



RISK AWARENESS

THIRD PARTY PROPERTY CLAIMS

**DAMAGE TO BERTHS, NAV AIDS,
SUBSEA CABLES, ETC**

An aid to risk identification and loss reduction



UK P&I CLUB
IS MANAGED
BY **THOMAS
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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

How effective do you think the Controls are on your ship – are there any accidents just waiting to happen?

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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.

Third party property

THREAT: EQUIPMENT FAILURE

CONTROLS:

Main engine maintenance, inspection, operation

- What procedures are in place to ensure:
 - ER adequately manned during manoeuvring – unforeseen failures, main engine, boilers, steering gear, etc?
 - ME will work astern?
 - Enough compressed air for engine starts to complete berthing/unberthing operation?
 - Enough electrical power to cope with extra machinery winches, windlasses, bow thrusters, etc?
- Fuel changeover procedures clearly defined and understood?
- Failure to start procedures clearly defined and understood?

Steering gear maintenance, inspection, operation

- What procedures are in place to ensure vessel can deal with a steering motor failure, i.e. two motors in use, emergency steering system working, etc?
- Crew trained in emergency procedures?

Mooring equipment maintenance, inspection, operation

- What procedures are in place to ensure:
 - Equipment in good condition and working – windlass, mooring winches, capstan?
 - Ropes, stoppers etc in good condition, certificated, renewed regularly?
 - Lighting in good condition?
 - Decks coated with non-slip paint in working areas?
 - Fairleads well greased and free?

Cargo equipment inspection, maintenance, operation (FFO)

- PMS system covers:
 - Cranes/derricks
 - Crane wires/blocks
 - Winches
- Lifting gear register and test certificates for all equipment

Alarm systems

- Alarms regularly tested
- No alarms by-passed or jumped
- No alarm ignored and no alarm PCB by-passed because of frequency

Inspection and planned maintenance

- Machinery and equipment in all areas is logged into an inspection and planned maintenance system (PMS) on board, either a written or computerised system is used and must be adequate for the task (ISM Code requirement)
- Machinery manuals up-to-date and in a language understood by all the engineers
- Regular inspections of all equipment used and all machinery are carried out and regular maintenance performed. Equipment in poor condition is removed from service and replaced as soon as possible for safety
- All personnel are instructed to inspect all equipment prior to use and to replace any worn or dangerous seeming tools, PPE, other equipment prior to commencing operations

Trade competency of personnel to perform required duties

- Do all personnel have required certification for the jobs they do, are these certificates valid?
- 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)

- On job training to be carried out by supervisors and not workmates
- Continuation training by senior officers for junior ranks and on job supervision during training
- 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)

- Ongoing training and proper familiarisation of all officers and ratings on vessel type. To cover emergency situations regarding loss of steering/propulsion, etc

Toolbox talks and work planning meetings

- Are these pre-work meetings held on board?

- 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 (i.e. weather hazards, additional ropes required, winch problems, minor and major accidents should occur)

SCORE

Threat: Equipment failure

Main engine maintenance	
Steering gear maintenance	
Mooring equipment maintenance	
Cargo equipment maintenance (FFO)	
Alarm systems	
Inspection and planned maintenance	
Trade competency of personnel	
Continuous on board training	
Toolbox talks and work planning meetings	

COMMENTS

THREAT: METEOROLOGICAL CONDITIONS

CONTROLS:

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

- On job training to be carried out by supervisors and not workmates
- Continuation training by senior officers for junior ranks and on job supervision during training
- 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)
- Ongoing training and proper familiarisation of all officers and ratings on vessel type

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 - 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 (i.e. weather hazards, additional ropes required, winch problems, minor and major accidents should occur)

Port working parameters – compliance

- What are the parameters in this port for weather, tide, visibility, water depth, day/night, etc?

Ship working parameters

- What procedures are in place to ensure:
 - Whether ship should berth or not?
 - How many tugs should be used?
 - When ship/shore equipment should be disconnected – loading arms, conveyors etc?
 - When ME should be put on standby?
 - When crew should be put on standby?
 - How often should moorings be tended?

Alongside contingency planning

- Has weather been taken into consideration when planning mooring arrangements?
- Has main engine standby been considered?
- Are tugs available in case of emergency, are contact details known?
- Are anchors available?
- Are tow off wires ropes readily available (rigged as appropriate)?
- Are 24 hour contact details available – agent, harbour authorities, harbour master, tugs, pilot?

Passage planning

- Has weather been taken into consideration?
- Has weather been taken into consideration when assessing number of tugs to be used?

Receipt of regular weather forecasts

- Facsimile Wx reports explained in simple terms to junior or OOW?
- Navtext weather reports received regularly?
- Weather updates plotted as required?
- TRS reports plotted and understood (navigable and dangerous semicircles/quadrants in storms and how to react)?

SCORE

Threat: Meteorological conditions

Continuous on board training	
Toolbox talks and work planning meetings	
Port working parameters – compliance	
Ship working parameters	
Alongside contingency planning	
Passage planning	
Receipt of regular weather forecasts	

COMMENTS

THREAT: NAVIGATION AT SEA

CONTROLS:

Minimum watch keeping/manning levels on bridge at all times

- Minimum watch keeping manning levels on bridge at all times
- Additional persons present at night or in poor weather

Trade competency of personnel to perform required duties

- Do all personnel have required certification for the jobs they do, are these certificates valid?
- 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)

- On job training to be carried out by supervisors and not workmates
- Continuation training by senior officers for junior ranks and on job supervision during training
- 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)
- Ongoing training and proper familiarisation of all officers and ratings on vessel type

Proper lookout maintained at all times by all available means

- Almost 25% of collisions involve improper, poor or no lookout
- ColRegs Rule 5 – every vessel must at all times keep a proper lookout by sight, hearing and all available means
- Are there enough personnel on watch at all times?
- What watch keeping systems are in place on board?

Bridge team and resources management understood/followed

- Bridge team management (BTM) procedures understood, training undertaken?
- Bridge resource management (BRM) procedures understood and training undertaken?

- Techniques practised in clear weather and in open sea?
- Applied in all circumstances on board?

Passage planning per SOLAS V/34 and IMO Res A893 (21) conducted

- Good passage planning and awareness berth to berth
- Procedures to ensure proper speed control under pilotage
- Passage planning should indicate hazard
- Evidence of pilot/master interchange
- Due consideration for bank effect

Radar, ECDIS and AIS systems

- Dual redundant radar systems (ARPA)
- Automatic identification system (AIS) is it being used properly
- Radar system faults are self-diagnostic
- Aids to navigation – non reliance
- Understanding of limitations
- Use of 'scanty' information – clearly understood
- Use of scanty radar or other electronic information understood
- Limitations and use of ECDIS systems are understood

Minimum separation distance from fixed objects

- Minimum separation distance between ship and other objects set according to area and conditions
- Radar plotting understood?
- Plotting practised in clear Wx?
- CPA (closest point of approach) laid down?
- Basic plotting facilities available – paper version?

Use of engine to avoid collision

- What are the practices on board for use of engines at sea?
- OOW should not hesitate to use main engines
- ColRegs Rule 8 – any means necessary

Standing and night orders issued

- Follow standing and night orders
- Call the master when required
- OOW familiar with ship's limitations
- Stopping distances
- Turning circles
- Manoeuvring characteristics

SCORE

Threat: Navigation at sea

Minimum bridge watchkeeping/manning levels	
Trade competency of personnel	
Continuous on board training	
Proper lookout maintained at all times	
Bridge team and resources management understood/followed	
Passage planning per SOLAS V/34	
Radar, ECDIS and AIS systems	
Minimum separation from fixed objects	
Use of engine to avoid collision	
Standing and night orders issued	

COMMENTS

THREAT: NAVIGATION UNDER PILOTAGE

CONTROLS:

Bridge team and resources management understood/followed

- Bridge team management (BTM) procedures understood, training undertaken?
- Bridge resource management (BRM) procedures understood and training undertaken?
- Techniques practised in clear weather and in open sea?
- Applied in all circumstances on board?

Trade competency of personnel to perform required duties

- Do all personnel have required certification for the jobs they do, are these certificates valid?
- 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)

- On job training to be carried out by supervisors and not workmates
- Continuation training by senior officers for junior ranks and on job supervision during training
- 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)
- Ongoing training and proper familiarisation of all officers and ratings on vessel type

Passage planning per SOLAS V/34 and IMO Res A893 (21) conducted

- Good passage planning and awareness berth to berth
- Procedures to ensure proper speed control under pilotage
- Passage planning should indicate hazard
- Evidence of pilot/master interchange
- Due consideration for bank effect

OOW aware of SOLAS Chapter V requirements

- Reg 20 – Casualty investigation (VDR)
- Reg 27 – Charts and publications updated for voyage
- Reg 28 – Recording of important navigational information

OOW aware of STCW requirements

- ITCW pp 150 to 159 Watch keeping
- ColRegs
 - Rule 2 – Nothing in these Rules shall exonerate...

Recording positions, written records in movement book

- Record keeping – do NOT rely on electronics
- Importance of 'EVIDENCE' in a Court of Law
- SOLAS V Reg 20 VDR is to assist in casualty investigation after the incident
- VDR does not record sufficient data to satisfy the Court or SOLAS V Reg 28
- VDR only records 12 to 24 hours of material and then is over-written

Proper lookout maintained at all times by all available means

- Almost 25% of collisions involve improper, poor or no lookout
- ColRegs Rule 5 – Every vessel must at all times keep a proper lookout by sight, hearing and all available means
- Are there enough personnel on watch at all times?
- What watch keeping systems are in place on board?

Minimum watch keeping/manning levels on bridge at all times

- Minimum watch keeping manning levels on bridge at all times
- Additional persons present at night or in poor weather

Radar, ECDIS and AIS systems

- Dual redundant radar systems (ARPA)
- Automatic identification system (AIS) is it being used properly
- Radar system faults are self-diagnostic
- Aids to navigation – non reliance
- Understanding of limitations
- Use of 'scanty' information – clearly understood
- Use of scanty radar or other electronic information understood
- Limitations and use of ECDIS systems are understood

Use of engine to avoid collision

- What are the practices on board for use of engines under pilotage?

Competency of pilot

- Procedures in place to ensure qualified, experienced pilots employed?
- Procedures in place to deal with pilot under performance?
- Procedures in place to deal with pilot not fit for duty?

SCORE

Threat: Navigation under pilotage

Bridge team and resources management understood/followed	
Trade competency of personnel	
Continuous on board training	
Passage planning per SOLAS V/34	
OOW aware of SOLAS requirements	
OOW aware of STCW requirements	
Recording positions	
Proper lookout maintained at all times	
Minimum bridge watchkeeping/manning levels	
ECDIS and AIS systems	
Use of engine to avoid collision	
Competency of pilot	

COMMENTS

THREAT: TUG ASSISTANCE

CONTROLS:

Adequate number/power of tugs

- What procedures are in place for ordering tugs?
- Is it clear who is responsible for ordering tugs?

Positioning

- What procedures if any are in place for discussing with pilot how tugs should be used made fast or pushing and where?

Adequate condition of tugs and tow lines

- Is there a procedure for reporting on the condition of the tugs lines, fenders, etc?
- Ships lines used or tugs lines, condition of lines?
- Visual condition of tugs (photos)

Use of bow and stern thrusters

- Adequate power supply for all thrusters to be used

Language barriers addressed

- Are language barriers between pilot and tug addressed so that master understands instructions to tugs by pilot?

SCORE

Threat: Tug assistance

Adequate number/power of tugs	
Positioning	
Adequate condition of tugs and tow lines	
Use of bow and stern thrusters	
Language barriers addressed	

COMMENTS

THREAT: CREW LOSS OF CONTROL

CONTROLS:

Trade competency of personnel to perform required duties

- Do all personnel have required certification for the jobs they do, are these certificates valid?
- 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)

- On job training to be carried out by supervisors and not workmates
- Continuation training by senior officers for junior ranks and on job supervision during training
- 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)
- Ongoing training and proper familiarisation of all officers and ratings on vessel type

To cover:

- Mooring/unmooring
- Ship to ship work
- Work at height and overside
- Heavy weather working
- Emergency situations in all areas of the vessel
- Working with chemicals and paints (hazardous substances)
- Enclosed space entry and emergencies in such spaces
- Rigging and lifting heavy loads

Sufficient personnel for required operation

- Are there adequate numbers of personnel available to cover all the required workload in safety?
- Are deck crew only used in mooring operations?

Effective supervision by officer/supervisor during operation

- Are proper supervision levels defined and is the supervisor required to take part in operations?
- Is the role defined correctly as oversight of the operation for safety?

Adequate experience of crew

- Crew experience factors
- Actual sea service
- Service in rank
- Service in ship type
- Experience of cargo type
- Engineers experience of engine type
- Gas engineers experience of plant type
- Reefer engineers experience of plant type

Toolbox talks and work planning meetings

- Are these pre-work meetings held on board?
- 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 (i.e. weather hazards, additional ropes required, winch problems, minor and major accidents should occur)

SCORE

Threat: Crew loss of control

Trade competency of personnel	
Continuous on board training	
Sufficient personnel for required operation	
Effective supervision during operation	
Adequate experience of crew	
Toolbox talks and work planning meetings	

COMMENTS

THREAT: COMMUNICATION

CONTROLS:

ER/Bridge

Mooring stations/Bridge

Ship-shore/Tugs

Pilot/Bridge team

Language barriers addressed

SCORE

Threat: Communication

ER/Bridge	
Mooring stations/Bridge	
Ship-shore/Tugs	
Pilot/Bridge team	
Language barriers addressed	

COMMENTS

THREAT: MOORINGS

CONTROLS:

Adequacy of mooring arrangement

- Is the mooring arrangement sufficient to cope with the prevailing conditions?

Regular monitoring

- Is there a regular inspection of moorings?
- Is power available 24 hrs a day to adjust moorings?

Emergency mooring procedures

- Spare lines
- Equipment on immediate standby

SCORE

Threat: Moorings

Adequacy of mooring arrangement	
Regular monitoring	
Emergency mooring procedures	

COMMENTS

THREAT: THIRD PARTY PROPERTY FIT FOR PURPOSE

CONTROLS:

Condition inspection on arrival

- Is there any obvious damage to the berth on arrival?
- Photos if possible
- Log records
- Is matter discussed with agents prior to arrival?

Letter of protest

- For all damages noted a LOP should be issued and where possible notarised, signed for receipt, etc

SCORE

Threat: Third party property fit for purpose

Condition inspection on arrival	
Letter of protest	

COMMENTS

THREAT: ANCHOR FAILURE

CONTROLS:

Greasing schedules

- Anchor windlasses are 'critical equipment'
- Greasing should be conducted by a responsible petty officer

Inspection and planned maintenance

- Planned maintenance procedures set up and followed
- Records maintained of tests and overhauls

Crew familiarity with anchor equipment

- Training of all crew in use of equipment and systems
- PPE available in area

Anchor release points

- Bitter end pins free and greased (no split pins in securing them)
- Large hammer standing by

Receipt of regular weather forecasts

- Facsimile Wx reports explained in simple terms to junior or OOW?
- Navtext weather reports received regularly?
- Weather updates plotted as required?
- TRS reports plotted and understood (navigable and dangerous semicircles/quadrants in storms and how to react)?

Follow standing and night orders

- OOW familiar with ship's limitations?
- Stopping distances?
- Turning circles?
- Manoeuvring characteristics?

SCORE

Threat: Anchor failure

Greasing schedules	
Inspection and planned maintenance	
Crew familiarity with anchor equipment	
Anchor release points	
Receipt of regular weather forecasts	
Follow standing and night orders	

COMMENTS

Consequences

CONTROLS:

Damage mitigation procedures

- What procedures are in place to help reduce the effects of a personal injury incident and how effective are they?
- Have all possible measures been taken and recorded to limit physical damage to crew/passengers in every possible way, as appropriate to the trade and type of the vessel?
- All mitigation measures are logged?

Alarm/Stop procedures

- Are procedures in place to warn ship/shore of incident and to stop the operation?
- Communications procedure in place for all incidents?
- General and fire alarms are functioning correctly?
- Automatic fire detection is good?
- Fixed gas detectors, where fitted, check regular calibration, etc.
- Verbal alarm raising system is defined and can be shown to be adequate?
- 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
 - Cranes/derricks
 - Electrical power cut outs

Emergency drills/training

- Are drills/training procedures in place to cope with high risk incidents?
- Fire drills
- Security drills
- Emergency steering drills

Emergency equipment adequacy/availability

- Is the ship's equipment available/adequate to deal with high risk incidents:
 - Fixed fire equipment
 - Portable fire equipment
 - SCBA
 - Fire plans, external and internal
 - Damage control plans
- Are crew familiar with the equipment?

Emergency reporting/communication procedures

- Are there reporting procedures in place and understood if an incident occurs?
- Reporting to owner, charterer, P&I correspondent
- Categorisation of incident?
- Timing of incident?
- Communication requirements
- Who was informed on board/on shore?
 - When?
 - How?
 - Why?
 - What did they do?
- Records of communications. (ship management, third parties, national authorities, P&I, etc)
- 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

- 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 ship's 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.)

- Weather conditions:
 - Description of incident environment (hot, cold, stuffy, dark, confined, moving machinery, etc)
 - Description of weather
 - Description of sea state
- Use of NI publication *The Mariner's Role in Collecting Evidence*
- Photos of incident and location time/date stamped, camera set up recorded, full description given in title and/or in comments field under properties
- Photos to be secured from tampering by using security settings under properties
- Layout diagram
- Ship's logs
- Procedures in use at time of incident
- Risk assessment records
- Exhibits (failed ladder, rope, etc)
- Service records
- Certifications
- Communications logs
- Permit to work records as applicable
- Toolbox talk records
- List of equipment (tools) involved in incident: condition of equipment, missing equipment
- Equipment certification, inspection logs, maintenance records

Capability of crew to deal with incident

- How capable is the crew to deal with the incident?
- Competence of individuals involved in incident (recruitment, certification, training records, fitness to work (medical records))
- Fatigue factors: hours of work/rest, time on shift
- Contracted time on board vessel
- Actual time on board vessel current period
- Competence of individuals involved in response
- Experience of crew involved in the incident
- Language barriers of crew/shore personnel involved if any

Use of third party assistance

- Procedures for contacting third parties for assistance in the event of an incident
- By phone, radio, satellite link etc
- General advice:
 - Club correspondent

Learning from incidents

- Are lessons learned from previous incidents?
- Non conformity raised for incident?
- Incident/Accident report correctly filled in?
- Incident is raised at safety meetings and full crew meetings:
 - Discussion of what went wrong and how this can be avoided in future
- Incident is discussed and appraised at Company level:
 - Actions to avoid future incidents are discussed and taken, improving barriers
- Incident promulgated to full fleet to avoid duplication if possible
- Incident promulgated industry wide if appropriate to enhance safety culture
- Full risk assessment undertaken to improve barriers/controls in on board checklists
- 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, 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 60% 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?

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