1 Cargo:
 - Weather routing vessel – if agreed in charterparty or custom of the trade
 - Heave to in heavy weather
 - Checking lashings at sea and tightening as required
 - Gas alarms and monitoring
 - Bilge alarms
 - Gas tests of cargo holds as required
- 1 Pollution
- 1 Fixed and floating objects
- 1 Collision
- 1 Personal injury:

Is required PPE available and worn in all areas as follows:

 - Safety helmets – look at design and condition, should have short peak to allow all round view
 - Condition important, no stickers, no painted helmets, etc
 - Damaged helmets are not fit for purpose
 - Safety shoes/boots – hard toecaps (steel/kevlar/titanium)
 - Galley clogs with steel toes and non-slip soles
 - Boiler suits or suitable clothing (no flapping sleeves/long sleeves as appropriate)
 - Goggles or safety glasses as required
 - Gloves of correct type for work (cotton, rubber, leather, etc)
 - Safety harness with fall arrest fitted (not safety belts)
 - Chemical aprons
 - Galley aprons
- 1 All mitigation measures are logged?

Alarm/stop procedures

- 1 Are procedures in place to warn ship/shore of incident and to stop the operation?

- 1 Communications procedure in place for all incidents?
- 1 General and fire alarms are functioning correctly?
- 1 Automatic fire detection is good?
- 1 Fixed gas detectors, where fitted, check regular calibration, etc?
- 1 Verbal alarm raising system is defined and can be shown to be adequate?
- 1 Procedure in place to suspend or stop the operation, if an accident occurs and if it is safe to do so?
 - Pumps on board/ashore?
 - Cargo conveyor belts?
 - Cranes/derricks?
 - Electrical power cut outs?

Emergency drills/training

- 1 Are drills/training procedures in place to cope with high risk incidents?
- 1 Fire drills?
- 1 Lifeboat and abandon ship drills?
- 1 MOB rescue drills to include Williamson turn and deployment of all equipment?
- 1 Security drills?
- 1 Anti-piracy drills?
- 1 Anti-pollution drills?
- 1 Emergency steering drills?
- 1 Medical emergency drills and rescues for various areas of the vessel?
- 1 Pollution drills – bunker leak, cargo leak, grounding, collision, etc?
- 1 Watertight integrity drills – watertight doors, bulkhead valves etc?
- 1 Ballasting procedures in the event of a hull breach?

Emergency equipment adequacy/availability

- 1 Is the ship's equipment available/adequate to deal with high risk incidents:
 - Fixed fire equipment?
 - Portable fire equipment?
 - SCBA?
 - EEBD and location suitability for all breathing apparatus?
 - Lifebuoys?
 - Life rafts?
 - Lifeboats?
 - MOB boats or designated MOB boats?
 - MOB equipment including scrambling nets?
 - Thermal protective aids – LSA and FFE

- Fire plans, external and internal?
- Crew lists?
- Ventilation plans?
- Damage control plans?
- First aid equipment?
- Vessel hospital, medical equipment and treatment on board as required?
- Standard of hospital?
- Stretchers and equipment overall?
- Suitable portable winch equipment for enclosed spaces?

1 Are crew familiar with the equipment?

Emergency reporting/communication procedures

1 Are there reporting procedures in place and understood if an incident occurs?

1 Reporting to owner, charterer, P&I correspondent?

1 Categorisation of incident?

1 Timing of incident?

1 Communication requirements?

1 Who was informed on board?

- On shore?
- When?
- How?
- Why?
- What did they do?

1 Records of communications (ship management, third parties, national authorities, P&I, etc)?

1 Letters of protest:

- Are there procedures in place for issuing letters of protest?
- Are the reasons for issuing letters of protest understood?
- For all incidents LOP should be issued and where possible notarised, signed for receipt, etc?
- Copies retained on file on board and entered in the evidence log for use in defending the claim, should it arise?

Record keeping/evidence retention

1 Information required to help process claims:

- Log books preserved and records tallied with bell books (movement book – deck and engine)?
- Charts preserved and records kept as evidentiary chain?
- Voyage data recorder (VDR) information properly preserved and evidence used?
- Time of the incident GMT and local time?
- What happened and to whom?

- Where did it happen?
- When did it happen?
- What were they doing at the time?
- What were the immediate consequences?
- Full list of witnesses to the incident
- Witness statements
- Electronic records of ships operational position at the time of the incident?
- Operational status of vessel, at sea, in port, tank cleaning, cargo operations, mooring, etc?
- Records of casualty communications and third party responses (salvors, other vessels, etc)?

1 Oil pollution:

- ORB (Parts 1 and 2 as applicable) and garbage logs are maintained and properly updated?
- Vessel has SOPEP or SMPEP as applicable?
- Vessel has correct certification for air/oil/sewage and garbage pollution properly updated?
- PMS system records maintained?
- OWS and ODM alarm testing records and function testing records maintained?
- OWS and ODM cleaning records maintained?
- Interface detectors on board and in good order/function test records maintained as appropriate?

1 Weather conditions:

- Description of incident environment (hot, cold, stuffy, dark, confined, moving machinery, etc)
- Description of weather
- Description of sea state

1 Use of NI publication *The Mariner's Role in Collecting Evidence*

- 1 Photos of incident and location time/date stamped, camera set up recorded, full description given in title and/or in comments field under properties
- 1 Photos to be secured from tampering by using security settings under properties
- 1 Layout diagram
- 1 Ship's logs
- 1 Procedures in use at time of incident
- 1 Risk assessment records
- 1 Personal protective equipment (PPE) in use
- 1 Exhibits (failed ladder, rope, etc)
- 1 Service records
- 1 Certifications
- 1 Communications logs

- 1 Permit to work records as applicable
- 1 Toolbox talk records
- 1 List of equipment (tools) involved in incident: condition of equipment, missing equipment
- 1 Equipment certification, inspection logs, maintenance records

Capability of crew to deal with incident

- 1 How capable is the crew to deal with the incident?
- 1 Competence of individuals involved in incident (recruitment, certification, training records, fitness to work (medical records)?
- 1 Medical:
 - Junior deck officers and chief officer are minimum trained in first aid overall?
 - Master has ship captain's medical training as a minimum?
- 1 Fatigue factors: hours of work/rest, time on shift?
- 1 Contracted time on board vessel?
- 1 Actual time on board vessel current period?
- 1 Competence of individuals involved in response?
- 1 Experience of crew involved in the incident?
- 1 Language barriers of crew/shore personnel involved if any?

Use of third party assistance

- 1 Procedures for contacting third parties for assistance in the event of an incident
- 1 By phone, radio, satellite link, etc
- 1 General advice:
 - Club correspondent
- 1 Medical advice:
 - Doctor
 - Hospital
- 1 Stability advice:
 - Collision – classification society
- 1 Pollution:
 - Authorities
 - Harbour master
- 1 Cargo:
 - Correspondent

Learning from incidents

- 1 Are lessons learned from previous incidents?
- 1 Non-conformity raised for incident?
- 1 Incident/accident report correctly filled in?
- 1 Incident is raised at safety meetings and full crew meetings?
 - Discussion of what went wrong and how this can be avoided in future

- 1 Incident is discussed and appraised at company level?
 - Actions to avoid future incidents are discussed and taken, improving barriers
- 1 Incident promulgated to full fleet to avoid duplication, if possible?
- 1 Incident promulgated industry wide, if appropriate, to enhance safety culture?
- 1 Full risk assessment undertaken to improve barriers/controls in on board checklists?
- 1 Toolbox talks, job hazard awareness (JHA) systems and others as appropriate in all fleet vessels?

SCORE

Consequences

Damage mitigation procedures	
Alarm/Stop procedures	
Emergency drills/training	
Emergency equipment adequacy/availability	
Emergency reporting/communication procedures	
Record keeping/evidence retention	
Capability of crew to deal with incident	
Use of third party assistance	
Learning from incidents	

COMMENTS

METHODOLOGY

Following the well-known definition:

RISK = FREQUENCY x CONSEQUENCE

the Club has analysed the number and value of the Club's claims to prioritise high risk areas and determine what the THREATS are that cause these claims. Then, with the aid of those at the sharp end – our correspondents, surveyors, claims executives and underwriters and last but not least important, our crews – we have sought to determine what CONTROLS – be it engineered, procedural or managerial – have mitigated such claims, or would have done so if they had been in place. Those threats and controls can then be targeted for assessment, either with the help of the Club's own risk assessors, or by Members themselves in conjunction with their crews.

Although sixty per cent of UK Club claims are caused by 'human error', human error is often only 'the straw that breaks the camel's back' – the last event in a chain of causal events.

These causal events can normally be traced back to failures in one or more areas of ship operation, we sometimes refer to them as 'accidents waiting to happen'

How can we reduce the frequency of these 'accidents waiting to happen'. What 'controls' should we be looking at to ensure the 'threat' is contained and an 'incident' does not occur?

UK P&I CLUB
IS MANAGED
BY **THOMAS
MILLER**

For further information please contact:
Loss Prevention Department, Thomas Miller P&I Ltd
Tel: +44 20 7204 2329 Fax +44 20 7283 6517
Email: lossprevention.ukclub@thomasmiller.com