Element 1 and 1A
Leadership and the Safety Management System

Main objective
Provide direction and clearly define responsibilities and accountabilities at all levels within the company.

Developing and maintaining an effective SMS requires commitment at the highest levels of the organisation and clear definitions of the roles and responsibilities for everyone involved in its administration.

Roles and responsibilities
The company ensures that management roles and individual responsibilities are clearly established, assigned, understood and documented.

Communication
The company establishes and maintains effective communication procedures between shore-based management and the fleet. This includes communication of the SMS to all areas of the company.

HSSE excellence
The company ensures that the importance of HSSE is understood at all levels of the organisation and is actively promoted through leadership and the disciplined use of a documented SMS.

The Safety Management System
The company establishes and maintains a documented SMS that can accomplish the stated fleet management policies and objectives. All managers are held accountable for achieving the targets and objectives set for them.

Management activities that require procedures and instructions are systematically identified. Where instructions and procedures are required, they are suited to the purpose and easy to understand and follow. Where appropriate, these instructions are developed in consultation with those who will be affected by them or who have to apply them.

Continual improvement
The company establishes KPIs to measure the effectiveness of the SMS in meeting the organisational goals and regulatory responsibilities.

The company use the KPIs to identify areas that need attention to ensure continual improvement in the performance of their SMS. All follow-up plans include the clear assignment of responsibility for any improvement action.

The company's senior management review the effectiveness of the SMS at periodic management reviews to verify the adequacy of the system or to improve its effectiveness. The review system includes provision for recording and maintaining the results of each management review.

1 Management, Leadership and Accountability

Aim Through visible and effective leadership, management promotes HSSE excellence at all levels in the company.

		KEY PERFORMANCE INDICATORS	BEST-PRACTICE GUIDANCE
1.1	1.1.1	Management commitment is clearly defined in documentation that includes mission statements, policies and procedures.	Mission statements contain the high-level and long-term goals and aspirations. The company defines what HSSE excellence means and aims to achieve this through continual improvement. Long-term goals and aspirations may include: • Zero spills or releases to the environment. • Zero incidents. • Reduction in permitted emissions.
	1.1.2	Senior management demonstrates a clear commitment to implementing the SMS.	Senior managers demonstrate commitment by conducting management reviews. Management reviews may include: • Review of mission statements and high level policies. • Review of targets and KPIs. • Review of incident and non-conformance data. • Assessment of the documented audit plan for vessels and office locations. Records demonstrating the extent of management involvement in these activities are maintained.
	1.1.3	HSSE excellence is fully understood and supported by vessel and shore-based management teams.	Best practices are promoted throughout the company. Management records lessons learnt and communicates this information to the company. When required, management follows up recommendations to ensure that all necessary changes have been made. Means of communication may include: • Webcasts. • Mission statement cards. • Vessel/office visits. • Safety bulletins. • Company newsletters. • Vessel feedback.

1.2	1.2.1	All company personnel can describe what HSSE excellence means in practice.	Everyone within the organisation understands the company's concept of safe operations and HSSE excellence as applicable to their role. Managers promote and measure personnel understanding through a variety of activities. Examples may include: • Safety induction and familiarisation programmes. • Vessel/office visits. • Computer-based training/onboard training. • Informal meetings/personnel interviews. • Office/vessel conference calls. • Company seminars.
	1.2.2	Management strives to improve safety and environmental performance at all levels.	Management has a documented plan in place that contains specific actions to achieve long-term goals and aspirations. Management has a way of measuring and identifying trends in safety and environmental performance at all levels by maintaining statistical records of near misses, non-conformances and incidents. Examples of incidents may include: • Injuries to personnel. • Navigational incidents. • Mooring incidents. • Oil spills. • Machinery failure. • Incidents related to cargo and ballast transfer. Management evaluates and assesses performance against the action plan.

	1.2.3	Vessel and shore-based management teams promote HSSE excellence.	Strong, effective leadership is visibly demonstrated. Examples may include: • Leading by example. • Empowering personnel to intervene to prevent hazardous situations developing. • Safety inspections/rounds by Senior Officers. • Ship visits by senior shore-based managers which include informal meetings with available vessel personnel. • Recognition and rewarding of outstanding HSSE performance.
1.3	1.3.1	Shore management establishes targets related to HSSE performance and conducts measurements to assess and verify their implementation.	Typical assessment measures may include setting KPIs, for example: • Number and severity of personnel injuries. • Number of near miss and non-conformance reports. • Number and size of pollution incidents. • Number of internal and external audit findings. • Number and nature of inspection findings, e.g. SIRE, PSC, CDI. • Numbers of best practices identified.
	1.3.2	The steps required to HSSE excellence at each level of the action plan are clearly defined by management.	The action plan establishes a clear time frame with short-term targets and objectives defined for each step of the plan, in order to achieve the long-term goals. The plan is reviewed at regular intervals and modified as trends are identified.
1.4	1.4.1	HSSE targets and objectives are discussed, at least quarterly, at management meetings onboard and ashore.	The company sets performance targets within its plan and reviews them during management meetings. • Where progress does not meet expectations, management takes corrective action to realign performance with targets and objectives. • Where performance exceeds expectations, management may consider reassessing and revising targets and objectives.
	1.4.2	HSSE performance targets are continually monitored against KPIs.	Performance is monitored against objectives using a computer-based system. Significant deviations are promptly reported to senior management. Performance data is readily accessible to all company personnel.

	1.4.3	All vessel and shore-based personnel demonstrate their commitment to HSSE excellence.	Examples of commitment to excellence from personnel may include active participation in: • A company reward system that recognises HSSE performance. • A behaviour-based safety system. • The submission of ideas and suggestions to enhance HSSE standards. Managers and supervisors give clear directions and, by their behaviour, demonstrate commitment to HSSE excellence and follow up on submitted ideas and suggestions.
	1.4.4	A strategic plan ensures continual improvements in HSSE performance are achieved.	The plan follows a strategic planning cycle which identifies: • Strengths, weaknesses, opportunities and threats. • Aims and objectives. • How to achieve these aims and objectives. • Progress against the plan.

1A Developing and Maintaining a Safety Management System

Aim - Management accepts responsibility for developing and maintaining a dynamic SMS (documented in hard copy or electronic format) to implement policy and deliver HSSE excellence.

		KEY PERFORMANCE INDICATORS	BEST-PRACTICE GUIDANCE
1A.1	1A.1.1	Management ensures that company policy and the supporting procedures and instructions cover all the activities undertaken.	The policy reflects the company's position on: • Safety and environmental protection. • Security. • Health and welfare, including D&A. • Social responsibility. Policies are endorsed by the highest levels of management.
	1A.1.2	Policy and procedures are formally reviewed at regular intervals to ensure robustness and effectiveness.	Policy and procedures are reviewed at company defined intervals and amended as necessary. This review may include feedback from: • Master's review of the SMS. • Management reviews. • Onboard safety meetings. • Officer forums and other formal meetings.
	1A.1.3	Procedures and instructions are written in plain language and contain sufficient detail to ensure that tasks can be completed correctly and consistently.	Procedures and instructions are clear, simple to use and are in the working language of the vessel. Instructions are arranged in a clear and logical manner and in a way that makes it easy to identify each step.
	1A.1.4	Procedures and instructions are easily accessible to personnel and available at appropriate locations.	Sufficient electronic or hard copies of procedures and instructions are easily accessible to all personnel, including contractors, at appropriate locations which may include: • Company offices. • Manning agent's offices. • Onboard vessels.

	1A.1.5	A formal document control system is in place to ensure that the current SMS documentation is available.	There is a procedure for revision of the SMS. An appropriate level of management is involved in the approval process for revisions. The formal document control system may include: • An index of numbered revisions including date of revision. • Disposal of obsolete documents. • Management of uncontrolled documents.
1A.2	1A.2.1	Periodic meetings that review or amend current procedures, or propose new ones, take place at defined intervals and are formally recorded.	Formal records include the meeting agenda, minutes, details of procedures and instructions that have been amended as a result of meetings and any other supporting information. Items to consider may include: • Recommendations following incident investigation. • Recommendations from the Master's review of the SMS. • Results of risk assessments. • Suggestions for continual improvement. • New and upcoming legislation. • Recommendations from industry bodies.
	1A.2.2	Managers' roles, responsibilities and accountabilities for achieving objectives are defined within the SMS.	Ways of demonstrating that roles and responsibilities are defined may include: • Organisational charts, including reporting lines. • Job descriptions, including responsibilities and accountability. • KPI targets assigned to individual roles. The SMS includes provisions for reassigning responsibilities during periods of absence of key personnel.
	1A.2.3	Relevant reference documents are provided as a supplement to the SMS both onboard and ashore.	Reference documents may include regulatory publications and industry guidelines. The company has a procedure for maintaining the most up-to-date editions in all locations.

1A.3	1A.3.1	Open dialogue between vessel personnel and shore-based personnel to improve the SMS is encouraged.	Proactive feedback is encouraged from users including shore-based personnel, vessel personnel and third parties. This may include: • Circulating industry and fleet incidents. • Industry alert bulletins. • Customer and contractor feedback forms. • Seminars. • Open reporting programmes. • Group conferencing via phone or video conferencing.
	1A.3.2	Instructions and procedures covering shore and vessel operations are developed in consultation with those who will have to implement them.	Personnel are involved in developing instructions and procedures jointly in order to achieve effective guidelines. Methods may include: • Job descriptions include the development of procedures. • Involvement of vessel personnel with projects related to new legislation and equipment.
1A.4	1A.4.1	Benchmarking is used to identify further improvements to the SMS.	Safety, environmental and management practices are benchmarked against other organisations and industry information sources. Benchmarking is an integral part of the improvement process and the company aims to match evolving best practice.
	1A.4.2	The company is innovative in improving the content, format and delivery of the SMS.	Specialist resources are used to achieve: • Clarification and simplification of language. • Streamlined procedures. • Improved visual presentation, e.g. graphics. • Improved SMS structure and accessibility. • Effective use of IT.
	1A.4.3	Senior managers have an assurance programme in place to verify the effectiveness of the SMS.	Managers are responsible for ensuring the effectiveness of the SMS. This is a key responsibility and cannot be delegated to others. The assurance programme may include: • An independent auditing body. • Third party consultancy. • Inter departmental auditing.

Element 2
Recruitment and Management of Shore-based Personnel

Main objective
Ensure that the fleet is supported by sufficient, competent and motivated shore-based personnel who are committed to the effective development and implementation of the SMS.

Key shore-based personnel, including contracted personnel, are those who are directly involved in the management of the vessel and personnel. They may include the DPA, CSO, superintendents, technical managers, human resource managers and HSSE managers.

Shore-based personnel recruitment and training
Companies establish and maintain procedures for the selection, recruitment and training of shore-based personnel. These procedures:

- Verify that medical fitness requirements are established and met by personnel at the time of their appointment and on an ongoing basis thereafter.
- Define competency requirements in relation to technical education, training, skills and experience for key roles.
- Verify that personnel employed are competent to carry out their duties.
- Identify follow-up training requirements and retain records of attendance at courses, seminars and conferences.
- Include an appraisal system and set criteria for promotion.
- Ensure that records of all personnel qualifications, experience and training are consistently maintained.
- Promote personnel continuity, with an emphasis on retaining and developing people in key roles (a suggested calculation method for retention of personnel is in the glossary).
- Ensure sufficient personnel are employed to provide effective oversight of vessels in the fleet.
- Address succession planning.

2 Recruitment and Management of Shore-based Personnel

Aim - To ensure that suitably qualified, competent and motivated shore-based personnel are recruited, trained and retained to meet current and future needs of the company.

		KEY PERFORMANCE INDICATORS	BEST-PRACTICE GUIDANCE
2.1	2.1.1	A pre-recruitment process is in place that ensures candidates for key shore-based positions have the appropriate qualifications, experience and competence.	The minimum qualifications and experience required for key positions are identified within the management system. This may include fitness for duty requirements.
	2.1.2	The company has a documented recruitment process for key personnel.	This process may include: • Screening candidates against company requirements. • Verifying qualifications with the issuing authorities. • Background security checks where appropriate. • Verifying experience with former employers. • Identifying training needs. • Verifying candidates' medical fitness for duty. • Documented interviews to assess competence.
	2.1.3	A formal familiarisation process is in place for newly recruited key shore-based personnel.	The documented process may include familiarisation with: • Roles and responsibilities. • The SMS. • HSSE policies. • Business ethics and cultural awareness. Records of familiarisation are maintained.
	2.1.4	There is a documented handover procedure for shore-based personnel.	The scope and depth of the handover process is determined by the responsibilities of the personnel involved and whether the handover is temporary or permanent.
	2.1.5	Up-to-date records of qualifications, experience and training courses attended for all key shore-based staff are maintained.	

2.2	2.2.1	A formal personnel appraisal system ensures that key personnel undergo a performance assessment at least annually.	The appraisal system may include: • Annual target setting. • Performance review. • Training needs. • Career development requirements. Any issues highlighted in appraisal reviews are addressed.
	2.2.2	Retention rates for key personnel over a two-year period are calculated.	The company demonstrates how the retention rate is calculated (a recognised method is shown in the glossary). Retention rates are periodically reviewed and trends identified.
2.3	2.3.1	Key personnel retain core technical skills through training, refresher training and participation in industry forums, seminars and conferences.	Individual training plans and records are maintained. The value and effectiveness of these activities are reviewed.
	2.3.2	Sufficient shore-based personnel are provided to implement the SMS effectively.	The number of personnel is formally reviewed periodically and in the event of significant change. Such changes may include: • Increase in the size of a fleet. • Introduction of new vessel type. • New building programme. • Unplanned loss of personnel. • New legislation.
	2.3.3	Targets for retention rates are formally reviewed and documented.	Retention rates are compared and analysed against specified targets. Where applicable, actions to address concerns are implemented. The company seeks to promote personnel continuity, particularly key personnel, and to develop career opportunities for all personnel. Lessons learnt from exit interviews with personnel are used to enhance retention.
2.4	2.4.1	Continual professional development of personnel is encouraged and supported.	Support may include: • Higher education courses. • Cross-functional training. • Mentoring/coaching. • Membership of professional bodies.

	2.4.2	The company aims to fill relevant shore-based positions from within the fleet wherever possible.	Suitable candidates may be identified through a combination of: • Temporary shore-based assignments. • Feedback from superintendents. • Appraisal reviews.
	2.4.3	The company promotes appropriate interpersonal skills training.	Training may include: • Team building. • Presentational skills. • Cultural diversity. • Negotiating skills. • Effective communication.

Element 3 and 3A
Recruitment, Management and Wellbeing of Vessel Personnel

Main objectives
Ensure that all vessels in the fleet have qualified, competent and motivated personnel who fully understand their roles and responsibilities and who are capable of working effectively as a team.

Vessel personnel recruitment, training and wellbeing

Companies establish and maintain procedures for the recruitment, training and wellbeing of vessel personnel. These procedures:

- Verify that certificates of competency are authentic and valid.
- Where appropriate, take additional steps to determine the competency of vessel personnel and the accuracy of their pre-employment records.
- Verify that medical requirements are met by personnel at the time of their appointment and on an ongoing basis thereafter.
- Take steps to verify the accuracy of pre-employment records and initial and continued competence.
- Ensure that mandatory, company specific and individual training requirements are identified and that records of personnel attending courses, seminars and conferences are kept.
- Confirm that the working hours of all personnel are accurately recorded and that management monitors the records in order to ensure adequate rest periods.
- Promote and monitor the retention of vessel personnel within the company (a suggested calculation method for retention of personnel is in the glossary).
- Provide adequate resources to administer the conditions of employment for personnel, including personal needs, wellbeing and requirements.
- Determine and clearly state the working language to be used onboard vessels and ensure that all vessel personnel can communicate in this language.
- Promote cultural awareness and teamwork.

For the purposes of TMSA, where responsibilities have been delegated to manning agents or third party contractors their functions are assessed as though they were performed by the company.

3 Recruitment and Management of Vessel Personnel

Aim - To ensure that suitably qualified, competent and motivated vessel personnel are recruited, trained and retained to deliver safe and reliable operations onboard company vessels.

	KEY PERFORMANCE INDICATORS		BEST-PRACTICE GUIDANCE
3.1	3.1.1	Management has procedures for the selection, recruitment and promotion of all vessel personnel.	The company defines and documents who has responsibility for all aspects of manning. Procedures, with rank specific requirements, may include: • Qualification and training checks. • A review of experience and competence by suitably qualified personnel. • Background security checks where appropriate. • Legislative requirements. • Proficiency in a common working language. Cross-cultural values and attitudes are taken into consideration. Where manning agencies are used, the company is responsible for oversight of the recruitment process. The company authenticates certificates and maintains records of these checks.
	3.1.2	All vessel personnel have valid medical certificates in compliance with Flag State and/or relevant authority requirements.	The company maintains copies of medical certificates and has a procedure to ensure that they are issued by an approved medical practitioner. The frequency of medical examinations is defined and monitored.
	3.1.3	Procedures are in place to identify and manage mandatory training, including refresher training, for all vessel personnel.	The procedures may include a training matrix that clearly shows the mandatory training for all vessel personnel. Records of such training are maintained.
	3.1.4	Formal familiarisation procedures are in place for vessel personnel, including contractors.	The documented procedures may include familiarisation with: • Onboard HSSE requirements. • The company SMS. • Vessel specific operations and equipment. • Roles and responsibilities. Records of familiarisation are maintained.

	3.1.5	Documented handover procedures for key vessel personnel are in place.	The company defines key personnel onboard. The scope and depth of the handover process is determined by the responsibilities of the personnel involved.
3.2	3.2.1	Appraisal procedures are in place for all vessel personnel.	The procedures may include: • Frequency of appraisals. • Personnel responsible for conducting the appraisal. • Personnel responsible for reviewing and following up appraisals. • The content of the appraisal.
	3.2.2	Procedures are in place to provide company specific additional training for all ranks.	The procedures may include: • The type of training. • Frequency of refresher training. • Records of training. • A rank specific matrix. • Personnel career development requests.
	3.2.3	The company verifies that vessel personnel quality requirements are consistently met.	Irrespective of whether this function is performed internally, or by a manning agency, verification may include checking: • Certification and experience. • Training records. • Appraisal records. • Compliance with manning procedures and legislative requirements.
	3.2.4	Procedures to identify additional training requirements for individual personnel are in place.	The need for additional training may be identified by the following: • Monitoring new legislation. • Review of appraisal records including feedback from onboard drills and exercises. • Review of vessel performance trends. • Assessment of competence in rank or in preparation for promotion. • Review of audit and inspection trends. • Correlation of non-conformances, incidents and near misses. Additional training requirements are documented and addressed.

	3.2.5	There is an enhanced recruitment procedure for Senior Officers.	This procedure is documented and may include: • An introduction to company philosophy and structure. • An outline of expectations and defined responsibilities. • A defined and appropriate level of final approval. • Final interviews conducted by head office. • A probationary period.
	3.2.6	The company monitors and records training results and effectiveness.	The effectiveness of training may be measured by: • Feedback from trainees. • Company representation at training courses. • Review of appraisal records. • Review of vessel performance trends. • Review of audit and inspection trends. • Correlation of non-conformances, incidents and near misses. The effectiveness of training is periodically evaluated and improvement actions are taken by management as appropriate.
	3.2.7	There is a documented promotion procedure.	Procedures cover a range of factors including, where appropriate: • Identification of potential candidates. • Qualifications. • Previous experience and performance. • Training requirements, both mandatory and company-based, which may include simulator training and computer-based training. • Competency assessment. The company aims to develop long-term career prospects for personnel and fill senior officer positions from within the company.
3.3	3.3.1	There are enhanced appraisal procedures for Senior Officers.	Appraisals are conducted by defined and appropriate personnel. The appraisals are documented and may include: • Leadership. • Personnel management. • Safety performance and open reporting. • Communications. • Shipboard operational performance and technical skills. • Training and development requirements. Shore management assesses appropriate Senior Officers during vessel or office visits.

	3.3.2	The company provides career development for Junior Officers and aims to promote Senior Officers from within the company, where possible.	Career development guidance is documented and clearly sets out the requirements necessary for promotion.
	3.3.3	Training for vessel personnel exceeds the minimum requirements of the International Convention on STCW or of the relevant authority for vessel trade.	The company identifies additional training that will enhance the management of safety, security and environmental performance.
	3.3.4	Personnel selection and recruitment is reviewed annually to ensure it complies with company policies and procedures.	Personnel departments, manning agents and third party personnel providers as applicable, are audited at their premises at least annually, in line with ISM internal audit requirements. An audit checklist is prepared that covers items such as certification and competency checks, operator training requirements, appraisal results and recruitment processes. Records of audits are maintained and include details of findings and/or corrective actions assigned to each party.
3.4	3.4.1	Procedures to assess crew members for job competency are in place.	Documented procedures may include: • On the job observation. • Record books. • Written/oral assessments. • Computer-based assessments. • Scenario-based simulator assessments. • Company specific assessments. • Psychometric assessments. Any identified competency gaps are addressed.
	3.4.2	A documented planning procedure is in place to ensures future manning needs can be met.	Personnel succession and recruitment planning includes profiling of competence, experience and retirements. Assessments are made for potential future shore-based assignments.

	3.4.3	Cross-cultural interpersonal skills are promoted.	Interpersonal skills of the shipboard teams are enhanced and developed by appropriate training, which may include: • Developing cultural awareness. • Cultural values and traits. • Communication styles. • Cross-cultural management skills. Practical tools may be used to enhance cross-cultural understanding and encourage positive working relationships, e.g. self-awareness training.

3A Wellbeing of Vessel Personnel

Aim - To ensure the safety, health, welfare and retention of vessel personnel is effectively managed.

STAGE		KEY PERFORMANCE INDICATORS	BEST-PRACTICE GUIDANCE
3A.1	3A.1.1	Procedures ensure that each vessel is appropriately manned in order to maintain safe operation onboard.	Manning levels are adequate, in terms of number and qualifications, to ensure the safety and security of the vessel and its personnel under all operating conditions. Documentary evidence of manning level assessments is kept. This may include: • Flag State and/or national requirements. • Vessel type. • Vessel trading pattern. • Additional security requirements. • Additional operational requirements, such as STS, or operations in ice.
	3A.1.2	Shore management provides adequate resources to ensure the wellbeing of vessel personnel.	Management ensures that adequate resources are available to care for the wellbeing of the vessel's personnel, whether they are employed directly or through a manning agency. Wellbeing covers diverse aspects of the quality of life for vessel personnel including factors such as quality of food, accommodation, rest and recreation facilities, hygiene, air conditioning, access to ship and shore medical facilities and eligibility for compassionate leave.
	3A.1.3	Procedures ensure that working and rest hours of all personnel are in line with the STCW, applicable Flag State requirements or any relevant authority guidelines for the vessel trade and are being accurately recorded and monitored.	Ensures that officers and vessel personnel are complying with the STCW and relevant authority for vessel trade hours of work and rest requirements. Identifies non-compliance with these requirements and applies corrective action accordingly. Considers and provides, where required, additional manning, particularly where voyages are short or workloads are high. Procedures address potential fatigue issues such as adequate rest for joining personnel and sufficient time for effective handovers upon personnel change.
	3A.1.4	A formal D&A policy is implemented and a system is in place to monitor it on a regular basis.	The policy complies with OCIMF guidelines. The frequency and type of testing is defined.

3A.2	3A.2.1	A defined complaints procedure is in place.	The procedure complies with applicable flag and national requirements and may include a process ensuring that: • Personnel are familiar with the content. • Personnel have a copy of the procedure. • Complaints are recorded and dealt with in a timely and effective manner.
	3A.2.2	A documented disciplinary procedure is in place.	The disciplinary procedure is in compliance with Flag and contractual requirements and gives clear guidance to the Master. All vessel and relevant shore-based personnel are familiar with the procedure.
	3A.2.3	Documented procedures are in place to ensure high standards of hygiene are maintained.	Procedures may include: • Responsibility for the hygiene of public areas, cabins, food preparation and storage areas, laundry facilities and the hospital. • Requirements for documented inspections. • Addressing of identified deficiencies.
	3A.2.4	Retention rates for Senior Officers over a two-year period are calculated.	The company monitors and records retention rates for differing Senior Officer ranks and is able to demonstrate how the retention rate is calculated (a recognised method is shown in the glossary). Retention rates are periodically reviewed, trends are identified and appropriate action taken where required.
3A.3	3A.3 .1	Seminars are held for senior officers that promote, emphasise and enhance the company's SMS.	Regular shore-based seminars are held for Senior Officers. Attendance is monitored to ensure that Senior Officers attend shore-based seminars at appropriate intervals. The content of the seminars may include: • Company culture, ethics and values. • Environmental management. • New legislation. • Safety, human element and security issues.

	3A.3.2	An enhanced documented disciplinary procedure is in place.	The company philosophy related to disciplinary procedure is based upon Just Culture. The procedures cover employees and contractors and may include: • Defined levels of violation. • Levels of authority. • Investigation. • Actions to be taken. • Appeals.
	3A.3.3	Health awareness campaigns are implemented.	Health awareness campaigns may include: • Weight loss. • Stop smoking. • Healthy living. • Malaria prevention. • Sexually transmitted disease education. • Precautions related to working in extreme temperatures and humidity.
	3A.3.4	Retention rates for all officers over a two-year period are calculated.	The company monitors and records retention rates for all ranks and is able to demonstrate how the retention rate is calculated. Retention rates are periodically reviewed, trends are identified and appropriate action taken where required.
3A.4	3A. 4.1	Seminars are held for all officers to promote, emphasise and enhance the company's SMS.	In addition to the content mentioned in the best-practice guidance of 3A 3.1 the following may be included: • Specific shipboard procedures, e.g. the role of the Safety Officer, enclosed space entry, safe mooring and engine room waste management. • Career development.
	3A.4.2	A documented procedure to conduct vessel health-risk assessments is in place.	Risk assessments may include: • Exposure to cargo vapours. • Noise and vibration levels. • Hazardous materials. • Extremes of temperature and humidity. • Ergonomics. • Lighting. • Stressful conditions. These experience factors are considered when commissioning new builds.

	3A.4.3	The company provides career development opportunities by arranging shore-based assignments for vessel personnel.	Shore assignments may be used for: • Career development. • Assessing suitability for promotion. • Using seafarers ashore as subject matter experts for specific projects e.g. ballast water management, ECDIS, planned maintenance systems.

Element 4 and 4A
Vessel Reliability and Maintenance including Critical Equipment

Main objective
Establish maintenance and repair procedures, so that all vessels in the fleet operate safely, efficiently and reliably, and develop additional control measures for identified critical equipment.

Reliability and Maintenance
Maintenance may include periodic inspection, measurement, performance monitoring or physical overhaul, including timely changing of perishable or consumable parts. Maintenance may be planned in advance or unplanned e.g. due to an abnormal condition or breakdown.

Equipment reliability depends on factors such as design, construction, initial commissioning, operating practices and maintenance. For installed equipment, a planned and executed maintenance strategy is essential if vessels are to operate reliably and avoid unnecessary downtime or costly incidents.

Critical equipment and systems
To mitigate the risk of a vessel incident causing harm to personnel, the environment or assets, procedures are established to identify critical equipment and systems which, in the event of sudden failure, may result in a hazardous situation.

Maintenance procedures
Companies develop procedures and systems to manage onboard maintenance. These procedures:

- Ensure that the structural integrity of all vessels in the fleet is maintained through an appropriate monitoring programme.
- Ensure that all relevant vessel certification remains valid.
- Define the maintenance philosophy required to ensure the safe operation of onboard equipment.
- Provide timely support and ensure the availability of fit for purpose spare parts and materials and other resources necessary to carry out maintenance, giving particular consideration to the origin of spare parts.
- Ensure that maintenance records and reports are consistently available, both onboard and in the shore-based management office.
- Establish procedures for monitoring Class documentation, which provides an overview of the status of specific onboard equipment.
- Establish a requirement for superintendents to conduct routine vessel inspections and confirm that planned maintenance has taken place.
- Has a system in place to monitor overdue maintenance.
- Provide a defect-reporting and close-out system that can be monitored both onboard and ashore. The system specifies a formal process for notifying shore management when critical equipment is taken out of service and includes methods for recording management's approval of any mitigating steps introduced while the equipment is out of service.

4 Vessel Reliability and Maintenance

Aim - The company effectively manages onboard maintenance to ensure reliability of the vessel.

		KEY PERFORMANCE INDICATORS	BEST-PRACTICE GUIDANCE
4.1	4.1.1	Each vessel in the fleet is covered by a planned maintenance system and spare parts inventory which reflects the company's maintenance strategy.	The company identifies all equipment and machinery required to be included in the planned maintenance system, for example: • Navigation equipment. • Engine machinery. • Deck machinery. • Cargo handling machinery/equipment. • Hull structure. • Electronic equipment. The spare parts inventory may be standalone or integrated into the planned maintenance system. The planned maintenance system, which may be computer-based, covers all identified onboard equipment and machinery and includes a schedule of planned maintenance tasks and a record of completed planned and unplanned maintenance. Guidance and training is provided to vessel personnel on the planned maintenance system.
	4.1.2	A defect reporting system is in place for each vessel within the fleet.	The defect reporting system covers all onboard equipment and includes Conditions of Class. The defect reporting system may be linked to the planned maintenance system and may be computer-based. Companies strive to correct any Conditions of Class without delay. The defect reporting system includes: • Guidance as to the nature of defects that are recorded and reported. • Recording of any equipment failures or breakdowns including those identified by third parties, e.g. SIRE, PSC, CDI and barge inspection schemes. • Reporting defects to the shore management as appropriate. • Tracking of defects from failure to repair.

	4.1.3	Company management regularly reviews the status of fleet maintenance.	The review process includes: • Status of defects. • The number and nature of any outstanding maintenance tasks. • The reason for tasks being outstanding. • The identification of any assistance required, such as spare parts or shore technicians. Where tasks are outstanding, which cannot be completed as planned, procedures are in place for rescheduling maintenance. The rescheduling is by exception and dependent upon: • Risk assessment including consideration of manufacturers recommendations. • Approval at an appropriate level. • Completion within a specified time frame.
	4.1.4	The company monitors outstanding planned maintenance tasks.	The number of outstanding planned maintenance tasks is recorded for individual vessels and the fleet as whole. This number is also expressed as a percentage of the total number of monthly planned maintenance tasks. Data may be recorded monthly with a running year-to-date figure. This data is reviewed to identify if shore assistance or other corrective actions are required, either on a fleet wide basis or for individual vessels.
4.2	4.2.1	A procedure is in place to ensure the validity and accuracy of statutory and/or Classification certificates.	The procedure addresses: • Class status reports. • Planning for surveys. • Extensions. • Dispensations and exemptions. Verification is performed both ashore and onboard.

4.2.2	Cargo, void and ballast spaces are inspected to ensure their integrity is maintained.	The frequency of inspections is determined by the applicable regulations of Class, Flag State and national authorities. In addition, industry recommendations are taken into account. Guidance for inspection of compartments is provided, which may include industry/Class publications. Records are compartment specific and made to a standard format that may include photographs as evidence of the compartment's condition.
4.2.3	Superintendents verify maintenance and defect records during ship visits.	There is a procedure in place requiring appropriately qualified superintendents to visit and, whenever possible, sail on the vessel to confirm maintenance standards. The procedure may include: • Scope of visit. • Frequency of visits. • The report format including photographic records. • Records of visits. During the visit, superintendents: • Verify that reported maintenance has been carried out, through random cross-checks of records and machinery. • Observe engineering practices, engine room management standards and machinery space housekeeping. • Verify all defects have been recorded and reported as required.

	4.2.4	The company has a formal system to develop dry-dock specifications, which involves collaboration between the vessel and shore management.	The system may include procedures and guidance for shore and vessel personnel on: • Health and safety responsibilities. • Generic dry-docking tasks. • Manufacturer's recommendations. • Statutory and regulatory requirements. • Entering the dry dock and refloating. The list may be automatically generated by an onboard maintenance and defect reporting system. Items may be added to this list by ship or shore-based personnel. Records for dry-docks repairs are maintained.
4.3	4.3.1	A common computer-based maintenance system onboard each vessel records all maintenance tasks and incorporates the defect reporting system.	The maintenance and defect reporting system may include: • Manufacturer's recommended maintenance requirements. • Work instructions and associated risk assessments. • Equipment and machinery history. • Synchronisation capability between ship and shore database. • Guidance on remote diagnostics where applicable. Defect reports are analysed and planned maintenance tasks are amended as appropriate. This may include a review of minimum spare parts required.
	4.3.2	The company policy is to maintain an optimum spare parts inventory or system redundancy for all vessels.	Sufficient spare parts are maintained onboard and/or ashore. The spare parts inventory is developed based on, for example: • Criticality of equipment. • Consequence of failure. • Risk-based equipment categorisation. • Equipment, machinery and system redundancy. • Experience of the equipment and machinery. • Manufacturers' recommendations. • Vessel's trade. • Lead time for spares delivery.

	4.3.3	Performance indicators have been developed to monitor fleet reliability. The performance indicators are measured for individual vessels and fleet wide.	Examples of possible performance indicators include: • Breakdowns related to critical equipment. • Number of days lost due to unplanned maintenance resulting in a vessel being taken out of service. • Loss of manoeuvrability occurrences. • Blackout occurrences. • Outstanding maintenance tasks according to criticality. (The target for outstanding tasks for critical equipment is zero.) • Unplanned maintenance as a percentage of total maintenance. • Percentage of engines meeting optimal running conditions as per the company's defined baseline criteria. • Results of lub oil and hydraulic oil analyses. Performance indicators are reviewed by senior management. Where areas of weakness are identified, plans are put in place to address and mitigate the issues.
	4.3.4	The frequency and extent of structural inspections of the vessel's cargo ballast and void spaces is determined based upon risk criteria.	An assessment is carried out in order to determine the frequency and extent of structural inspections. It is based upon documented criteria, which may include: • Vessel's age and type. • Shipyard of construction. • Date of last dry-dock. • Cumulative operational experience. • Specific hazards according to type of cargo. • The current operating environment. • Industry experience and lessons learnt. Specific guidance is provided to vessel personnel where required. The minimum frequency of inspections should conform to regulatory requirements and current industry recommendations.

4.4	4.4.1	The maintenance and defect reporting system integrates the spare parts inventory management and procurement systems.	The system may: • Automatically update the inventory for usage and replenishment. • Identify the need for procurement. • Generate requisitions. • Track the procurement process.
	4.4.2	The maintenance and defect reporting system tracks all deferred repair items for inclusion in the dry-dock specification.	The maintenance and defect reporting system may be integrated with other systems to generate dry dock or repair specifications.
	4.4.3	The maintenance and defect reporting systems provide management with a real time status of fleet maintenance.	Status reports for vessels and the fleet may include: • Outstanding maintenance items including criticality. • Outstanding defects. • Outstanding requisitions. • Inventory status.
	4.4.4	The planned maintenance system includes the use of condition-based monitoring in order to ensure optimal equipment performance.	Records are available to demonstrate the use of various monitoring systems, for example: • Vibration monitoring. • Oil analysis. • Infrared monitoring and thermal mapping. • Performance monitoring. • Remote diagnostics. The results of condition-based monitoring are evaluated, based on manufacturer's recommendations and fleet technical experience. Guidance is provided to vessel personnel on the methodology, frequency and acceptable parameters for conditions observed.

	4.4.5	Comprehensive engineering audits are completed by a suitably qualified and experienced company representative. The audit includes observation of engineering practices while on passage.	The purpose of the audit is to: • Review and confirm that engineering practices are in compliance with industry standards and company procedures. • Review and assess the skills and proficiency levels of the engineering team members. • Review and evaluate the effective functioning of the engineering team during all sections of a voyage, e.g. manoeuvring, operations when unmanned, cargo operations. • Use the opportunity to promote robust engineering practices and good seamanship. • Identify any additional training needs, whether they are specific to an individual, a vessel, or a fleet wide need e.g. familiarity with the planned maintenance system. • Verify adequate supervision of Junior Officers and training of cadets during critical operations. • Verify that accurate logs are kept and that adequate record keeping is being undertaken. The audit is followed by a debrief to the engineering team. All fleet vessels are audited while on passage at intervals not exceeding one year. The audit is followed by a report where identified corrective actions are assigned, verified and closed out in a specified time period.

4A Vessel Reliability and Maintenance (Critical Equipment)

Aim - To identify and manage the maintenance and repair of critical equipment and systems.

STAGE		KEY PERFORMANCE INDICATORS	BEST-PRACTICE GUIDANCE
4A.1	4A.1.1	Critical equipment and systems are identified and listed within the SMS and the vessel's planned maintenance system.	Equipment and systems, the sudden operational failure of which may result in harm to personnel, the environment or assets, are identified. Documented risk assessment or hazard identification methods are used to identify these critical equipment and systems. Equipment and systems to be considered may include: • Primary and auxiliary power systems. • Main engine, including control and monitoring systems. • Steering gear. • Navigation systems. • Principal life-saving and fire-fighting equipment. • Alarms and sensors.
	4A.1.2	A procedure is in place to manage the planned maintenance of critical equipment and systems.	The company is informed when critical equipment or systems are taken out of service for planned maintenance and when they are returned to service. When, under exceptional circumstances, it is not possible to complete planned maintenance on critical equipment or systems as scheduled, a risk assessment is conducted and senior management approval obtained and documented before deferral. The maintenance is carried out as soon as practicable.
	4A.1.3	A procedure is in place which requires shore management to be informed when critical equipment or systems become defective or require unplanned maintenance.	
	4A.1.4	Procedures are in place to record the testing of critical equipment and systems that are not in continuous use.	Testing is performed in accordance with mandatory requirements and manufacturers' recommendations.

4A.2	4A.2.1	Maintenance on critical equipment and systems requiring them to be taken out of service is subject to risk assessment and management approval.	The risk assessment includes: • Personnel requirements. • Spare parts and tools required. • Worst case scenarios. • Recovery and mitigation measures. • Commissioning and testing procedures. • Alternative back-up equipment/systems. • Necessary modification in operational procedures as a result of equipment being removed from service. • Additional safety procedures (emergency). When planning maintenance on critical equipment, the shutdown period is agreed. In addition to the risks associated with the task itself, the risk assessment also addresses the hazards related to taking the equipment or systems out of service. The risk assessment is subject to shore management review and approval at an appropriate level. If the agreed shutdown period for critical equipment or systems is to be exceeded, any extension or alternative actions will require a revised risk assessment, review and approval by shore management.
	4A.2.2	Work instructions are available in the planned maintenance system for critical equipment and systems.	Planned maintenance of critical equipment is always carried out according to the work instructions and is verified during superintendent visits. Work instructions may include: • Spare parts and tools required to conduct the maintenance. • How the maintenance is carried out. • Risk assessment for the job to be undertaken. • Defined approval requirements.
4A.3	4A.3.1	Designated personnel are responsible for the maintenance and repair of critical equipment and systems.	The personnel responsible for performing maintenance and repairs on critical equipment and systems have the appropriate skills and competencies to perform the task. This may include third party contractors.
	4A.3.2	A procedure is in place to test and record performance data for all critical equipment and systems.	Comparisons are made between performance data and manufacturer's test data periodically to help determine equipment health. Where manufacturer's test data is not available, the company develops base line criteria.

4A.4	4A.4.1	The reliability and performance of critical equipment or systems and associated alarms is monitored and analysed.	The company continually improves its maintenance system by forecasting necessary maintenance of critical systems, in order to prevent incidents or equipment downtime. Methods may include: • Condition-based monitoring. • Trends and historical data. • Fleet experience. • Manufacturer's recommendations. • Predictive maintenance tools.

Element 5
Navigational Safety

Main objective
To ensure that company vessels are navigated safely at all times.

Navigational safety
High standards of navigation are fundamental for the safety of vessels, personnel and cargoes and the protection of the environment.

While the Master is ultimately responsible for the vessel's safe navigation, shore-based management ensure that:

- The SMS includes comprehensive navigational procedures that cover all stages of a vessel's voyages from berth-to-berth including:
    - Bridge manning levels.
    - Calling the Master.
    - Handovers.
    - Navigation with Pilot aboard.
    - Navigating in heavy weather/restricted visibility/ice.
    - Management of lengthy periods with increased bridge manning.
    - Hazardous navigational transits.
    - Use of the BNWAS.
    - Use of electronic navigational aids.
    - Under keel clearance.
- Appropriate shore-based personnel are identified as having responsibility for navigational standards.
- The bridge team is appropriately trained, including:
    - Team dynamics.
    - Bridge resource management.
    - Ship-handling.
    - Type specific navigational equipment.
- Bridge equipment is maintained operable at all times.
- Charts and publications, including electronic licenses, are maintained up-to-date and are available as required.
- Compliance with navigational procedures is assured via a comprehensive navigation assessment and audit programme and subsequent analysis.

5 Navigational Safety

Aim - To establish and ensure compliance with safe navigational procedures and practices in line with regulatory and company requirements.

	KEY PERF	BEST-PRACTICE GUIDANCE	
5.1	5.1.1	The company designates appropriate shore-based personnel responsible for navigational standards.	Responsible person(s): • Are appropriately qualified and experienced. • Have the authority to implement suitable controls to ensure navigational standards.
	5.1.2	Comprehensive procedures to ensure safe navigation are in place.	These procedures may include: • Charts and publications management. • Berth-to-berth passage planning. • Under keel clearance requirements. • Electronic aids to navigation including ARPA, AIS and ECDIS. • Actions upon equipment failure. • Actions upon encountering adverse weather, restricted visibility or ice. • Supporting checklists.
	5.1.3	Procedures to ensure effective bridge resource management are in place.	These procedures may include: • Bridge manning levels. • Calling the Master. • Handovers. • Navigation with Pilot aboard. • Navigating in heavy weather/restricted visibility/ice. • Management of lengthy periods with increased bridge manning. • Hazardous navigational transits. • Use of BNWAS.
	5.1.4	The company has procedures that ensure all navigational equipment is maintained as operational.	Procedures include: • Defect reporting. • Suitably trained personnel to maintain navigational equipment or shore-based maintenance support. • Provision of spares as appropriate.

5.2	5.2.1	A procedure is in place requiring the Master to conduct a navigational audit to ensure compliance with navigational regulations and company procedures.	The company provides a standard audit format, sets the frequency for completion and maintains records to monitor compliance with their requirements. • The frequency may depend upon tour length, but each Master should complete an audit at intervals not exceeding 12 months. • Each vessel within the fleet is audited at intervals not exceeding 12 months.
	5.2.2	A procedure is in place for appropriate shore-based personnel to conduct navigational verification assessments.	The assessment, which may be conducted in port, includes as a minimum a review of passage plans, chart corrections, navigational records, navigational equipment, compliance with company procedures and verification of the Master's navigational audit. All fleet vessels are assessed at intervals not exceeding 12 months. The navigational verification assessment is followed by a report where identified corrective actions are assigned, verified and closed out in a specified time period.
	5.2.3	The person(s) responsible for navigational standards ensures that navigational procedures are regularly reviewed and updated.	The procedures are updated to reflect new legislation, technology and updated industry standards. Examples may include: • New and revised IMO codes e.g. Polar Code. • BNWAS. • E-navigation. • ECDIS and VDR including data recovery. • Learning from incidents.
	5.2.4	The company has a procedure to identify recurring defects in navigational equipment across the fleet.	
5.3	5.3. 1	Provision of charts, publications and electronic licenses is managed under contract by a recognised chart agent.	The company ensures that: • The vessel always has fully updated charts and publications for the voyage. • There is a procedure for the vessel to obtain charts and publications at short notice. • Chart and publications outfits whether paper or electronic are monitored onboard with discrepancies reported to the company.

	5.3.2	A formal programme ensures that Senior Officers receive appropriate ship-handling training before promotion to Master or assignment to a new vessel type.	Ship-handling experience is gained by training under supervision onboard, as a part of a documented competency development system, and may be supplemented by: • Participation in manned models and/or simulator training. • Specialist training e.g. navigation in ice, DP operations.
	5.3.3	Comprehensive navigational audits are conducted while on passage by a suitably qualified and experienced company representative.	In addition to a navigational verification assessment, the purpose of the audit is to: • Review and confirm that bridge practices are in compliance with international regulations and company procedures. • Review and assess the skills and proficiency levels of the bridge team members. • Review and evaluate the effective functioning of the bridge team during all sections of a voyage. • Use the opportunity to promote robust navigational practices, chart-work, passage planning and good seamanship. • Identify any additional training needs, whether this be specific to an individual or a vessel, or a fleet wide need. • Verify adequate supervision of Junior Officers and training of cadets during critical passages. • Verify that accurate logs are kept and that adequate record keeping is being undertaken. The audit is followed by a debrief to the bridge team. A report identifies corrective actions that are assigned, verified and closed out in a specified time period. All fleet vessels are audited while on passage at intervals not exceeding two years.

5.4	5.4.1	Comprehensive navigational audits are conducted while on passage by a suitably qualified and experienced person.	The audit may be: • A company navigational audit as per 5.3.3; or • An independent navigational audit by a suitably qualified specialist contractor. This fleet audit programme includes a combination of company and independent audits. Where it is impractical for a vessel to be audited within the 12-month period due to trading pattern then an unannounced remote audit by an independent contractor, including VDR downloads may be used. All fleet vessels are audited while on passage at intervals not exceeding 12 months.
	5.4.2	All navigational assessment and audit reports from the fleet are analysed, trends identified and improvement plans are developed.	Reports are analysed to identify weak areas in navigational procedures and practices. The analysis: • Correlates audit findings, including Masters audits and navigational incidents/near misses. • Compares industry trends. • Compares external inspections, e.g. SIRE/PSC. • Develops improvement plans and set targets. • Identifies additional training requirements. The company evaluates the effectiveness of the audit programme, with a view to continual improvement.
	5.4.3	Competency assessment programmes ensure that Masters and navigation officers maintain core and specialist skills.	The assessment programme, which may be simulator based, includes an assessment of: • Knowledge and application of COLREGS. • Bridge team management behaviours. • Response to emergency navigation situations. • Specialised disciplines as appropriate, e.g. DP operations, ice navigation. The intervals at which these assessments are conducted are defined.

	5.4.4	Navigation officers undertake periodic refresher bridge resource management simulator training at a national or industry accredited shore establishment.	The company operates a programme to provide this training for all navigation officers at a specified frequency. The training team composition reflects the nationalities of the bridge teams in the fleet. The bridge resource management training programme is used to enhance the dynamics within bridge team members and to increase awareness of cultural diversity, communication style and hierarchy bias among the team. Where it is not practical to have representative nationalities present then the course has modules and role play to address the human factors as described above.

Element 6 and 6A
Cargo, Ballast, Tank Cleaning, Bunkering, Mooring and Anchoring Operations

Main objective
To establish planning and operational procedures to ensure that cargo, ballast, tank cleaning, bunkering, mooring and anchoring operations are conducted in a safe and efficient manner.

Cargo, Ballast, Tank Cleaning, Bunkering, Mooring and Anchoring Operations
High standards of planning and execution for these operations, is fundamental to the safety of vessels, personnel and for the protection of the environment.

While the Master is ultimately responsible for these operations, shore-based management ensures that:

For Cargo, Ballast, Tank Cleaning and Bunkering

- Procedures cover both generic and cargo specific requirements (e.g. oil/chemical/ LPG / LNG) for all fleet vessel types.
- Pre-operational tests and checks are conducted.
- Cargo specific hazards are identified and addressed.
- All cargo, ballast tank cleaning and bunkering operations are thoroughly planned and safely executed.
- Operations are properly recorded and documented.
- Vessel personnel receive cargo specific familiarisation, training and mentoring.
- Compliance with procedures is assured by a verification and audit plan.

For Mooring and Anchoring Operations

- Procedures cover the full range of mooring and anchoring activities that the company's fleet may be involved in, including specific operations such as single buoy mooring/STS transfers.
- Mooring and anchoring equipment including fittings and mooring lines are effectively inspected, maintained, tested and documented.
- Operations are thoroughly planned and safely executed, especially mooring at terminals that have not been previously visited.
- Vessel personnel receive familiarisation, training and mentoring.
- Compliance with procedures is assured by a verification and audit plan.

6 Cargo, Ballast, Tank Cleaning and Bunkering Operations

Aim - To establish planning and operational procedures for cargo, ballast, tank cleaning and bunkering operations and ensure that they are safely and effectively implemented.

			BEST-PRACTICE GUIDANCE
6.1	6.1.1	Procedures for cargo, ballast, tank cleaning and bunkering operations are in place for all vessel types within the fleet.	The procedures include: • Roles and responsibilities. • Planning. • Cargo and ballast handling. • Maintaining safe tank atmospheres. • Tank cleaning. • Bunkering. • Record keeping. The procedures clearly identify the designated person(s) in charge of cargo, ballast and/or bunkering operations.
	6.1.2	Procedures for pre-operational tests and checks of cargo and bunkering equipment are in place for all vessel types within the fleet.	Tests and checks of equipment may include: • Line and valve setting. • ESD system operation. • Cargo/bunker line pressure testing. • Alarms and trips. • IGS and venting system. • Loading computer or alternative calculations. • Cargo and ballast pump tests. • Gas monitoring equipment. • Tank gauging equipment. • Prevention of freezing. Records of the tests and checks are maintained.
	6.1.3	Management ensures that cargo, ballast and bunkering operations are conducted in accordance with company procedures.	Means of verification may include: • Observation by visiting superintendents. • Review of records onboard. • Remote sampling of records by shore management. • Analysis of third party inspections and terminal feedback.
	6.1.4	The company has procedures that address cargo specific hazards for all vessel types within the fleet.	Cargoes with specific hazards may include: • Aromatic hydrocarbons. • Toxic cargoes. • Incompatible cargoes. • High vapour pressure cargoes. • Cargoes containing mercaptans and/or H_2S.

6.2	6.2.1	A comprehensive procedure for planning cargo, ballast and bunkering operations is in place for all types of vessel within the fleet.	The planning procedure is specific to the vessel type and cargo to be carried. This may include: • Roles and responsibilities for the operations. • Stability, stress, draught and trim calculations for key stages of the operation. • Free surface effect restrictions. • Highlighting limitations on number and location of slack tanks. • Cargo stowage, cargo segregation, pipeline and valve management, heating requirements and final ullages. • Ballast and bunkering operations where applicable. • Tank cleaning including crude oil washing. • Gas and chemical specific operations. • Initial, bulk and final loading/discharging rates. • Management of tank atmosphere. • Static precautions. • Cold weather precautions. • Cargo data and hazards of particular cargoes (such as H_2S). • Ship/shore interface and communications.
	6.2.2	Comprehensive procedures cover all aspects of cargo transfer operations for each type of vessel within the fleet.	The transfer procedures are specific to the vessel type and cargo to be carried. These may include: • Pre-arrival checks. • Cargo hose/arm connection including supervision of third party personnel. • Ship shore safety checklist including ship/shore interface and communications. • Cargo survey and sampling. • Pre-operational checks including an independent verification of line setting prior to the start of operations. • Gas and chemical specific operational procedures. • Starting cargo transfer including static precautions where applicable. • Bulk cargo transfer including: o Ship/shore cross checks. o Monitoring of static tanks. o Stability trim and stress checks. o Remote ullage gauge cross checks and verification. o Tank pressure and atmosphere monitoring. • Topping off/stripping. • Draining/blowing lines and disconnection of hoses. • Cargo care during transit.

	6.2.3	Comprehensive procedures cover all aspects of ballast handling operations.	The procedures may include: • Ballasting and deballasting operations. • Free surface effect restrictions. • Ballast water exchange. • Ballast water treatment. • Heavy weather ballasting. • Ballast operations in sub-zero temperatures. • Shore line flushing. • Ballasting cargo and ballast tanks for inspection and/or survey.

	6.2.4	Comprehensive procedures cover all aspects of tank cleaning operations for each vessel type within the fleet.	Tank cleaning and preparation may be required for various reasons including:
			
			• Cargo grade change.
			• Tank inspection and/or repair.
			• Dry dock preparation.
			• Minimum MARPOL requirements.
			
			The procedures may address:
			
			• Planning and approval.
			• Tank atmosphere control and monitoring.
			• Tank cleaning methods including:
			
			  ○ Fixed and portable equipment.
			  ○ Crude oil washing.
			  ○ Manual cleaning, e.g. mopping.
			  ○ Steaming.
			  ○ Use of chemicals, acids and solvents.
			  ○ Hot washing.
			
			• Storage and handling of residues.
			• Where applicable, supervision of third party contractors.
			• Tank inspection and testing for quality, e.g. wall wash tests.

	6.2.5	Comprehensive procedures cover all aspects of bunkering operations for each vessel type within the fleet.	Procedures address the various methods by which bunkers and lubricants are delivered including: • Terminal pipeline. • Bunker barge alongside/at anchor. • Road tankers. • LNG bunkering. • STS offshore bunkering. • Packaged lubricants. Operational procedures address: • Pre-arrival checks. • Pipeline/hose connection including supervision of third party personnel. • Bunker safety checklist including interface and communications. • Bunker tank gauging. • Agreed initial bulk transfer and topping off rates. • Draining/blowing lines and disconnection of hoses. • Bunker sample analysis. • Monitoring of bunker tank atmospheres for hydrocarbon gas, benzene and H_2S. Specific guidance is provided for: • Minimum stock levels. • Co-mingling of bunker supply with existing stock. • The unavoidable use of new bunkers before receipt of analysis results.
6.3	6.3.1	Standardised templates are used for planning and operational record keeping.	Templates are developed for cargo, ballast, tank cleaning and bunker operations, to cover different vessel types within the company fleet and reflect SMS requirements. Examples may include cargo plan, pumping log, ullage reports.

	6.3.2	Procedures for each vessel type within the fleet ensure tank atmospheres are maintained within defined limits for each cargo type being carried throughout the voyage cycle.	For vessels fitted with an IGS: • Procedures require that the IGS is used appropriately at all stages of the voyage. • Procedures clearly set out the actions to be taken in the event of a failure of the IGS. • Procedures, based on risk assessment, are developed for the carriage of specific cargoes without the use of inert gas, where this is required due to cargo characteristics. For vessels not fitted with an IGS: • Procedures for carrying any flammable cargoes are based upon risk assessment and current industry guidance and may include padding.
	6.3.3	The SMS includes procedures for non-routine or specialised cargo and ballast operations undertaken in the fleet.	These operations may include: • STS operations. • Bow loading operations. • Co-mingling and/or blending. • SPM, conventional buoy mooring and tandem operations including terminal line flushing. • Heavy weather ballast. • Vapour return and vapour balancing. • Heated, high viscosity and cold cargoes • Inhibited cargoes. • Cargoes requiring padding or blanketing. • Cargo dosing (dyes, additives).
	6.3.4	The SMS requires Junior Officers/relevant personnel to be actively involved in planning, line setting and execution of the cargo, ballast, tank cleaning and bunker handling through onboard training and mentoring. Training records and appraisal reports may be used to monitor progress.	
6.4	6.4.1	Officers attend shore-based simulator courses covering routine and emergency cargo operations.	These courses may be used to: • Train Junior Officers. • Assess suitability for promotion. • Ensure continued competency of Senior Officers. • Familiarise personnel with new equipment and systems. Procedures specify the time frame for initial and refresher training.

	6.4.2	Comprehensive audits are completed by a suitably qualified and experienced company representative. The audit includes observation of cargo, ballast, tank cleaning and bunker handling operations.	All fleet vessels are audited annually. The audit may look at: • Operational practices and compliance with industry guidelines and company procedures. • Skills and proficiency levels of the personnel. • Effectiveness of the team during all stages of the operations. • The opportunity to promote robust practices. • Identifying additional training needs, whether individual, vessel or fleet wide. • Supervision of Junior Officers and training of cadets. • Record keeping. The audit is followed by a report where identified corrective actions are assigned, verified and closed out in a specified time period.

6A Mooring and Anchoring Operations

Aim - To establish planning and operational procedures for mooring and anchoring operations and ensure that these procedures are effectively implemented. Procedures ensure the vessel remains safely moored and the safety of personnel involved in mooring and anchoring operations.

		KEY PERFORMANCE INDICATORS	BEST-PRACTICE GUIDANCE
6A.1	6A.1.1	Procedures for mooring and anchoring operations are in place for all vessel types within the fleet.	The procedures include: • Roles and responsibilities. • Planning including toolbox talk. • Requirements for risk assessments. • Mooring arrangements and layout. • Anchoring methods. • Use of main engine (and thrusters if fitted). Guidance provided ensures protection of personnel and safe operation of equipment.
	6A.1.2	Maintenance, testing and routine inspections of mooring and anchoring equipment is included in the planned maintenance system.	The planned maintenance system covers all mooring equipment. This equipment may include: • Winches and windlasses. • Roller fairleads, panamas, bow chain stoppers. • Hydraulic, steam, or electrical drive systems. • Emergency towing systems. Winch and windlass brake testing is conducted according to industry guidelines or local regulations.
	6A.1.3	The company has procedures to manage the condition of mooring ropes, wires, mooring tails and joining shackles for all fleet vessels.	Procedures may include: • Instructions for care and stowage. • Required inspection intervals and records.
	6A.1.4	The company has procedures that address the use of tugs.	Procedures may include: • The safe handling of ships' lines or tug lines when making fast or letting go. • Identification and use of suitable strong points for making tugs fast and designated tug push points.

6A.2	6A.2.1	Detailed procedures address each different type of mooring operation likely to be undertaken by fleet vessels.	Procedures have been developed following risk assessments for each type of mooring operation, which may include: • Conventional berths. • Conventional buoy mooring, SPMs. • Tandem mooring to F(P)SO. • Double-banking at berths. • STS operations (including reverse STS). • DP operations.
	6A.2.2	Procedures address all aspects of anchoring operations likely to be undertaken by fleet vessels.	Procedures for anchoring operations have been developed, following risk assessments, which address: • Selection of anchoring position. • Methods of anchoring. • Equipment design limitations and characteristics. • Emergency anchoring. • Anchor watches, including actions to be taken when dragging or at onset of bad weather. • Emergency departure from an anchorage.
	6A.2.3	Procedures ensure that vessels remain safely moored at all times.	The procedures ensure that: • Sufficient personnel are retained onboard in order to tend the moorings. • Weather forecasts/warnings are obtained, including those for ice, tropical revolving storms, where applicable. • Changes to environmental conditions, such as tidal variations, current and wind speed, are monitored. • Passing traffic is monitored. In the event that the vessel cannot remain safely moored, actions may include: • Deployment of additional moorings. • Engaging tugs to remain alongside. • Preparations for emergency departure.

	6A.2.4	Procedures are in place for the inspection, maintenance and replacement of wires, ropes, tails and ancillary equipment.	The procedures may include: • Inspection methods and frequency. • Maintenance requirements. • Retirement criteria. • Minimum spares. • Stowage requirements. • Record keeping. The records may include: • Date of bringing ropes/wires into service. • Identification and tagging of all equipment. • Certification for all ropes/wires/tails/joining shackles. • Dates of end for ending.
6A.3	6A.3.1	Procedures identify requirements for personnel involved in mooring operations.	The requirements may include: • Designated person in charge at each location. • Minimum numbers of personnel required at each location. • Toolbox talk prior to mooring operations. • Minimum training and experience requirements. • Supervision of third party personnel.
	6A.3.2	Measures are taken to optimise onboard mooring arrangements to ensure the safety of vessel personnel.	Measures may include: • Mooring reviews to identify hazards, including those associated with mooring lines and potential equipment failure within the mooring area. • Use of non-slip coatings in mooring areas. • Modifications to mooring equipment as a result of mooring reviews and lessons learnt from incidents/near miss reports.
	6A.3.3	Procedures address the use of all ancillary craft used in mooring and towage operations.	The procedures for ancillary craft may include: • Harbour tugs. • Line handling boats. • STS, SPM and F(P)SO support craft. • Escort tugs.

	6A.3.4	A process ensures that all mooring equipment and fittings comply with the latest industry guidance.	The process may include: • New build design reviews and amendments. • Reviews of existing fleet designs. • Reviews of potential second hand tonnage. • Supervision, during construction and modifications, addressing deviations from the design.
6A.4	6A.4.1	The company actively seeks involvement of manufacturers, to enhance the management of mooring equipment including ropes and wires.	Manufacturers' involvement may include: • Guidance on equipment specification, selection and replacement. • In-service support including inspections, testing and maintenance. • Training of company personnel. • Guidance on parameters for record keeping. • Assistance with incident investigations.
	6A.4.2	All available means are used to ensure that vessels can safely moor at terminals being visited for the first time.	The means may include: • Reference to publicly available information such as industry publications and information from Port Agents. • Industry databases such as OCIMF's Marine Terminal Information System (MTIS). • Reference to company information for previous fleet vessel visits. • Use of mooring analysis software to ensure berth compatibility.

	6A.4.3	Comprehensive audits are completed by a suitably qualified and experienced company representative. The audit uses observation of mooring operations.	All fleet vessels are audited annually. The audit specifically observes behaviour and may look at: • Operational practices and compliance with industry guidelines and company procedures. • Skills and proficiency levels of the personnel. • Leadership and effectiveness of the team during all stages of the operations. • The opportunity to promote robust practices and good seamanship. • Identifying additional training needs, whether individual, vessel or fleet wide. • Supervision of Junior Officers and training of cadets. The audit is followed by a report where identified corrective actions are assigned, verified and closed out in a specified time period.
	6A.4.4	The company actively seeks out available or innovative technology to enhance safe mooring operations.	Design improvements are considered in future new-build specifications and existing vessels are upgraded proactively as required. Design improvements may be based upon feedback from vessels, discussions with equipment manufacturers, industry best practices and participation in Pilot programmes. Examples may include: • CCTV of mooring stations. • Tension monitoring and recording equipment. • Meteorological monitoring equipment displays at the cargo control room. • New and emerging technology such as magnetic and vacuum systems.

Element 7
Management of Change

Main objective

To ensure that all consequences and associated risks are identified and mitigated prior to implementing change.

The company establishes a formal, systematic process to evaluate, approve, communicate and document both temporary and permanent changes that could impact their operations.

Management of change
Changes to equipment, suppliers, personnel (including third party contractors) operating conditions or procedures, or changes to the size or composition of the fleet or company organisation can significantly increase the risk of an incident.

The scope of the management of change process can range from minor change, such as a software upgrade, to a major organisational change. In any circumstance management of change procedures ensure that:

- Permanent or temporary changes, both onboard or ashore, are subject to the management of change process and fully documented.
- The impact of any change is risk assessed and mitigation measures identified.
- Personnel affected by change are identified and the reasons for change are understood by all.
- The required level of authority for the approval of changes is defined.
- Changes comply with regulation, industry standards and original equipment design specifications.
- Training requirements resulting from change are identified and documented.
- Relevant documentation is amended following change(s), e.g. plans, manuals and drawings.
- There is an appropriate procedure for personnel handover and familiarisation, both ashore and onboard vessels, including third party contractors.
- Changes not carried out within the proposed timescale are reviewed and revalidated before they are completed.
- Results of completed changes are reviewed to confirm that objectives have been met.

7 Management of Change

Aim - To establish procedures for evaluating and managing changes to operations, procedures, equipment or personnel to ensure that all risks are identified and mitigated prior to implementing change.

	KEY PERFORMANCE INDICATORS		BEST-PRACTICE GUIDANCE
7.1	7.1.1	There is a documented procedure for management of change.	The procedure addresses both permanent and temporary changes onboard and ashore. These may include: • Installation of new equipment and modification of existing equipment. • Temporary isolation and reactivation of alarms for maintenance purposes. • Changes and/or upgrades to software. • Implementation of new legislation. • Changes in trading area. • Organisational changes. • Revisions to procedures. • Taking new tonnage under management.
	7.1.2	A procedure is in place to ensure that the impact of any proposed change is assessed.	The assessment may include the following factors: • Justification for change. • Potential consequences including safety, personnel and environmental implications. • Risk reduction measures. • Any additional resources required.
	7.1.3	The management of change procedure clearly defines the levels of authority required for the approval of any changes.	The procedure ensures that any proposed change is approved at an appropriate level and not by the person directly involved in the change.
	7.1.4	Procedures identify emerging requirements.	Such requirements may be legislative or industry recommended best practice, permanent or temporary, and cover: • Safety. • Environmental and energy management. • Security. • Health. • Operational, including navigation, engineering, maintenance, cargo and mooring. The company has identified sources that will provide this information.

7.2	7.2.1	The management of change process ensures all proposed temporary and permanent changes to onboard procedures and equipment are subject to risk assessment.	The risk assessment is conducted as a part of the planning of the proposed change. The risk assessment identifies and addresses the full range of hazards and consequences of the proposed change.
	7.2.2	Management of change identifies all personnel that may be affected by the change and ensures that they understand the extent and likely impact of any planned change.	The management of change procedures ensure personnel involved in the proposal, development, implementation, verification and monitoring stages of the change, are kept fully informed of the process to date.
	7.2.3	Management of change procedures ensure that training needs arising from any proposed changes are identified and documented.	The procedures identify relevant training and familiarisation requirements and personnel affected by the change are trained within a defined period.
	7.2.4	Management of change identifies all documentation and records that may be affected by the change.	Permanent changes, and the review process that led to their approval, are documented. This mechanism links with and ties into, the document control system, so that important controlled documentation remains up-to-date. Examples may include: • Certification. • Manuals. • Plans and drawings. • Operational procedures. • Records checklists and forms. • Planned maintenance including spare parts inventories.
	7.2.5	Regular reviews are conducted of management of change plans being implemented. Any changes not carried out within the proposed timescale are reviewed, revalidated and approved.	The plans are sufficiently documented to facilitate the review and ensure that: • Progress is monitored against time. • Objectives are being met and risks managed. • Any deviations are identified and addressed. • Any identified improvements to the plan are recorded. • Temporary changes do not exceed the initial authorisation for scope or time without review and re-approval by the appropriate level of management.

7.3	7.3.1	A management of change procedure is applied when the company acquires additional vessels.	The procedures apply to both new builds and existing tonnage and may include the following: • Supervision of new builds. • Pre-purchase inspection and survey of existing vessels, including priority maintenance requirements. • Involvement of appropriate personnel in the decision making process. • Identifying manning requirements both onboard and ashore. • Familiarisation and training requirements both onboard and ashore including a period of sailing or standby for key vessel personnel prior to delivery. • Transfer of operational history for existing tonnage e.g. planned maintenance history, vessel modifications history and vessels plans. • Where applicable, a period of downtime between delivery and entering service is considered.
	7.3.2	There is a periodic review of the outcome of all changes to ensure objectives have been met.	The company reviews the changes implemented to verify that they have achieved their objectives. Where objectives have not been met a procedure ensures that appropriate action is taken and any issues resolved. The review period is defined and fully documented. The findings may be included in the periodic management reviews.
	7.3.3	A software management procedure covers all shipboard and shore systems.	The procedure may include: • Assigned responsibilities for software management including cyber security. • Records of all software installed including version numbers. • A method to ensure that the appropriate/latest version is installed. • Compatibility checks to ensure integration with existing systems. • Instructions for installation of updates. • Instructions for back-up where applicable. • Performance tests following software upgrades. • Training requirements.

7.4	7.4.1	For major changes to the shore organisation, management of change procedures ensure that manning, competency and experience levels are maintained so that there is no deterioration in supervision and the management of key processes.	Such major changes might include: • Significant increase or decrease in fleet size. • Introduction of a new vessel type to the fleet. • Merger and/or acquisition. • Restructuring.
	7.4.2	The company actively seeks out improvements for new build design specifications.	Design improvements are considered in future new-build specifications and existing vessels are upgraded proactively as required. Improvements may include: • Ergonomics including the bridge and control rooms. • Enhanced environmental performance. • Energy efficiency. • Operational safety and efficiency. • New and improved technology. • Mooring equipment design and layout. • Enhanced security features. • Personnel accommodation and recreational facilities. Design improvements may be based upon feedback from vessels, discussions with equipment manufacturers, industry best practices and participation in pilot programmes.

Element 8
Incident Reporting, Investigation and Analysis

Main objective

The company establishes procedures to ensure effective reporting, investigation and analysis of incidents and near misses to prevent recurrence.

One of the fundamental principles of safety management is that all incidents are preventable. Therefore, it is important to ensure that where an incident or accident occurs, the subsequent investigation is thorough, the root causes are identified and that measures are implemented to prevent a recurrence and communicated effectively to shore-based and vessel personnel.

Incident Reporting, Investigation and Analysis procedures

The procedures:

- Provide for the timely reporting and investigation of an incident or near miss.
- Identify the personnel responsible for reporting an incident, authorising and conducting the investigation and initiating subsequent corrective actions.
- Include guidance on the classification of all incidents.
- Provide incident investigation training to personnel with this responsibility.
- Ensure that the root causes and factors contributing to an incident are identified and that steps are taken to prevent recurrence.
- Include provision for determining the actions needed to reduce the risk of related incidents.
- Ensure that incident and accident investigation findings are retained and analysed to determine where improvements to the SMS, standards, procedures or practices are required.
- Specify methods for determining whether liaison is needed with industry groups (such as Classification Societies or equipment manufacturers) to avoid similar incidents on other vessels.
- Ensure that lessons learnt from an incident or near miss investigation are shared across the fleet.

8 Incident Reporting, Investigation and Analysis

Aim - To use effective incident reporting, investigation and analysis methods to learn from incidents and near misses, in order to prevent recurrence.

		KEY PERFORMANCE INDICATORS	BEST-PRACTICE GUIDANCE
8.1	8.1.1	Procedures ensure prompt reporting and investigation of incidents and significant near misses.	Procedures may include: • Clear definitions of reportable incidents and significant near misses. • Person/department responsible for investigation. • Description of the investigation process.
	8.1.2	The reporting and investigation procedures ensure that all mandatory notifications are carried out within the required time frame.	Examples of mandatory reports include notifications to: • Company DPA/CSO. • Flag State. • Coastal Authorities and/or Port State. • Classification Society. • Qualified Individual, if applicable.
	8.1.3	Procedures ensure the fleet is rapidly notified of urgent information related to incidents and near misses.	Where an incident has occurred and the company has identified immediate issues of concern to other fleet vessels, then procedures to ensure that immediate investigative and preventative actions are addressed onboard. The company verifies that the actions have been completed on each vessel.
	8.1.4	Procedures ensure that incidents are investigated and analysed. Corrective and preventative actions are identified and implemented.	The investigation and analysis is sufficiently detailed to accurately establish the root causes of the incident with the objective of improving safety and pollution prevention. Actions are identified to prevent reoccurrence.
	8.1.5	Procedures ensure that the appointed incident investigation team are appropriately trained and qualified to conduct the investigation and analysis.	The investigating team may comprise shore-based personnel, vessel personnel and/or third party contractors. Incident investigation and analysis training may include: • An industry recognised training programme. • Appropriate in-house training by an accredited trainer. • Appropriate computer-based training.

8.2	8.2.1	The incident-investigation procedure ensures that the root causes and factors contributing to an incident or significant near miss are accurately identified.	Procedures include a systematic methodology or tool to determine root causes. The investigation procedures may consider the use of all available information such as: • D&A testing. • Review of work and rest hours. • Witness statements. • Photographic evidence/CCTV. • VDR and/or ECDIS data. • Evidence from vessel traffic services. • Review of relevant records and forms.
	8.2.2	The composition of the investigation team is established according to the severity and type of the incident.	The company has access to sufficient resources which may include vessel personnel who can conduct and/or assist with an investigation. The persons conducting an investigation are not connected with the incident. In order to maintain independence, appropriately qualified external contractors may be employed.
	8.2.3	External training in incident investigation and analysis is given to at least one member of the shore-based management teams.	Industry recognised training providers are used to facilitate specific courses in incident investigation and analysis. Knowledge from the training courses may then be used to train other shore and vessel personnel.
	8.2.4	The safety culture encourages reporting of all near misses and incidents.	The reporting system is simple and user friendly in order to motivate and encourage full participation from all vessel personnel. Near miss and incident reports promulgated to the fleet are reviewed at shipboard safety meetings.
	8.2.5	Lessons learnt from incidents are used to prevent any recurrence.	There is a process to analyse the identified root causes and to draw conclusions from incident investigations. The lessons learnt are effectively applied throughout the company to avoid repeat incidents.
8.3	8.3.1	Lessons learnt from incidents and near misses and safety performance statistics are promulgated across the fleet periodically.	Lessons learnt from incidents and near misses are included in safety bulletins or circular letters to all vessels and during company seminars. Analysis from this data is used to drive improvements in HSSE performance.

	8.3.2	Analysis of company incidents and significant near misses is conducted at periodic intervals.	The analysis can be used to: • Identify trends and common issues. • Measure the effectiveness of preventative measures. • Establish action plans to drive improvements to company's HSSE performance.
	8.3.3	Incidents and subsequent investigations are reported to oil major vetting departments.	Data may also be shared using the OCIMF incident data repository within SIRE.
	8.3.4	Procedures ensure that incident investigation and analysis refresher training takes place after an appropriate period.	The appropriate period is defined by the company. The training is documented and recorded.
8.4	8.4.1	Incident analysis data is shared with industry groups.	Industry groups who can be contacted include Classification Societies, professional institutes, industry associations and equipment manufacturers. The shared data may be used for benchmarking purposes. Results of benchmarking may be used to drive safety performance.
	8.4.2	Procedures ensure that, where possible, all trained personnel are given the opportunity to participate in incident investigation and analysis.	Trained personnel are given opportunities to participate in investigations and practice the relevant skills, before being expected to lead an investigation.

Element 9 and 9A
Safety Management

Main objective
To develop a proactive safety culture both on board and ashore, that includes identification of hazards and the implementation of preventive and mitigation measures to work towards incident free operation.

Shore-based and fleet monitoring
Effective safety management requires the systematic identification of hazards and measures to eliminate or reduce risks to the lowest practicable level. It also requires measures to promote an effective safety culture and motivate company personnel to ensure that they understand and embrace the requirements of the SMS.

The company establishes procedures to ensure that:

- There is a risk assessment programme that is designed to identify potential hazards and exposures, and manage operational risks, relating to HSSE.
- Risk assessments and their application across the fleet are periodically reviewed and updated.
- Vessel personnel are familiar with hazard identification including human factors.
- Programmes such as behaviour-based safety systems, toolbox talks, stop work authority are implemented.
- A designated Safety Officer conducts safety inspections onboard at scheduled intervals and records the results of these inspections which are reviewed at monthly safety meetings.
- Shore-based personnel conduct regular onboard inspections to evaluate the standards of safety being maintained within the fleet and make recommendations to senior management based on the findings.
- An effective permit to work system is implemented.
- The safety of third party contractors is effectively managed.
- Training and mentoring is conducted onboard by appropriately qualified shore-based personnel.
- An active safety culture is encouraged throughout the company and periodically evaluated.
- Positive reinforcement is used to encourage safe behaviours.

9 Safety Management – Shore-Based Monitoring

Aim - To establish an active fleet wide safety culture through the awareness and involvement of personnel and through effective risk assessment and permit to work programmes.

		KEY PERFORMANCE INDICATORS	BEST-PRACTICE GUIDANCE
9.1	9.1.1	Safety standards are monitored across the fleet during shore-based management visits to vessels.	Procedures ensure that all onboard inspections include a safety element. Following vessel visits, a report is completed that includes recommendations for any safety improvements to be made.
	9.1.2	During vessel visits, every opportunity is taken to promote a strong safety culture across the fleet.	Meetings with the vessel personnel on safety related matters are conducted during shore management visits to vessels. Any feedback obtained during the visit is used to improve the company's safety procedures.
	9.1.3	Procedures include a documented risk assessment system.	The risk assessments identify hazards and assess risk levels arising from work activities onboard the vessel and include identification of risks to health and hygiene.
	9.1.4	A documented permit to work system is in place.	The permit to work is used to control the risks associated with hazardous tasks, such as enclosed space entry and hot work. The system requires company management approval for higher risk activities, such as hot work in identified hazardous areas.
9.2	9.2.1	Risk assessments for routine tasks are used to develop safe working procedures.	The risk assessment identifies all hazards associated with a task and any personnel at risk. All risk mitigation measures to address identified hazards are incorporated into the safe working procedures. Reference sources from industry organisations, the *Code of Safe Working Practices for Merchant Seafarers* and IMO guidelines are referred to when compiling a risk assessment. Such risk assessments are reviewed and updated, procedures are amended as required and records are maintained.

	9.2.2	The risk assessment process includes provision for assessing new, non-routine and unplanned tasks.	Where no safe working procedure exists, a risk assessment is carried out, reviewed and approved at an appropriate level defined by the company. The risk assessment process results in alternative methods of work being considered and documented where the residual risk has been determined to be unacceptable.
	9.2.3	Risk assessments for new, non-routine and unplanned tasks are available to all relevant personnel.	Such risk assessments are assessed by shore-based personnel to ensure that they are fit for purpose. All relevant personnel are familiarised with the content of the risk assessments. Records may be maintained onboard or ashore at relevant locations.
	9.2.4	Procedures ensure that all identified mitigation measures are completed prior to commencing work.	Procedures may include: • Use of the permit to work system for both planned and unplanned tasks. • Use of the risk assessment form to confirm implementation. Final approval for commencement of work is subject to implementation of mitigation measures.
	9.2.5	Procedures manage the safety of contractors onboard.	These procedures may: • Define and identify onboard contractors, e.g. riding squads, service technicians, repair teams. • Establish clear responsibilities between contractors and the vessel for work management including personnel in charge. • Ensure that safety inductions are conducted with contractors prior to commencing work. • Establish work management processes e.g. permit to work systems. • Ensure compliance with company HSSE policies including PPE, D&A, hours of work/rest and smoking regulations.

9.3	9.3.1	A formal process is in place for shore management to review all risk assessments periodically.	The review process ensures that all risk assessments remain relevant by considering, for example: • That the effect of new legislation and/or equipment is incorporated into the risk assessment. • That changes in manning level(s) are taken into account. • That non-routine tasks are considered (which may become standard tasks following review). Where applicable, company procedures are amended.
	9.3.2	Proprietary safety tools are used to encourage hazard identification and to improve safety awareness throughout the organisation.	Such tools may include: • Unsafe Act Awareness programmes. • Behaviour-based safety system. • Concentrated safety awareness campaigns. Campaigns encourage a strong safety culture within the company e.g. near miss reporting programmes may be introduced as they help to reduce operational risks.
	9.3.3	The company selects and maintains a list of approved contractors.	There are detailed procedures for the selection of contractors which may include: • Defining selection criteria for contractors such as: o Industry recognised quality management systems. o Minimum training requirements. o Equipment manufacturers' accreditation. o HSSE performance. o Contractors corporate social responsibility policy. • Identifying, assessing and selecting suitable contractors. • Maintaining a list of approved contractors. In addition, the company has procedures to manage the appointment of contractors who are not on the approved list where necessary.

9.4	9.4.1	Management collates all risk assessments for best practice sharing, in order to improve the company safety culture.	The company identifies best practices for common areas of risk assessment and ensures that these are shared across the fleet.
	9.4.2	Periodic (at least quarterly) safety related publication(s) are issued.	Publications related to safety issues advise all personnel about past incidents. They include an analysis of all lost time accidents and all incidents that could potentially have resulted in serious injury and the preventive actions necessary/taken to avoid recurrence. They also include safety advice and an analysis of accidents taken from industry publications. Vessel personnel are encouraged to contribute to company publications by submitting articles.
	9.4.3	A formal contractor HSSE management system is in place.	There are detailed procedures for contractor management, which may include: • Defining roles and responsibilities for the management of contractors. • Monitoring and periodically reviewing contractor performance through: o Feedback from vessel. o Feedback from contractor. o Actual HSSE performance. o Periodical audits. • Creating KPIs to evaluate contractor performance. • Ensuring active engagement with contractors to improve safety performance including the sharing of best practices.

9A Safety Management – Fleet Monitoring

Aim - To establish an active safety culture onboard through the introduction of structured work planning, hazard identification and reporting programmes.

	KEY PERFORMANCE INDICATORS		BEST-PRACTICE GUIDANCE
9A.1	9A.1.1	Procedures require that safety inspections are conducted at scheduled intervals by a designated Safety Officer.	Safety inspections of the vessel: • Identify hazards and potential hazards to health, safety and the environment. • Include all accessible areas of the vessel. • Are recorded and reviewed at the monthly onboard safety meetings. Procedures provide guidance on the frequency and format of the inspections. The designated Safety Officer is suitably experienced and trained.
	9A.1.2	The company safety culture encourages all personnel to identify, report and where applicable address hazards.	Procedures require that any identified hazards are addressed. Where hazards are identified that cannot be rectified by vessel personnel, then the company management are informed in order for remedial action to be taken.
	9A.1.3	Onboard safety meetings are held at least monthly. In addition, extraordinary meetings are held as soon as practicable after any serious incident onboard or within the fleet.	Meetings are attended by all available personnel and minutes recorded. Safety meetings are an open forum which encourages vessel personnel to actively participate. The meeting is used to: • Raise safety awareness. • Voice safety concerns and identify remedial actions. • Promulgate lessons learnt. The company reviews and responds to monthly and extraordinary safety meeting minutes from the vessel.
	9A.1.4	Procedures require daily work planning meetings to take place.	Work planning: • Agrees the scope of work to be undertaken. • Identifies any operational or departmental conflict. • Identifies personnel requirements. • Identifies tools and equipment required. • Establishes appropriate PPE requirements. • Ensures compliance with work and rest hours.

9A.2	9A.2.1	Intervention to prevent unsafe acts and unsafe conditions occurring is actively encouraged.	Safety intervention techniques used may include: • Unsafe Act Awareness and intervention. • Stop work authority. • Tool box talks. • Safety observations. Progress is reviewed at the monthly safety meetings.
	9A.2.2	Appropriate training in hazard identification and risk assessment is provided to vessel personnel.	Various levels of training are provided based upon individual roles and responsibilities.
9A.3	9A.3.1	Procedures encourage the reporting of safety best practices.	Personnel are actively encouraged to submit safety related ideas by methods such as personnel competitions or individual recognition. Safety best practices received are reviewed and circulated to the fleet. Where appropriate the best practices are incorporated into revised procedures.
	9A.3.2	Procedures measure and compare the strength of the safety culture across the fleet to identify areas for improvement and to provide motivation to vessel personnel.	Procedures measure: • Near miss reports. • Behaviour-based safety system observations. • Incident free days. • Best practices identified. • Hazards identified. • Unsafe acts identified. • Safety suggestions. Results are circulated to the fleet.
	9A.3.3	Management identifies opportunities to strengthen their safety culture through interaction with fleet personnel.	Examples of methods of interaction might include presentations via: • Safety themed seminars. • Telephone conferences. • Webinars. • Safety magazines. • Intranet. • Company produced videos.
9A.4	9A.4.1	Leading and lagging indicators of safety performance are analysed, both across the fleet and on an individual vessel basis, in order to identify areas where the safety culture can be improved.	The analysis is used to: • Identify weaknesses across the fleet. • Prioritise vessels for targeted training. • Generate safety campaigns. • Feed back the current level of safety performance into the management review.

	9A.4.2	Fleet safety trainers sail with the vessel to conduct training and promote the company values and safety culture.	The fleet safety trainers are: • Experienced seafarers. • Committed to the company safety culture and values. • Conversant with the company SMS. • Suitably trained and capable of motivating seafaring personnel. While onboard, the fleet safety trainer: • Assesses the current level of safety culture onboard and address areas of weakness identified. • Reinforces the company safety initiatives, campaigns and programmes. • Provides training/mentoring as required. The fleet safety trainer prepares a detailed report following the visit. The company reviews and analyses these reports to identify areas for improvement.

Element 10
Environmental and Energy Management

Main objective
Companies establish a proactive approach to environmental and energy management that includes the identification of sources of marine and atmospheric emissions and implementation of measures to avoid or reduce potential impacts.

Environmental and energy management

Companies establish and maintain procedures to reduce as far as practically possible the impact of their operations on the environment. These include provisions for:

- Development of environmental protection policy and plans.
- The systematic identification and assessment of sources of marine and atmospheric emissions.
- Continual improvement in avoiding or minimising potential adverse environmental impacts and waste generation including setting of targets and ensuring the safe and responsible disposal of residual wastes.
- Effective fuel management.
- Optimising energy efficiency.
- Environmentally sound ship recycling.
- Establishing requirements for ballast water exchange.
- Identifying and implementing energy saving opportunities.
- Effective use of current and emerging technology for existing vessels and new builds.
- Internal and external benchmarking of environmental performance.

10 Environmental and Energy Management

Aim – To establish an environmental management plan that identifies sources of marine/atmospheric emissions, includes procedures to optimise energy efficiency and reduce emissions and which sets targets for continual improvement in environmental performance.

	KEY PERFORMANCE INDICATORS		BEST-PRACTICE GUIDANCE
10.1	10.1.1	An environmental protection policy and management plan is in place.	The policy, which is signed by senior management, includes a commitment to minimising the environmental impact of operations. The policy is conspicuously posted onboard vessels and in company offices ashore. All company personnel including third party contractors are aware and familiar with the policy. The environmental management plan may include: • Energy management and efficiency. • Waste management. • Responsibilities of personnel ashore and onboard. • Record keeping. • Training and familiarisation.
	10.1.2	All sources of marine and atmospheric emissions attributable to company and vessel activities have been systematically identified.	These sources could include: • Funnel emissions (CO_2, NO_x, SO_x, particulate matter). • Greenhouse gases. • Garbage. • VOC. • Cargo residues. • Oil emissions (stern tube lube oil, bilge, sludge). • Effluent discharges (IGS discharge, grey water). • Ballast water. • Sewage. • Antifouling paints. • Noise, including underwater disturbance.
	10.1.3	Procedures minimise marine and atmospheric emissions and ensure that they are always within permitted levels.	Procedures may include: • Methods of minimising emissions. • Identification of applicable regulations. • Environmentally responsible disposal methods. • Emissions monitoring. • Fuel analysis. • VOC management.

10.2	10.2.1	The environmental management plan includes energy efficiency and fuel management.	Energy management may include monitoring and reporting requirements for the following: • Daily fuel consumption including main engine, boilers, IGS and auxiliaries. • Vessel's speed and distance travelled. • Vessel's condition (laden or ballast). • Vessel's trim. • Weather, sea state and wind direction. Data is recorded on a voyage by voyage basis, for individual vessels and on an overall fleet basis. Time spent alongside and at anchor is included.
	10.2.2	The environmental management plan addresses efficient use of energy and includes actions to improve environmental performance.	Actions may include: • Establishing baseline criteria and targets to be achieved. • Operational measures to improve environmental performance such as engine room waste management, garbage management, slop management, VOC management. • Regular performance reviews including the calculation of specific fuel consumption trends, monitoring of hull condition and propeller fouling, the performance of main engines, boilers, IGS and auxiliaries and the generation of waste.
	10.2.3	The company seeks to optimise vessel energy efficiency.	Measures may include: • Optimisation of vessel trim. • Speed optimisation where practical. • Weather routeing. • Optimising onboard power management such as the use of generators and boilers. • Propeller polishing/cleaning. • Hull cleaning. • Most efficient method of ballast water exchange/treatment.

	10.2.4	The environmental management plan includes procedures for fuel management in order to ensure regulatory compliance, energy efficiency and reduced emissions.	Procedures to ensure quality control of fuel may include: • Identification of required fuel specifications according to the vessel's trading pattern. • Fuel purchasing. • Fuel sampling and analysis. • Management of off spec fuel. Onboard fuel management procedures may include: • Requirements prior to entering and leaving Emission Control Areas. • Onboard fuel segregation and minimum stock levels. Consideration is given to issues that include fuel compatibility in order to minimise sludge production and keep the plant in optimum operational condition.
10.3	10.3.1	The potential environmental impact of all company and vessel activities is subjected to evaluation.	The evaluation may include: • Measurement and recording of all emissions. • Acceptable impact levels. • Procedures and mitigating measures to minimise the environmental impact. • Impact upon marine life.
	10.3.2	Specific emissions reduction targets are set in the environmental management plan.	Targets may be set for: • Funnel emissions (CO_2, NOx, SOx, particulate matter). • Greenhouse gases. • Garbage. • VOC. • Oil emissions (stern tube lube oil, bilge, sludge, etc.). • Effluent discharges (IGS discharge, grey water, etc.). • Ballast water. • Sewage. • Antifouling paints. • Noise, including underwater disturbance.
	10.3.3	A long-term environmental plan is maintained.	The plan may include: • Long-term objectives. • Short-term targets set to achieve the long-term objectives. • Periodic review of the plan.

	10.3.4	Environmentally sound ship recycling practices are employed/adhered to.	
	10.3.5	Environmental performance improvements are incorporated during the new build process.	This may include: • Hull form optimisation. • Energy saving devices, e.g. LEDs, variable frequency drives on heavy power consumers. • VOC saving arrangements. • Clean fuel technology. • Waste reduction equipment.
10.4	10.4.1	Available technology is used to enhance energy efficiency.	This may include: • Emerging coating technologies. • Real time performance monitoring and comparative analysis of vessels. • Condition monitoring of environmentally critical equipment. • Engine auto-tuning. • Main engine de-rating. • Alternative energy efficient fuels. • Fitting of appendages to the hull to aid efficiency.
	10.4.2	The company explores new ideas and engages in technology partnerships related to environmental performance.	Examples may include new propulsion concepts and innovative engineering.
	10.4.3	Fleet environmental performance and energy efficiency is benchmarked.	Performance is measured within the company and benchmarked across the industry periodically.

Element 11
Emergency Preparedness and Contingency Planning

Main objective
To establish an emergency response system and regularly test it to ensure an ongoing ability to effectively respond to and manage incidents.

The Emergency Response System (Incident Response System) and contingency arrangements include:

- Company and vessel emergency response plans.
- Roles and responsibilities of personnel.
- Designated facilities and provision of associated equipment.
- Drill plans including the scope and frequency.
- Record keeping requirements.
- Review of drills and implementation of lessons learned.
- Media training for appropriate shore-based and vessel personnel.
- Business continuity plans including recovery measures.
- Use of external resources including specialist contractors e.g. media consultants, emergency response services and legal services.
- Additional resources, e.g. trained negotiators, family liaison, trauma support.

11 Emergency Preparedness and Contingency Planning

Aim - To prepare for and regularly test the ability of the company to respond to and effectively manage incidents

	KEY PERFORMANCE INDICATORS		BEST-PRACTICE GUIDANCE
11.1	11.1.1	Detailed vessel emergency response plans include initial notification procedures and cover all credible emergency scenarios.	Vessel emergency response plans are reviewed at least annually, to reflect changes in legislation, contact details, vessel equipment and changes in company procedures. They are additionally reviewed following any incident or drill where the emergency response plans have been used.
	11.1.2	A detailed shore-based emergency response plan covers all credible emergency scenarios.	The shore plan includes effective notification procedures and communication links for rapidly alerting the emergency response team and ensures there is 24-hour cover that takes account of holidays and work-related travel arrangements. Exercises provide a comprehensive test of all communication systems and mobilisation, including exercises being conducted outside normal office hours.
	11.1.3	The shore-based emergency response plan has clearly defined roles, responsibilities and record keeping procedures.	The plan sets out the actions to be taken for each of the defined roles. Individuals are identified to fill each role with alternates for key positions including the person with overall authority. Personnel are trained in their designated emergency response roles.
11.2	11.2.1	The company provides suitable emergency response facilities.	This may include a dedicated room with facilities such as: • Dedicated phone lines and additional connection points. • Sufficient power outlets for equipment including mobile phones and fax. • Sufficient computer work stations/docking stations with network access and dedicated email. • Electronic or paper charts. • A whiteboard, markers and/or flip charts. • Satellite or cable television. • Back-up power supply. • Breakout rooms. Incident room facilities are regularly reviewed to take account of new technology.

	11.2.2	The scope and frequency of drills and exercises is determined by the number and type of vessels within the fleet and their trading pattern(s).	An exercise schedule is used to ensure that exercises are conducted within the given time frame. Incident scenarios for exercises have varied content and duration and fully test the contingency plans, including security elements. Comprehensive vessel/shore exercises are carried out at least annually. These may be supplemented by table top exercises which test specific areas of the emergency response plan.
	11.2.3	The plan includes procedures and resources to interact with media.	The interaction with media may include: • Responding to media enquiries. • Press releases. • Monitoring of news broadcasts. • Monitoring and responding to social media. • TV and radio interviews. Company personnel receive media training appropriate to their role. External consultants may be used to support the company.
	11.2.4	Lessons learnt from exercises and actual incidents are incorporated into the emergency response plans.	Following an exercise or incident, the company: • Records lessons learnt. • Identifies areas for improvements. • Ensures that corrective actions are implemented, including any identified training requirements. • Ensures that exercises are discussed at the management reviews. • Circulates lessons learnt among fleet and shore-based personnel.
11.3	11.3.1	Records are kept of participants who have been involved in emergency drills and exercises.	All personnel assigned a role take part in an exercise at regular intervals. Designated alternates for key roles are included in the planned exercises and drills. External resources and vessel personnel may be invited to actively participate in planned exercises and drills.

	11.3.2	Arrangements are in place to use external resources in an emergency.	Contact details are readily available for: • Salvage and towage contractors. • Emergency response services. • Flag States and local authorities. • Charterers and cargo owners. • Hull and machinery insurers and P&I. • Media consultants. • Legal resources. • Manning agents where appropriate. • Logistic resources, including travel and procurement.
	11.3.3	Drills and exercises test the effectiveness of arrangements to call on external consultants and resources.	External resources are mobilised at least annually. Communications links to external resources are checked regularly during the exercises.
	11.3.4	Business continuity, in the event of potential disruption to the main place of business, has been addressed.	The company documents how they would maintain shore-based operations in order to ensure safe management of the fleet.
	11.3.5	Procedures address recovery following an incident.	Procedures may include: • An assessment of the ability of the ship and personnel to safely proceed on voyage. • The need to preserve evidence, such as, CCTV records and VDR information. • Engagement with external agencies as appropriate, e.g. Flag, Class, P&I, Coast Guard, law enforcement.
11.4	11.4.1	There is a formal business continuity plan identifying and addressing events that may result in serious disruption to the business.	The plan is based on a risk-based assessment of identified credible scenarios. Procedures to enable the company to maintain shore-based operations may include: • Personnel and fleet notification procedures. • The ability for personnel to work remotely and/or alternative premises. • Remotely located IT facilities including back-up servers. • Testing the plan at regular intervals.

	11.4.2	The company participates in major emergency exercises involving external agencies.	The major exercise may be initiated by: • National or local authorities where the company is invited to participate. • The chartering company. • The company itself. Alternatively, the company may use specialist crisis management consultants to facilitate and simulate more realistic drills and exercises.
	11.4.3	Means to support a protracted emergency response have been identified.	Examples may include: • Managing fatigue of the emergency response team. • Catering and hygiene services. • Accommodation. • Safe transportation of the response team. • Periodic review of level of response. • Maintaining safe operations of the fleet.
	11.4.4	Additional resources to support crisis management have been identified.	The resources may include: • Family Liaison Officer(s). • Specialist post trauma support. • Trained negotiators.

Element 12 and 12A
Measurement, Analysis and Improvement

Main objective
To establish effective inspection and audit programmes that measure compliance with the SMS and monitor the condition of vessels. Analysis of the result drives continual improvement.

To be fully effective, the SMS is maintained as a living document at the core of the business.

Vessel inspections
The company ensures that:

- Shore-based personnel carry out frequent inspections to monitor vessel condition.
- The results of the inspections including any action items is compiled in a written report to company management.
- Action items are tracked to closure.
- Periodic analysis of the inspections is used to drive continual improvement.

Internal audit
The company ensures that:

- Internal audits of all vessels and relevant office locations are conducted to verify all personnel are in compliance with the SMS and applicable regulation.
- Results of audits, including any non-conformances are reported promptly to company management.
- Non-conformances are tracked to closure.
- Periodic analysis of the audit is used to drive continual improvement.

Analysis of the results of inspections and audits form part of periodic management reviews of the SMS.

12 Measurement, Analysis and Improvement – Inspections

Aim - To establish a structured process for conducting vessel inspections to monitor, analyse and improve the condition of vessels in the fleet.

	KEY PERFORMANCE INDICATORS		BEST-PRACTICE GUIDANCE
12.1	12.1.1	A company specific format is used for conducting and reporting vessel inspections.	The standard format is used as a basis for all vessel inspections. The inspection format covers all areas of the vessel and its equipment. The format is controlled through the company document control system.
	12.1.2	An inspection plan covers all vessels in the fleet, with at least two inspections of each vessel a year.	The inspection is conducted by suitably experienced superintendent(s) and may be carried out in conjunction with other inspections/audits. Following each inspection a report is made and is reviewed/signed off by shore management. The inspection process provides company management with a comprehensive overview of the condition of the fleet at specified intervals. Records are kept of the inspections and
12.2	12.2.1	The inspection format is of a standard that is at least equivalent to the vessel inspection reports issued by industry bodies such as OCIMF, CDI or EBIS.	The format is reviewed against industry formats and in addition incorporates: • Company specific items. • Areas identified from lessons learnt. • Company and industry best practice. • Where applicable, vessel type specific items.
	12.2.2	A system records any deficiencies identified by the inspections and tracks them through to close out.	The outcome of inspections is recorded and deficiencies tracked to ensure close out within a specified time frame. Regular checks are made on the status of open items. A summary of the status is provided to senior management on a quarterly basis.
12.3	12.3.1	To improve vessel standards, the company analyses its inspection results and makes comparisons within the fleet.	Identified best practices are shared with the fleet. Where comparisons identify weaknesses or anomalies corrective action is taken. The analysis supports a cycle of continual improvement.

	12.3.2	In order to improve the inspection process, analysis of inspection results is compared with data from third party inspections.	The company compares its own inspection results with the results of inspections conducted by third parties. The comparison is comprehensive and identifies any specific areas of weakness. Where there are consistent anomalies, the vessel inspection process is reviewed and improved. These comparisons are used to monitor/improve fleet inspection standards.
	12.3.3	The inspection process identifies weaknesses in personnel familiarity with equipment and operations.	Where the review of the inspection report indicates that the root causes of deficiencies are attributable to a lack of familiarity, this is addressed.
12.4	12.4.1	Information from detailed analysis of inspections is fed into a continual-improvement process.	The data from the analysis may be used for: • Identification of improvements to the SMS. • Benchmarking against peer companies. • Performance evaluation of senior vessel personnel and superintendents. • Evaluation of equipment manufacturers, vendors, service providers and third party contractors.
	12.4.2	Information technology is used to enhance the inspection process.	Enhancements may include: • Use of portable devices, e.g. tablets. • Purpose built software and applications. • Automated reporting processes. • Use of digital imaging, in the same location and taken at regular intervals, in order to maintain a photographic condition history.

12A Measurement, Analysis and Improvement – Audits

Aim - To establish a structured process to conduct planned and systematic audits of all vessels and shore-based office locations.

	KEY PERFORMANCE INDICATORS		BEST-PRACTICE GUIDANCE
12A.1	12A.1.1	The company has documented audit procedures and standard audit formats.	The formats are designed, as required, for ISM, the ISPS Code, ISO Standards and any company internal audits.
	12A.1.2	Company auditors are appropriately trained and qualified.	Auditors have received formal audit training. The company maintains training records of individual auditors and a record of audits conducted by them.
	12A.1.3	An audit plan covers all vessels and company offices.	The plan provides for audit(s) of the entire company organisation and fleet at specified intervals.
12A.2	12A.2.1	Audit results are reported to management within a specified time frame.	The audit procedure sets an internal performance standard for the time taken from completing the audit to producing and distributing the report.
	12A.2.2	Audits are performed in line with the audit plan.	Any deviations to the audit plan are justified and approved by senior management. Management reviews the number of audits performed against the number of audits planned on a regular basis, (at least quarterly). Where necessary, managers assign additional resources to keep up-to-date with the plan.
12A.3	12A.3.1	All audit non-conformities are closed out within the prescribed time frame.	All non-conformities are tracked through to completion and records demonstrate effective close out of required corrective actions. An audit status report, including open non-conformities is reported to senior management on a quarterly basis. A procedure addresses, by exception, non-conformities that cannot be closed out within the original time frame.

12A.4	12A.4.1	Formal analysis of audit results is performed at least annually and this drives continual improvement of the SMS.	The data from the analysis may be used for: • Identifying trends and areas for improvement. • Identifying required improvements of the SMS. • Confirming compliance with new legislation requirements. • Measuring compliance with the SMS.
	12A.4.2	Information technology is used to enhance the audit.	Enhancements may include: • Use of portable devices, e.g. tablets. • Purpose built software and applications. • Automated reporting processes. • Use of digital imaging.
	12A.4.3	A contractor management system which includes periodic auditing is in place.	The contractor management system may require audit of: • Shipyards. • Dry docks. • Third party service providers.

Element 13
Maritime Security

Main Objective
To provide a safe and secure working environment by developing a proactive approach to security management. To mitigate security risks and minimise the consequences of any breaches of security affecting, or potentially affecting, personnel and assets at all company locations.

Security Management
Effective security management requires the systematic identification of threats in all areas of the company's business, with measures implemented to mitigate risks to the lowest practicable level.

Due to the continually changing maritime security situation, the company has a system for monitoring and managing change, complemented by a tiered approach to security.

The company ensures that:

- Security plans cover all aspects of their activities.
- Procedures are in place to identify threats covering all business activities.
- Measures to mitigate and respond to identified threats are in place.
- Security information is managed and reviewed.
- Procedures are in place for the reporting of actual incidents and potential threats.
- Risk assessments of activities are undertaken to identify and mitigate potential security threats.
- Personnel receive appropriate security training applicable to their responsibilities.
- Procedures include identification of threats to cyber security, with appropriate guidance and mitigating measures in place and the active promotion of awareness.
- The travel policy includes provision for minimising security threats to personnel.
- Security procedures are regularly updated taking into account latest industry guidance.
- Security management is included in the internal audit programme.
- Assessments and exercises are undertaken to test preparedness.
- Independent specialist support is provided, as appropriate, to respond to identified threats.
- Vessels are provided with enhanced security and monitoring equipment.
- Security enhancements are considered for inclusion in refit specifications and new build designs.
- Innovative security technology is tested and implemented as appropriate.

13 Maritime Security

Aim - To establish and maintain policies and procedures in order to respond to and mitigate identified security threats covering all company activities including cyber security.

	KEY PERFORMANCE INDICATORS		BEST-PRACTICE GUIDANCE
13.1	13.1.1	Documented security plans are in place.	The plans cover all aspects of activities including: • Shore-based locations. • Vessels. • Personnel. The personnel responsible for security related matters are identified.
	13.1.2	The company has documented procedures in place to identify security threats applicable to vessels trading areas and shore-based locations.	Security threats may include: • Petty theft. • Vandalism. • Stowaways. • Cargo theft. • Cyber threat. • Inadequate port security. • Trafficking of people, arms or drugs. • Smuggling. • Piracy. • Sabotage and arson. • Terrorism and its subsequent effects. The identified threats are reviewed as required by changes in circumstance.
	13.1.3	Measures have been developed to mitigate and respond to all identified threats to vessels and shore-based locations.	Mitigating measures may include: • Access control. • Physical security measures. • Drills and training. • Security patrols. • Searches. Contingency plans are in place to respond to any potential breaches of security.

	13.1.4	Procedures are in place to obtain, manage and review current security related information.	Security information is obtained by the company from appropriate sources that may include: • International and national agencies. • Regional Maritime Security reporting centres. • Flag State. • Industry bodies. • Local agents. • Military sources. • Specialist consultants. The responsible person(s) reviews the information and issues relevant guidance to shore-based locations, personnel and vessels as appropriate.
	13.1.5	Procedures include the reporting of potential security threats and actual security incidents.	The reporting procedures may include: • Internal ship reporting. • Vessel to the company. • Vessel to external authorities. • Company to external authorities.
13.2	13.2.1	Formal risk assessments of company activities are undertaken to identify and mitigate potential security threats.	The risk assessments are regularly reviewed, updated and company procedures amended as necessary. Ship specific security risk assessments are reviewed prior to entry into areas identified as having an increased risk. Where the risk assessment determines it necessary, ship specific hardening measures are developed, documented and implemented. Consideration is given to the provision of appropriate ship protection materials/equipment, which may then be recorded in a vessel specific ship protection measures/hardening plan.
	13.2.2	The personnel responsible for security receive training appropriate to their role and the company's activities.	Training reflects the scope of the company's activities and, where required, meets minimum international or national legislative requirements. Consideration is given to the need to train an alternate for key security roles. A security briefing is provided to all personnel as part of their familiarisation process.

	13.2.3	Policy and procedures include cyber security and provide appropriate guidance and mitigation measures.	Risks to IT systems may include: • Deliberate and unauthorised breaches. • Unintentional or accidental breaches. • Inadequate system integrity, such as firewalls and/or virus protection. Systems with direct or indirect communication links, which may be vulnerable to external threat or inappropriate use, are identified. These may include navigation, engineering, control and communication systems. In developing procedures, the company may refer to relevant current industry guidance.
	13.2.4	The company actively promotes cyber security awareness.	Effective means are used to encourage responsible behaviour by shore-based personnel, vessel personnel and third parties. Such behaviour may include: • Locking of unattended work stations. • Safeguarding of passwords. • No use of unauthorised software. • Responsible use of social media. • Control/prevention of misuse of portable storage and memory sticks.
13.3	13.3.1	A travel policy is in place to minimise security threats to personnel.	The policy is based on risk assessment and includes vessel personnel, shore-based personnel and contractors travelling on company business. As appropriate, restrictions and guidance is in place for travel identified as being an elevated risk. The travel policy is regularly reviewed to take account of changes to security threats.

	13.3.2	Security procedures are updated taking into account current guidance.	Industry guidance may include: • *Best Management Practices for Protection against Somalia Based Piracy*. • *Drug Trafficking and Drug Abuse* (ICS). • *Maritime Security – Guidance on the ISPS Code* (ICS). • Security planning charts. • Guidelines on cyber security from industry and Class. • *Large Scale Rescue Operations at Sea* (ICS). • *Regional Guide to Counter Piracy and Armed Robbery Against Ships in Asia* (ReCAAP-ISC). Company vessels are provided with the latest editions of relevant security related publications.
	13.3.3	The security policy and related procedures are included in the internal audit programme.	The audit assesses compliance with all aspects of company security procedures, including personal awareness and behaviour.
13.4	13.4.1	Assessments are undertaken of the company's security measures and preparedness.	The assessments may be conducted by in-house personnel or by external resources.
	13.4.2	Independent specialist support is used to mitigate identified security threats.	Any contracts for specialist support both onboard and ashore, are supported by a comprehensive scope of work. Such support may be contracted for activities that include training, security and threat assessments and guard duties. Prior to entering into a contract the company undertakes a thorough due diligence assessment of the proposed contractor including compliance with relevant standards. Guidance regarding the conduct of security consultants onboard and their scope of work, is provided to the Master.
	13.4.3	Vessels are provided with enhanced security and monitoring equipment.	Examples of such equipment include: • Water cannons. • Thermal imaging equipment. • Stern radars. • Blast film for windows. • Keypad entry systems. • CCTV monitoring and recording systems. • A secondary means of independent satellite telephone communication.

	13.4.4	Security enhancements are considered for inclusion in refit specifications and new-build design.	Enhancements and specifications may be dependent upon: • Trading area. • Vessel type and size. • Manning levels.
	13.4.5	The company is involved in the testing and implementation of innovative security technology and systems.	This may include: • Physical measures to improve security. • Software enhancements to IT systems.