SHIPBOARD SAFETY MANUAL

Contents

CHAPTER 00 – INTRODUCTION & DOCUMENT CONTROL

0.1 Introduction

The **Shipboard Safety Manual (SMM)** of **GLOBAL TANKERS PVT. LTD.** serves as the **primary reference for shipboard operations**, ensuring:

- **Safe, efficient, and compliant shipboard procedures**.
- Alignment with **ISM Code, SOLAS, MARPOL, and company-specific policies**.
- Standardized **safety procedures**.

This manual must be **read, understood, and implemented** by **all officers and crew**.
All personnel must be **familiar with the relevant chapters**.

0.2 Document Control & Updates

To maintain accuracy and compliance, the manual is subject to **periodic updates**.

0.2.1 Responsibilities for Manual Updates

- **Master:** Ensures that the manual is **kept up-to-date** at all times.
- **Company Head Office:** Issues **correction sheets and revisions**.
- **Shipboard Personnel:** Must **promptly implement updates** and **destroy obsolete versions**.

0.2.2 Updating Procedures

- When a **revision is received**, the Master must:
    1. **Remove and destroy outdated pages**.
    2. **Insert updated pages** as per the **Document Serial Correction Sheet**.
    3. **Log the update in the Document Serial Correction Sheet**.
    4. **Ensure all officers acknowledge the update**.

DOCUMENT SERIAL CORRECTION SHEET				
REVISION NO.	**ISSUE DATE**	**CORRECTED PAGES**	**DATE INSERTED**	**INITIALS**
01	**29.01.2023**	**Pg. 3 Chapter 01**	**29/01/2023**	Capt. J. Rozario

01	**29.01.2023**	**Pg. 1 Chapter 12**	**29/01/2023**	Capt. J. Rozario
01	**29.01.2023**	**Contact Details Appendix III**	**29/01/2023**	**Capt. J. Rozario**
01	**01.01.2024**	**Contact Details Appendix III**	**01/01/2024**	**Capt. Gopal**
01	**01.01.2025**	**Contact Details Appendix III**	**01/01/2025**	**Capt. Navjot Singh**

0.3 Verification & Acknowledgment

0.3.1 Verification Chart

All shipboard personnel must read, understand, and acknowledge the manual.

NAME	RANK	DATE	REMARKS	SIGNATURE

CHAPTER 01 – DUTIES AND RESPONSIBILITIES

This chapter outlines the allocation of responsibilities for deck and engineering officers. The duties and responsibilities are assigned in accordance with the requirements of GLOBAL TANKERS PVT LTD, MSMC, and operational needs. In cases where only the Master or the Chief Engineer is on board, certain sections become their responsibility as indicated.

1.0 ALLOCATION OF RESPONSIBILITIES FOR DECK AND ENGINEER OFFICERS

The practices described here represent the company's recommended standards. The Master is empowered to re-allocate duties as long as operational and safety standards are maintained.

- **Note 1:** Safety is the first priority; supervisors are expected to conduct risk assessments for both routine and non-routine work (referencing Company Circular: CC/SAF/02).
- **Note 2:** The term "HE" is to be interpreted as "he or she" as appropriate.

1.1 THE MASTER

1.1.1 OVERALL RESPONSIBILITY

- Responsible for the safety of the ship and everyone on board.
- Ensures that the ship operates efficiently as both an operational and economic unit.
- Protects the interests of the company and, when appropriate, those of the charterers.
- Holds full authority onboard, including the right to refuse unauthorized entry.
- Maintains discipline and fosters a cooperative atmosphere.
- Ensures compliance with Oil Pollution Prevention Legislation and proper handling of certificates and surveys.
- Manages the ship's accounts and oversees economical usage of stores.

1.1.2 MASTER'S AUTHORITY TO RE-ALLOCATE DUTIES

- May re-assign duties as needed.
- Must ensure that every designated duty is covered.
- Re-allocation must be documented and posted visibly (including the date and acknowledgment by the officer).

1.1.3 RESPONSIBILITIES

- Holds overall command and is accountable to the Operations Manager for day-to-day operations.
- Exercises discretionary decision-making based on prevailing circumstances.

1.1.4 CHANGE OF COMMAND

- Prior to assuming command, the incoming Master consults with the outgoing Master.
- The handover includes detailed briefings on ship characteristics, maneuvers, safety equipment, known defects, and charter party terms.
- Completion of the "Master Hand Over" (Form D-003) is required.

1.1.5 DUTIES

The Master's duties include, but are not limited to, the following:

- **1.1.5.1 Navigation:**
  - Ensures safe and efficient towing navigation with up-to-date charts and navigational publications.
- **1.1.5.2 Ship Handling:**
  - Takes charge of all operations and verifies the functionality of navigational aids using arrival/departure checklists.
- **1.1.5.3 Inspections:**
  - Regularly inspects all ship areas for safety, cleanliness, and maintenance.
  - Uses a Ship's G.A. Plan to record inspected areas and logs findings; critical issues are reported to the S&Q department.
- **1.1.5.4 Commercial Representation:**
  - Acts as the company's representative, safeguarding its image and commercial interests.
  - Ensures confidentiality by consulting with the Office before releasing any documents to third parties.
- **1.1.5.5 Safety / Training:**
  - Ensures proper maintenance and training on life-saving, fire fighting, and oil pollution prevention equipment.
  - Enforces risk assessments (per Circular SAF/02) and maintains training logs (using Form D-014 as applicable).
- **1.1.5.6 Port Documentation:**
  - Verifies that crew and port documentation comply with current regulations.
  - Maintains records using designated systems (TECH 06 and Form D-041).
- **1.1.5.7 Crew:**
  - Promotes discipline, ensures adequate rest (per STCW'2010), and encourages a healthy diet and cleanliness among the crew.
- **1.1.5.8 Bunker and Fresh Water:**
  - Collaborates with the Chief Engineer to ensure adequate supplies of bunkers, lubricants, and fresh water.
- **1.1.5.9 Performance:**
  - Works to ensure that the vessel satisfies both the Owners and Charterers.
  - Assists port authorities as needed.
- **1.1.5.10 Acceptance of Liability:**
  - Must not accept liability (e.g., on protest notes or damage reports) without consulting the Operations Manager or M.D.
  - Documents should be marked "For Receipt only without Prejudice to owners."

- **1.1.5.11 Maintenance:**
  - Oversees the maintenance of all vessel components as per the Planned Maintenance System (PMS).
  - Ensures that delegated maintenance tasks are properly performed.

1.2 THE CHIEF OFFICER

1.2.1 GENERAL RESPONSIBILITIES

- Acts as the second-in-command.
- Assumes command in the Master's absence or incapacity.
- Organizes and supervises the deck department and enforces crew discipline.
- Plans cargo operations with attention to operational stresses and factors.

1.2.2 SAFETY

- If designated as Safety Officer by the Master, gives special attention to the care and maintenance of life-saving and fire fighting appliances.
- Personally supervises heavy or challenging tasks.
- Conducts thorough pre-departure inspections to ensure all equipment and personnel are in order.

1.2.3 RECORDS

- Responsible for entries in the Deck Log Book.
- Maintains the Oil Record Book Part 2.
- As Garbage Manager, ensures that the Garbage Record Book complies with MARPOL Annex 5.
- Regularly inspects tanks and compartments, keeping accurate records.

1.2.4 PERSONNEL

- Actively supports the training of Junior Officers and crew.
- Inspects crew accommodations to ensure proper hygiene and living conditions.

1.3 JUNIOR OFFICERS (INCLUDING 2ND AND 3RD OFFICERS)

1.3.1 GENERAL RESPONSIBILITIES

- Responsible for bridge watchkeeping and navigational duties.
- Assists with general deck operations under the Chief Officer's direction.
- Expected to learn higher responsibilities through on-hand training.

1.3.2 SAFETY

- Must remain vigilant about personal safety and the safety of others.
- Ensures that all tasks are performed safely.

1.4 CHIEF ENGINEER

1.4.1 GENERAL RESPONSIBILITIES

- In charge of the engine room and its personnel.
- Oversees the safe and efficient operation, maintenance, and repair of boilers, propulsion units, cargo handling equipment, and other machinery/electrical items.

- Maintains all engineering records and ensures regular reporting to Head Office.
- Ensures cleanliness and proper maintenance of machinery spaces and storage compartments.

1.4.2 PERSONAL RESPONSIBILITIES FOR ENGINEERING PRACTICES

- Implements and supervises engineering practices in compliance with applicable Regulations and Instructions.

1.4.3 DISCIPLINE

- Maintains discipline among engineering staff.
- Investigates breaches of conduct, technical negligence, or failures to meet professional standards, and reports these to the Master.

1.4.4 CHANGE OF APPOINTMENT OF CHIEF ENGINEERS

- Prior to assuming duties, the incoming Chief Engineer and the relieving Chief Engineer inspect machinery spaces, equipment, and documentation.
- Special attention is given to pending repairs, fuel consumption, operating parameters, and spares availability.
- A detailed handover report (using Form D-004) is completed and signed by both parties.

1.4.5 DUTIES

The Chief Engineer's duties include, but are not limited to:

1.4.5.1 Records:

- Maintain accurate records of running hours, maintenance work, defects, and repairs.
- Organize documentation as per the Form Index.

1.4.5.2 Allocation of Watch-Keeping Duties:

- Assign watchkeeping schedules to engineering staff.
- Ensure compliance with STCW'2010 for rest and maintain effective communication between the bridge and engine room.

1.4.5.3 Instructions and Training:

- Provide training and practical guidance to Junior Engineers, Cadets, and ratings.
- Ensure that no single individual becomes indispensable.

1.4.5.4 Safety Requirements:

- If designated as Safety Officer, ensure proper care and maintenance of all life-saving and fire fighting equipment, including regular tests (e.g., weekly checks).

1.4.5.5 Familiarity with Control, Piping, and Electrical Systems:

- Ensure all engineering staff are knowledgeable about the ship's control systems, piping, and electrical installations to facilitate rapid emergency responses.

1.4.5.6 Working Relationship with Technical Superintendent:

- Maintain direct communication with the Office and the Technical Superintendent regarding equipment status and technical issues.
- Keep the Master informed of all relevant communications.

1.4.5.7 Instruction Books and Diagrams:

- Safeguard all technical manuals, drawings, and diagrams.

- Ensure they are catalogued and accessible only to authorized personnel.

1.4.5.8 Bunkers:

- Oversee bunkering operations to ensure sufficient, quality bunkers are available.
- Maintain accurate measurements and daily reports (using the noon report) regarding bunkers.

1.4.5.9 Plant Management:

- Post operating instructions for machinery.
- Frequently inspect machinery and spaces to ensure efficient operation.
- *Note:* GLOBAL TANKERS PVT LTD promotes oil-less bilges and no oil on machinery sides.

1.4.5.10 Electrical Installation:

- Ensure proper maintenance of alternators/generators, wiring, and electrical equipment.
- Unauthorized installations or modifications are strictly prohibited.

1.4.5.11 Testing of Steering Gear and Associated Equipment:

- Conduct regular tests as outlined in Chapter 4 of the manual.

1.4.5.12 Work in Port:

- Coordinate with the Master and Technical Superintendent regarding port stays, repair schedules, and necessary authorizations (using Form E-007).

1.4.5.13 Damage Surveys:

- In the event of damage affecting statutory certifications (e.g., grounding or equipment failure), assist in documenting the incident.
- Complete a Damage/Defect Report (Form E-012).

1.4.5.14 Spares and Stores:

- Ensure an adequate inventory of spare gear and stores.
- Prepare requests for replenishment based on a six-monthly planned maintenance schedule.

1.4.5.15 Maintenance:

- Oversee the Computerized Planned Maintenance System.
- Ensure routine maintenance is performed to avoid costly repairs during dry docking or surveys.

1.4.5.16 Fresh Water:

- Monitor fresh water levels daily and inform the Master accordingly.

1.4.5.17 The Opening of Machinery:

- Prior to any overhaul, conduct a risk assessment (per Company Circular SAF/02) and arrange for proper inspections before re-assembly.

1.4.5.18 Survey of Machinery by Chief Engineer:

- Where authorized by the Classification Society, perform machinery surveys during overhauls and complete required reports.

1.4.5.19 Engine Room Staff:

- Train engine room personnel, with particular emphasis on mentoring the Second Engineer to eventually assume Chief Engineer duties.
- Maintain performance records (countersigned by the Master).

1.4.5.20 Seaworthiness:

- Ensure that no repairs compromise the vessel's seaworthiness.
- Obtain prior Office approval for any significant repair work.

1.4.5.21 Performance:

- Keep detailed logs of machinery performance (engine temperatures, pressures, running hours) to analyze operational efficiency relative to manufacturer recommendations.

1.5 SECOND ENGINEER

1.5.1 ALLOCATION OF DUTY

- Reports to and assists the Chief Engineer.
- May be assigned to watchkeeping or day work roles.
- Provides on-hand training for junior engineers.

1.5.2 FAMILIARITY WITH CONTROLS

- Must understand all control systems, piping, valves, and electrical systems to effectively supervise maintenance and repairs.

1.5.3 BOILER

- Responsible for ensuring that the thermal oil boilers are well maintained.

1.5.4 SPARE GEAR REQUIREMENTS AND REPAIR REQUISITIONS

- Advises the Chief Engineer on spare gear needs.
- Assists in preparing detailed repair lists.

1.5.5 EMERGENCY EQUIPMENT

- Ensures that all emergency equipment (including emergency diesel alternators, fire pumps, lifeboat engines, etc.) is tested regularly, subject to operational constraints.

1.5.6 ROTATION OF DUPLICATED MACHINERY

- Manages the controlled rotation of duplicated equipment to ensure safety and test automatic starting sequences.

1.5.7 SAFETY REQUIREMENTS

- Follows safety protocols and collaborates with the designated Safety Officer for all engineering tasks.

1.6 JUNIOR ENGINEERS (INCLUDING 3RD AND 4TH ENGINEERS)

1.6.1 ALLOCATION OF DUTY

- Assigned duties by the Chief Engineer with opportunities for on-hand training.

1.6.2 FAMILIARITY WITH CONTROL, PIPING AND ELECTRICAL SYSTEMS

- Assists with maintenance and repair under the supervision of the Second Engineer.

1.6.3 SPARE GEAR REQUIREMENTS AND REPAIR LISTS

- Aids in compiling spare gear inventories and repair lists.

1.6.4 INSTRUCTION TO JUNIOR STAFF

- Provides assistance and training to new or less experienced staff.

1.6.5 SAFETY REQUIREMENTS

- Must adhere to all company safety policies and emergency procedures.

1.6.6 ACCOUNTABILITY

- Reports to the Second Engineer, with escalation to the Chief Engineer as necessary.
- Must not commence work without a proper "Risk Analysis."

1.7 ELECTRICIAN

1.7.1 ALLOCATION OF DUTY

- Responsible for the safe and efficient operation and maintenance of the vessel's electrical system.
- Must familiarize with the ship's electrical drawings, manuals, and test instruments.
- Prohibited from unauthorized installations or temporary wiring.

1.7.2 ACCOUNTABILITY

- Reports to the Chief Engineer regarding all electrical matters.

1.7.3 SWITCHBOARD EXAMINATIONS

- Conducts regular examinations of main, auxiliary, and emergency switchboards.
- Ensures all safety devices are functioning and repairs any defects.

1.7.4 INSULATION TESTS

- Performs insulation tests as per the Planned Maintenance System.
- Reports any recurring issues to the Chief Engineer.

1.7.5 SPARE GEAR REQUIREMENTS AND REPAIR LISTS

- Assists in preparing lists for electrical spare gear and required repairs.

1.7.6 SAFETY REQUIREMENTS

- Adheres to all safety policies and collaborates with the ship's Safety Officer.
- In the absence of an Electrician, the Chief Engineer assumes these duties.

1.8 GMDSS OFFICER

1.8.1 DUTIES AND RESPONSIBILITIES

- Ensures that all radio and communication equipment is fully operational.
- Verifies that accumulator batteries are charged and that all required documents are onboard.
- Confirms the proper positioning and connection of antennas.

1.8.2 GMDSS LOG KEEPING

- Maintains the GMDSS Log in compliance with Radio Regulations and the Safety Convention.
- Keeps the log at the GMDSS station, records times in GMT, and alerts the Master to critical entries.

1.8.3 ESSENTIAL TESTS

- **Daily:**
  - Conducts a DSC test without signal radiation.
  - Ensures radio installation batteries are fully charged.
- **Weekly:**
  - Conducts DSC tests of MF/HF via test calls (when within range).

  - Tests reserve sources of energy if not battery based.
- **Monthly:**
  - Tests each survival craft's two-way VHF equipment on an alternate frequency (other than VHF Channel 16), unless sealed.
  - Examines each EPIRB, SART, and verifies battery conditions.

1.8.4 DEMONSTRATION OF PORTABLE GMDSS APPARATUS FOR SURVIVAL CRAFT

- Demonstrates the operation and rigging of portable GMDSS equipment to familiarize crew members with its use.

1.8.5 DEMONSTRATION OF RESERVE GMDSS EQUIPMENT

- Prepares an instruction chart with numbering indicators.
- Trains designated personnel to operate reserve equipment in the event the GMDSS Officer is incapacitated.

1.8.6 GMDSS MAINTENANCE

- Oversees the maintenance and repair of GMDSS equipment via an assigned shore-based workshop.

1.8.7 COMMUNICATION AND NAVIGATION EQUIPMENT

- Maintains all onboard communication and electronic navigation equipment.
- Ensures that at least two officers hold valid GMDSS Operator licenses, with copies of these certificates displayed at the GMDSS station.

CHAPTER 02 – THE COMPANY SAFETY RULES

All personnel—crew, office staff, superintendents, contractors, and visitors—must adhere at all times to the following 13 basic safety rules while aboard company vessels. Detailed instructions for each rule follow below.

2.0 THE COMPANY SAFETY RULES

The 13 basic rules are as follows:

1. **No Smoking:** Smoking is strictly prohibited except in areas marked "Smoking Permitted."
2. **No Naked Lights:** The use of naked lights is prohibited.
3. **Unlawful Drug and Alcohol Use:** Drugs and alcohol must not be used or brought on board; any violation (or being under the influence in a manner that impairs duty) is grounds for immediate dismissal.
4. **Personal Safety Equipment:** Company-approved safety clothing and equipment (e.g., helmets, shoes, body, eye, and ear protection) must be worn as required.
5. **Safety Devices:** Only authorized personnel may attend to safety devices. They must not be isolated, bypassed, removed, or have their settings changed without authorization.
6. **Approved Electrical Equipment:** Only approved electrical equipment—including personal devices like cameras, radios, or calculators—may be used in operational areas (except for watches and hearing aids).
7. **Tools:** Faulty or incorrect tools must not be used.
8. **No Horse Play / Willful Damage:** Horseplay, fighting, or deliberate damage to company property is strictly forbidden.

9. **Work Permit System – Part 1:** Employees must check with the Ship's Safety Officer or Supervisor to determine if a work permit is required before starting work.
10. **Work Permit System – Part 2:** All safety precautions specified in work permits must be implemented, and a copy of the permit must be provided to the person performing the work (Ref: ISGOTT).
11. **Visitors:** Visitors must remain at the designated access point until security checks are completed; they must wear a "Visitor Pass" during their stay and return it before departure.
12. **Contractor Awareness:** Contractor supervisors must ensure their teams understand and continuously apply these Safety Rules while working.
13. **Reporting Injuries/Incidents:** All injuries or incidents must be reported to the Ship's Master immediately.

The sections that follow detail the requirements for each rule.

2.01 RULE 1: NO SMOKING

General Requirements:

- Ensure that all portholes are kept **CLOSED**.
- Smoking is only permitted in areas clearly identified by "SMOKING PERMITTED" notices.
- Designated smoking areas must display permanent notices stating that smoking is allowed.

On External Decks:

- No smoking is allowed at any time.
- Where smoking is permitted, utmost care must be taken to properly stub out cigarette or cigar ends and prevent pipe ash from being thrown overboard.
- **Special Note:** Smoking in bed is strictly prohibited.

2.02 RULE 2: NAKED LIGHTS

Prohibition and Consequences:

- Unauthorized use of naked lights is a serious offense that will result in cancellation of all contracts with GLOBAL TANKERS PVT. LTD.
- Upon confirmation, the Master must immediately notify the office, and the involved crew member will be dismissed as soon as possible.

Additional Clause:

- The company will cooperate fully with relevant authorities and comply with all rules regarding drugs. (Note: In some countries, drug abuse or carriage is punishable by death.)

2.03 RULE 3: UNLAWFUL DRUG AND ALCOHOL

General Policy:

- Unlawful drugs and alcohol must not be used or brought on board.
- Possession or being under the influence of alcohol or intoxicants that impair work performance is grounds for immediate dismissal.

Prescription Medication:

- Joining personnel taking prescribed drugs must inform their Manning agent. With the approval of the M.D., the Manning Manager will permit the seafarer to join, with medication kept under the Master's control or administered by an appointed officer.
- Personnel must be aware that many prescription drugs (for minor illnesses) should not be combined with alcohol, as side effects such as drowsiness may impair concentration.

Implementation and Monitoring:

- The Master is responsible for ensuring that seafarers remain alert—especially during emergencies—and is equipped with an alcohol meter for random checks.
- Personnel found under the influence or in possession of banned substances will be dismissed immediately.
- All prescribed onboard medicines must be declared and kept in the custody of the Master.
- The company may conduct random drug and alcohol tests. Any suspicion of banned drugs should trigger an immediate and thorough search of the vessel.

2.04 RULE 4: PERSONAL SAFETY EQUIPMENT

2.04.1 Safety Helmets

- Must be shock absorbent, penetration resistant, and flame resistant.
- Required when moving about the vessel outside the accommodation and in designated work areas.
- Should be worn with a head harness and chin strap.
- The Master may assess whether safety helmet requirements in certain engine room areas can be waived.

2.04.2 Safety Boots / Shoes

- Only safety footwear is permitted in operational areas.
- Flip-flops are not allowed outside the accommodation.
- Footwear must:
  - Fit securely without excessive slippage.
  - Have reliable laces or secure grips.
  - Possess a visible tread pattern to ensure proper grip.
  - Feature undamaged metal toe-caps.

2.04.3 Gloves

- Personnel must wear appropriate safety gloves depending on the hazard:
  - For rough/sharp objects, hot objects, oils, solvents, or chemicals.
- Gloves must be well maintained; loose, wet, or oily gloves pose a safety risk.

2.04.4 Eye Protection

- Use chipping goggles during derusting.
- Provide and use welding goggles, visors, face masks, or safety screens as needed.
- Eye protection is mandatory for any task with potential eye hazards.

2.04.5 Ear Protection

- Personnel must use ear plugs or earmuffs in high-noise areas.
- Areas with high noise will be designated by the Master in consultation with the Chief Engineer.

- A permanent notice ("HIGH NOISE AREA. PROTECT YOUR EARS") will be posted where applicable.

2.04.6 Protective Clothing

- Wear overalls when working on deck or in the engine room.
- Avoid loose clothing, dangling sleeves, neckties, or accessories that might interfere with machinery.
- Clothing must be clean and free from hazardous contaminants.
- Do not use compressed air to remove dust from clothing.

2.04.7 Safety Belts / Harnesses / Lifelines

- Personnel working at heights (two meters or more) or over the side must wear an approved safety harness or belt with an attached lifeline.
- Lifelines must be secured to a strong point so that any fall does not exceed two meters.
- Harnesses and lifelines must be inspected before use and maintained in good condition.
- Special procedures (using Form D-012) apply for working aloft.

2.05 RULE 5: SAFETY DEVICES

Usage and Restrictions:

- Only authorized personnel may attend to safety devices.
- Safety devices must not be isolated, bypassed, or have their settings changed without proper authorization.

Examples Include:

- Rotating machinery guards
- Emergency stops
- Low-pressure alarms for breathing apparatus
- CO_2 fire and machinery alarms
- Over-speed trips and other machinery protection devices
- Pressure and vacuum release devices

Authority:

- The Chief Engineer or another technically qualified person is responsible for delegating any changes or adjustments.

2.06 RULE 6: USE ONLY APPROVED ELECTRICAL EQUIPMENT

General Rule:

- Only approved electrical equipment may be used in operational areas. This applies also to personal electronic equipment (e.g., cameras, radios, calculators) unless otherwise specified (watches and hearing aids are exempt).

Hazardous Areas (Zonal Concept):

- **Zone 0:** Areas with a continuous or long-duration presence of an explosive gas/air mixture (e.g., cargo tanks).
- **Zone 1:** Enclosed or semi-enclosed areas where an explosive mixture is not expected but may occur (e.g., pump rooms or forecastle spaces).

- **Zone 2:** Open areas where an explosive mixture should not occur, though petroleum vapours may be present (e.g., deck areas).
- Electrical equipment used in Zones 0, 1, and 2 (above specified voltage/current limits) must be intrinsically safe.

Exemptions:

- Under normal operating conditions, accommodation and engine rooms are considered non-hazardous.

Contractor Notification:

- Masters must inform contractors of declared hazardous areas and the associated restrictions on electrical equipment.

2.07 RULE 7: TOOLS

Usage Guidelines:

- Faulty, worn, or incorrect tools must not be used.
- Damaged tools (e.g., handles on hammers, files, screwdrivers) or those missing safety devices must be repaired by a competent person or disposed of if beyond repair.
- Cutting edges should be kept sharp and clean.
- Faces of hammers and punches must be true.

Machinery Operation:

- Operation of portable or fixed workshop machinery (e.g., lathes, drills, grinders) should only be undertaken by personnel approved as competent by the Chief Engineer.

2.08 RULE 8: NO HORSE PLAY / WILLFUL DAMAGE

Behavioral Expectations:

- Horseplay—even if initiated innocently—can lead to serious accidents (e.g., misuse of pressurized air-lines or water jets).
- Fighting is strictly prohibited.
- Malicious damage, however minor, will result in the termination of contracts.

Emphasis:

- Assault or willful damage is a severe breach of safety protocols.

2.09 RULE 9: WORK PERMIT SYSTEM

All personnel must be familiar with the various work permits required for different tasks. Supervisors must ensure that proper precautions are taken before work begins.

2.09.1 WORK PERMITS – GENERAL

- A work permit is a safety document that:
  - Lists pre-work checks and precautions.
  - Records foreseeable hazards and the measures to mitigate them.
  - Must be completed before commencing any task.
- Masters must ensure that all contractors and work gangs adhere to the company's Permit to Work system.

2.09.2 Work Permit for Hot Work (Form D-011A)

- **Usage:**
  Required for any hot work, especially in cargo, ballast, or other enclosed/hazardous spaces.
- **Procedure:**
  The Master must secure written permission from the Office before commencing. Document the reason, expected duration, and precautions. Upon completion, notify the office in writing and withdraw the permit.

2.09.3 Enclosed Space Entry Permit (Form D-012A)

- **a) Procedure:**
  Enclosed spaces (e.g., cargo tanks, ballast tanks, pump rooms) may contain dangerous atmospheres. Entry should be considered only in emergencies after a thorough risk assessment.
- **b) Enclosed Spaces / Precautions:**
  - Clearly mark potentially dangerous spaces.
  - No entry is allowed without permission from the Chief Officer (or Chief Engineer for machinery spaces) and a valid permit displayed.
  - Provide adequate illumination, continuous ventilation, and conduct frequent atmosphere checks.
  - A rescue system (including a CABA with spare airline and mask) must be in place.
  - Establish a communication system with predetermined check-in intervals.
- **c) Entry Team:**
  Generally, only one senior officer per department should enter an enclosed space.
- **d) Permit Completion:**
  The Team Leader (a senior officer or petty officer) must complete and initial the permit and submit it to the Master. If any checklist item is answered “NO,” a risk assessment and additional precautions must be documented. For any work beyond entry (e.g., tool use), additional permits (Cold Work, Hot Work, etc.) are required.
- **Other Permits Include:**
  - Cold Work Permit (Form D-011B)
  - Working Aloft (Form D-012B)
  - CO_2 Room Work (Form 013A)
  - Electrical Isolation (Form D-013B)
  - Pumproom Entry Permit (Form D-054)

2.09.4 Work Permit Specification / Operation

- A valid work permit must clearly specify:
  - The work to be carried out.
  - All necessary safety precautions.
  - The equipment to be used.
  - The period for which the permit is valid.
  - The name of the person to whom it is issued and the signatory.
- **Proper operation ensures that:**
  - The issuing authority clearly identifies the person in charge.

- Affected areas and time periods are clearly defined.
- Appropriate protective clothing and equipment are provided and used.
- Any additional requirements by the issuing officer are noted.
- Self-authorization is not permitted.

2.09.5 WORK AREAS AND TASKS WHERE EYE PROTECTION IS REQUIRED

- A table or list should specify the required eye protection for tasks such as:
  - Welding (goggles, face visors)
  - Shot blasting (helmets)
  - Working in gas spaces or near boilers
  - Anchor operations
  - Using compressed air for cleaning
  - Grinding, drilling, or other power tool operations
  - Work in engine room workshops
  - Chemical handling
  - High-pressure water jet operations
  - Electric arc welding, burn cutting, and gas welding
  - Helipad operations
- For each task, appropriate eye protection (e.g., safety goggles, face shields, or visors) must be worn.

2.09.6 PROVISIONS FOR PROTECTIVE CLOTHING

- **Company Equipment:**
  All seafarers are provided with boiler suits, safety helmets, and safety shoes.
- **Contractor Responsibility:**
  Contractors must supply their own protective gear.
- **Additional Onboard Gear:**
  Oilskins, ear defenders, working gloves, rubber gloves, welding gloves (or visors), and chipping gloves are maintained for use as needed.

2.10 RULE 10: WORK PERMIT RECORDS

- All safety precautions specified in work permits must be strictly implemented.
- A copy of each permit must be readily available for inspection.
- Contractors must ensure they fully understand and comply with all safety requirements before work begins.
- During dry-dock or major refits, shipboard management should follow yard safety procedures provided they do not conflict with company rules.

2.11 RULE 11: VISITORS

Access and Control:

- Visitors must report to the gangway watchkeeper upon boarding and leaving.
- A system must ensure visitors are guided to the appropriate contact or representative.
- Unaccompanied non-crew members may be questioned and must be escorted by a crew member.

Safety Measures:

- Ensure access routes are safe and well lit.
- Maintain necessary equipment such as gangway safety nets and properly rigged pilot ladders.
- Secure any movable equipment on decks and in storerooms to prevent hazards.
- Verify that any craft used to transport personnel meets safety standards.

2.12 RULE 12: CONTRACTORS

Pre-Work Requirements:

- Contractor supervisors must ensure their teams understand and adhere to all Safety Rules before work begins.

Monitoring and Enforcement:

- The Master or Chief Engineer must verify that all contractor personnel comply fully with company requirements.
- Non-compliance may lead to cancellation of the contractor's shipboard contract.

2.13 RULE 13: INJURIES / INCIDENTS

Mandatory Reporting:

- All injuries or incidents must be reported immediately to the Ship's Master.
- Reporting is done via Form D-005, which must not include names.

Importance of Timely Reporting:

- Delays in reporting can worsen injuries or lead to additional incidents.
- Reporting minor or "near miss" incidents is crucial; hundreds of near misses may occur for every serious incident.

Safety Culture and Incentives:

- The company promotes a "No Blame Culture" to encourage open reporting.
- GLOBAL TANKERS PVT. LTD. awards USD 50 for each well-documented Near Miss Report.

✅ COMPLIANCE CHECKLIST

- **Smoking:**
  ☐ No smoking in prohibited areas; "Smoking Permitted" zones must be clearly marked.
- **Naked Lights:**
  ☐ Verify that naked lights are not used; all lighting must be appropriately shielded.
- **Drugs & Alcohol:**
  ☐ Ensure that no drugs or alcohol are brought on board and that random checks are enforced.
- **Personal Safety Equipment:**
  ☐ Confirm all personnel wear approved PPE (helmets, boots, gloves, eye, and ear protection) as required.
- **Safety Devices:**
  ☐ Ensure only authorized personnel handle safety devices and settings remain unchanged.

- **Electrical Equipment:**
  ☐ Verify that only approved electrical equipment is used in operational areas, especially in designated hazardous zones.
- **Tools:**
  ☐ Check that all tools are in good condition and appropriate for their intended use.
- **Behavior:**
  ☐ Monitor for any horseplay or willful damage and enforce strict disciplinary measures.
- **Work Permits:**
  ☐ Confirm that the correct work permits are in place and fully completed for all hazardous tasks.
- **Eye Protection:**
  ☐ Ensure personnel use the appropriate eye protection for specific tasks.
- **Protective Clothing:**
  ☐ Verify that all required protective clothing is worn by personnel.
- **Permit Records:**
  ☐ Confirm that copies of work permits are maintained and available for inspection.
- **Visitors & Contractors:**
  ☐ Ensure visitors are supervised and contractors have been briefed on all safety rules.
- **Incident Reporting:**
  ☐ Confirm that all injuries and incidents are reported immediately following the established procedures.

CHAPTER 03 – MONTHLY REPORTING SYSTEM

This chapter establishes the reporting procedures and instructions related to the vessel's monthly reporting system. The procedures focus on ensuring that critical machinery, equipment, and shipboard systems are tested, maintained, and any deficiencies promptly communicated to the relevant authorities.

3.01 MONTHLY REPORTING SYSTEM

- **Primary Report:**
  The primary report from all vessels is "The Vessel's Monthly Report" (Form E-020).
- **Purpose:**
  - To concentrate shipboard and office attention on critical machinery and equipment.
  - To ensure regular testing and promote discipline in the testing of all shipboard systems.
- **Completion:**
  The Master and Chief Engineer jointly complete the report at the end of each month and dispatch it to Head Office.

- **Defect Reporting:**
  Any defect or breakdown must be immediately communicated to the technical superintendent.
  - If the Technical Superintendent is unavailable, contact any other superintendent by the fastest means of communication.
  - A detailed analysis of the defect or breakdown is to be sent to the office using Form E-012.

3.02 INSTRUCTION FOR COMPLETING VESSEL'S MONTHLY REPORT

- **Report Format:**
  The format shall follow the template provided in Form E-020.
- **Reporting Details:**
  - The condition of each piece of equipment is to be stated in the "Status" column.
  - Additional details should be provided in the "Remarks" column.
  - If any equipment listed in the report is not present onboard, "NA" is to be filled in.

3.03 FORM CUSTOMIZATION

- **Reference Form:**
  Please refer to Form E-020 for the primary report.
- **Customization:**
  This form may be customized by the Master and Chief Engineer to add items as necessary, reflecting the specific requirements of the vessel.

3.04 DEFICIENCY REPORTING

- **Immediate Communication:**
  Notwithstanding the monthly reporting form, any deficiency or defect must be reported to the technical superintendent by the fastest means of communication.

✅ COMPLIANCE CHECKLIST – Chapter 3

- **Monthly Report:**
  ☐ Confirm that Form E-020 (The Vessel's Monthly Report) is completed jointly by the Master and Chief Engineer and submitted to Head Office by month's end.
- **Defect Notification:**
  ☐ Verify that any defects or breakdowns are reported immediately to the technical superintendent (or alternative superintendent if unavailable) using Form E-012 for detailed analysis.
- **Report Format Compliance:**
  ☐ Ensure that the report is completed using the prescribed format—stating equipment status in the "Status" column and filling "NA" for missing items.
- **Customization:**
  ☐ Confirm that Form E-020 is customized, if necessary, to include additional items as determined by the Master and Chief Engineer.

- **Timely Communication:**
  ☐ Verify that any deficiencies outside the monthly report are communicated by the fastest means available.

CHAPTER 04 – PROCEDURES FOR EMERGENCIES

This chapter details the procedures to be followed in emergency situations. It covers training and drills, contingency planning, emergency organization, command structure, and the roles of various emergency response teams. The goal is to ensure that all personnel are well-prepared to handle emergencies quickly and effectively.

4.0 PROCEDURES FOR EMERGENCIES

4.01 TRAINING AND DRILLS

- **Training Requirements:**
  Ship's personnel must be familiar with fire-fighting theory, and the Master must ensure that they receive proper instruction in the use of emergency equipment.
- **Drills:**
  - Exercises should be arranged at regular intervals to maintain familiarity with equipment and procedures.
  - The importance of training in safety matters and handling emergencies is emphasized.
- **Documentation:**
  - Full details of all emergency drills are to be recorded in Forms D-016A and D-016B.
  - A summary of drills is to be logged in Forms D-015A and D-015B and sent to the office at the end of each year.
- **Verification:**
  - Company superintendents will randomly check drill records to ensure adherence to the Annual Drill Schedule (Form D-014).

4.02 EMERGENCY AND CONTINGENCY PLANS

- **Planning and Preparation:**
  The Master must prepare contingency plans for various emergencies, such as:
  - Fire in cargo tanks, accommodation, or engine room
  - Vessel breaking adrift from moorings
  - Rescue of personnel from enclosed spaces
  - Steering gear breakdown
  - Man overboard
  - Oil pollution, etc.
- **Essential Information:**
  Personnel involved in emergency response must have ready access to:

- Type of cargo, quantity, and disposition
- Locations of other hazardous substances (highlighted on the GA Plan)
- General arrangement plan
- Stability information
- Fire-fighting and safety plans showing equipment locations
- List of persons on board

- **Reference Documents:**
  This information should be kept on standby with the SOPEP Manual and updated regularly.

4.03 EMERGENCY ORGANIZATION

- **Establishment:**
  An emergency organization must be in place to respond promptly.
- **Purpose:**
  The organization is responsible for:
  - Raising the alarm
  - Locating and assessing the incident and its consequences
  - Organizing manpower and equipment to eliminate the hazardous situation
- **Muster:**
  Each seafarer in the emergency organization must proceed to the designated Muster Point to receive further instructions and duty assignments from the group leader.

4.04 COMMAND CENTER

- **Leadership:**
  The Master is in charge of and controls the emergency response.
- **Location and Communication:**
  The command center must have means for both internal and external communication. Depending on the situation, it may be located on the Navigating Bridge or the Cargo Control Room.

4.05 EMERGENCY PARTY

- **Formation and Command:**
  A senior officer shall lead the emergency party.
- **Role:**
  This party is responsible for assessing the situation, reporting to the command center, and advising on necessary actions and assistance.

4.06 BACK-UP EMERGENCY PARTY

- **Standby Role:**
  The back-up emergency party shall be on standby to assist the primary emergency party as directed by the command center.

- **Support Functions:**
  They provide additional manpower, equipment, or medical facilities as required.

4.07 ENGINEERING PARTY

- **Command:**
  This group, under the Chief Engineer's leadership, provides emergency assistance.
- **Responsibilities:**
  If the emergency occurs in the machinery spaces, the engineering party assumes the responsibilities of the emergency party.

4.08 RAISING THE ALARM

- **Procedure:**
  - The first person to discover an emergency must immediately raise the alarm and inform the officer on duty.
  - The officer on duty then alerts the entire emergency organization.
- **Initial Action:**
  Personnel on scene should take immediate measures to control the emergency—while ensuring their own safety—until the emergency party takes over.

4.09 SHIP'S FIRE ALARM

- **Supplementary Signal:**
  In addition to the standard ship's fire alarm, a series of long blasts on the ship's whistle should be sounded if the vessel is alongside a terminal.

4.10 FIRE FIGHTING EQUIPMENT PLANS

- **Accessibility:**
  Fire fighting equipment plans for shore firefighting teams must be kept in weatherproof containers near the vessel's access point.
- **Display:**
  A current Crew List must accompany these plans, and permanent displays indicating the location of firefighting equipment should be prominently posted in accommodation areas.

4.11 FREQUENCY OF EMERGENCY DRILLS

- **Planning:**
  GLOBAL TANKERS PVT. LTD plans emergency drills to cover all potential emergencies over a one-year period.
- **Schedule:**
  - Drills are to be conducted as frequently as possible, but at least twice per month (including one "Abandon Ship Drill").

  - Drills scheduled for two-monthly, three-monthly, biannual, and yearly intervals should be coordinated with monthly drills.
- **Realism and Debriefing:**
  The Master must ensure drills are conducted as realistically as possible and debrief the crew afterward to identify errors and improve preparedness.
- **Record Keeping:**
  Drill records must be logged in the Deck Log Book and in the prescribed forms.

4.12 TYPES OF DRILLS

- **Examples of Drills:**
  - **Abandon Ship:**
    When weather permits, each boat must be lowered to the embarkation deck; both boats should be lowered and maneuvered in the water once every three months.
  - **Fire-Fighting Drills:**
    Including scenarios such as accommodation fire with a person missing or manifold fire.
  - **Emergency Steering Drills**
  - **Oil Spill Drills:**
    (These should also be recorded in the SOPEP.)
  - **Man Overboard Drills**
  - **Enclosed Space Entry and Rescue Drills**
  - **Flooding of Cargo Spaces:**
    Drills to assess impacts on vessel stability.

✅ COMPLIANCE CHECKLIST – Chapter 4

- **Training & Drills:**
  ☐ Confirm that emergency drills (fire-fighting, abandon ship, etc.) are conducted at least twice per month and are documented in Forms D-016A/D-016B and D-015A/D-015B.
  ☐ Verify that debriefings are conducted after each drill.
- **Contingency Planning:**
  ☐ Ensure that contingency plans for all specified emergencies are documented and readily available.
  ☐ Confirm that essential emergency information (cargo details, hazardous substance locations, GA Plan, stability info, fire-fighting plans, crew list) is updated and accessible.
- **Emergency Organization:**
  ☐ Verify that an emergency organization is established, with defined muster points and assigned roles.
  ☐ Confirm that personnel are aware of their responsibilities in the event of an emergency.
- **Command Center & Emergency Parties:**
  ☐ Confirm that a command center is established with appropriate communication systems.
  ☐ Verify that emergency, back-up, and engineering parties are designated and ready for activation.

- **Alarm Procedures:**
  ☐ Ensure that procedures for raising the alarm are clearly understood and practiced.
  ☐ Confirm that the ship's fire alarm and supplementary whistle signals are functional.
- **Fire Fighting Equipment Plans:**
  ☐ Verify that fire fighting equipment plans are available in weatherproof containers with current crew lists, and that permanent location displays are posted.

CHAPTER 05 – FIRE ON BOARD

This chapter outlines the procedures and techniques to be employed in the event of a fire onboard. It covers immediate actions, theory of fire fighting, types of fire, cooling and smothering agents, and specific fire precautions, including those for welding and oxy–acetylene equipment.

5.0 FIRE ON BOARD

- The person discovering a fire must raise the alarm immediately and indicate the fire's location.
- **Bitumen Tankers:**
  • On bitumen tankers, water must not be used in cargo spaces or the pump room because water in contact with hot bitumen can cause a hydro-explosion.
- Personnel in the vicinity should apply the nearest suitable extinguishing agent to contain the fire, extinguish it, and prevent re-ignition.
- All cargo, tank cleaning, or ballasting operations must be stopped immediately.
- Once all personnel have been evacuated and accounted for, all doors, openings, and tank vents should be closed as quickly as possible, and mechanical ventilation must be stopped.
- Decks, bulkheads, and adjacent tanks containing petroleum products or those that are not gas free should be cooled with water.
- The vessel should be maneuvered to restrict the spread of the fire and allow it to be attacked from the windward side.

5.01 THEORY OF FIRE FIGHTING

- **Fundamental Concept:**
  Fire requires fuel, oxygen, and a source of ignition.
- **Control Methods:**
  Fires can be controlled by:
  - Removing heat (cooling)
  - Removing fuel
  - Excluding air (oxygen)
- **Primary Aim:**
  The main objective is to reduce the temperature, remove the fuel, or block the supply of air as quickly as possible.

5.02 TYPES OF FIRE

5.02.1 Combustible Material Fires

- Cooling with large quantities of water (or water-containing agents) is critical.
- Continuous cooling of the source and surrounding areas is necessary to prevent re-ignition.

5.02.2 Liquid Petroleum Fires

- **Note:** The current fleet consists solely of bitumen carriers; this section is provided for academic reasons.
- Foam is highly effective for extinguishing most liquid petroleum fires.
    - Apply foam evenly and progressively over the burning surface to create a continuous smothering blanket.
    - When no vertical surface is available, apply foam in a sweeping motion with the wind—avoiding dipping the jet into the burning liquid.
    - Small volatile oil fires may be attacked with a water fog or spray; however, water jets must not be used as they can spread the fire.

5.02.3 Fires in Electrical Equipment

- Immediately switch off the power supply.
- Use a non-conductive extinguishing agent (such as carbon dioxide or a dry chemical) to control and extinguish the fire.

5.03 COOLING AGENTS

5.03.1 Water

- Water is the most common cooling agent because of its excellent heat-absorbing qualities.
- A water spray is effective both as a cooling agent and as a protective screen between firefighters and the fire.
- **Important:**
  • Water should not be used as a high-pressure jet when combating oil fires, nor should it be applied on electrical fires.
- At terminals, ensure that adequate hoses are laid at the manifold area. The ship/shore fire connection (with nuts, bolts, washers, and gaskets) should be readily available with the proper sets of two spanners.

5.04 SMOTHERING AGENTS

5.04.1 Foam

- **Note:** Although the fleet comprises bitumen carriers, this section is provided for academic purposes.
- Foam consists of small bubbles with lower specific gravity than oil or water, forming an unbroken smothering blanket over a burning liquid.
- Primarily used in cargo spaces, on the cargo deck, in pump rooms, and engine spaces.
- Foam concentrate is stored in dedicated tanks and delivered by fire pumps in proportionate quantities to monitors and diffusers.
- Different foam concentrates (protein, fluoro-protein, synthetic) must not be mixed and should be tested annually.

- The Master must notify the office immediately if a lab test fails so that the foam concentrate can be replaced.

- Clear diagrams of the foam piping system and operating instructions must be permanently displayed near the operating valves.

5.04.2 Carbon Dioxide

- Carbon dioxide (CO_2) is an excellent smothering agent in enclosed spaces (e.g., pump rooms and engine rooms) because it does not damage machinery or instruments.
- **Precautions:**
  • Do not inject CO_2 into any space containing flammable gas that is not burning. • CO_2 is asphyxiating and undetectable by sight or smell; entry into a CO_2-treated space is prohibited unless breathing apparatus is worn.
- The CO_2 system includes a bank of large cylinders with permanent piping to diffusing nozzles and an alarm that sounds before release, allowing for evacuation.
- Clear instructions for CO_2 release must be displayed near the operating panel.
- The Master, in consultation with the Chief Engineer, will authorize CO_2 release after a head count; if a fire occurs at a terminal, the shore supervisor must also be consulted.
- Most vessels are equipped with fixed CO_2 systems in the engine and pump rooms.

5.04.3 Dry Chemical Powder

- Dry chemical powder is expelled as a free-flowing cloud and is effective for initial control of oil spill fires and confined space fires.
- Suitable for electrical fires because it is non-conductive.
- **Caution:**
  • Dry powder is not a cooling agent, so precautions against re-ignition are necessary. • Only foam-compatible dry powders should be used if foam is also deployed. • Check powder periodically for free flowability, especially if it has become damp or has been standing for an extended period. • Ensure that the CO_2 cylinder associated with the system is full.

5.05 FIRE PRECAUTIONS

5.05.1 SMOKING

- **Restrictions:**
  - Smoking is prohibited outside the accommodation block at all times.
  - Carrying matches and lighters outside the accommodation block is prohibited.
  - Smoking within the accommodation block is permitted only in designated areas specified by the Master, with the following restrictions:
    1. NEVER in alleyways
    2. NEVER in the engine room
    3. NEVER in crew quarters
    4. NEVER in the galley
    5. NEVER in bed or while lying down

- **Operational Restrictions:**
  During cargo, ballast, tank cleaning, or gas freeing operations, smoking is restricted to areas designated by the Master.
- **Designated Smoking Areas:**
  - **In Port:**
    • Mess Room and one other safe area (not more than two areas in total).
  - **At Sea:**
    • Mess Room, Navigating Bridge, and up to two additional safe areas (not exceeding four areas in total).
- **Notes:**
  Additional restrictive notices must be posted on ship board cards, and responsible officers must regularly inspect to enforce these prohibitions.

5.05.2 MACHINERY SPACES

- **Cleanliness:**
  - Maintain pristine conditions in engine rooms.
  - Promptly repair any oil leaks and keep bilges clean.
- **Critical Areas:**
  Ensure that all machinery spaces, including:
  - Boiler uptake and funnel space (check insulation efficiency and absence of combustibles)
  - Hydraulic pump rooms
  - Steering Gear Room
    are maintained in a clean condition.

5.05.3 WELDING AND FLAME CUTTING OPERATIONS

- Welding and flame cutting operations, except those in the workshop, must be covered by the Permit to Work System (using Form D-011A).

5.05.4 GENERAL PRECAUTIONS

- **Pre-Operation Checks:**
  - Inspect equipment thoroughly before any welding or burning operation.
  - Do not use defective equipment.
  - Complete tank entry/hot work permits as applicable.
- **Operational Environment:**
  - Ensure that enclosed spaces are well ventilated and that the atmosphere is continuously monitored.
  - If work resumes after a break, recheck conditions.
- **Safety Practices:**
  - Use safe working practices, including the use of appropriate rescue and fire fighting equipment near the work site.
  - Ensure that fire fighting equipment is suitable for the anticipated hazards.
  - Wear proper protective clothing (e.g., boiler suits, gloves, masks).
  - Keep the work site well lit and ventilated.

- Mitigate heat transfer risks (e.g., use sand trays under work pieces) especially in bunker or oil tanks, which must be gas free.
- Ensure fire extinguishers are readily available.

5.05.5 ELECTRIC ARC WELDING

- **Critical Connections:**
  - Ensure the welding lead is in good condition and that the electrode holder and connectors are fully shrouded.
  - The welding return must be connected to the work piece with equal current carrying capacity.
  - A proper welding earth must be established to keep the work piece at earth potential.
- **Additional Measures:**
  - In wet conditions, operators should wear rubber boots to keep their feet dry (not a substitute for proper circuit design).
  - Consider the risk of heat transfer through bulkheads or decks; use trays of sand to catch hot slag and sparks.
  - Keep fire extinguishers accessible.

5.05.6 OXY–ACYTELENE, BURNING AND WELDING EQUIPMENT

- **Handling & Storage:**
  - Handle compressed gas cylinders with care; secure and store them upright.
  - Use cylinder trolleys when available.
- **Operational Safety:**
  - Keep cylinder valves, controls, and fittings free of oil, grease, and paint.
  - Do not use leaking cylinders; ensure valves are closed when not in use.
  - Connect the regulator directly to the oxygen bottle.
  - Use a nickel oxygen regulator filter (for better ignition resistance) rather than stainless steel.
  - Do not use acetylene for hose sleeve construction due to its deteriorative effect on copper.
- **Storage Restrictions:**
  - Gas cylinders must not be used or stored in cargo tanks, pump rooms, or engine room spaces.
  - If proper storage is not available, store cylinders in an open-air area on the poop deck.
  - Ensure regulators are fitted and both oxygen and acetylene supplies have flash back arrestors.
- **Environmental Safety:**
  - Ensure that the storage area is cool and free of open flames.
  - Prominently display “NO SMOKING” signs near gas cylinders.
- **Post-Operation:**
  - After work, securely close supply valves, gas cylinders, and gas mains.
  - Remove hoses and movable pipes from the work area.

✅ COMPLIANCE CHECKLIST – Chapter 5

- **Fire on Board Procedures:**

  ☐ Confirm that personnel know to raise the alarm immediately and indicate the location of a fire.

☐ Verify that the prohibition on water use in cargo spaces/pump rooms on bitumen tankers is clearly communicated.

- **Theory of Fire Fighting:**
  ☐ Ensure all personnel understand the fire triangle (fuel, oxygen, ignition) and the primary aim of reducing temperature, removing fuel, or excluding air.
- **Types of Fire:**
  ☐ Confirm that personnel distinguish between combustible material fires, liquid petroleum fires, and electrical fires.
  ☐ Verify that the appropriate cooling or extinguishing methods are applied for each type.
- **Cooling Agents:**
  ☐ Ensure that water is used properly as a cooling agent and that water jets are not applied to oil or electrical fires.
  ☐ Check that fire hose connections and ship/shore interfaces are maintained.
- **Smothering Agents:**
  ☐ Confirm that foam, carbon dioxide, and dry chemical powder procedures are followed and that foam concentrate testing is conducted annually.
  ☐ Verify that CO_2 systems include alarms and clear operating instructions.
- **Fire Precautions – Smoking:**
  ☐ Confirm that smoking restrictions are enforced in all specified areas.
  ☐ Ensure designated smoking areas are properly marked and inspected.
- **Machinery Spaces:**
  ☐ Verify that engine and machinery spaces are kept clean and oil leaks are promptly addressed.
- **Welding and Flame Cutting:**
  ☐ Ensure welding and flame cutting operations are covered by the Permit to Work System and that equipment is thoroughly checked pre-operation.
- **General Fire Precautions:**
  ☐ Verify that safe work practices are followed, including proper protective clothing and the availability of suitable fire fighting equipment.
  ☐ Confirm that measures to mitigate heat transfer (e.g., sand trays) are in place.
- **Electric Arc Welding:**
  ☐ Confirm that proper connections for welding lead, return, and earth are maintained and that additional safety measures (e.g., rubber boots, sand trays) are used as needed.
- **Oxy–Acetylene Equipment:**
  ☐ Ensure that gas cylinders are handled, stored, and operated in compliance with guidelines, and that post-operation procedures (secure valves, remove hoses) are followed.

CHAPTER 06 – RECORD OF SAFETY APPLIANCES AND INVENTORY OF EQUIPMENT

This chapter outlines the requirements for maintaining proper records of all safety appliances and equipment inventories. Routine inspections and maintenance schedules must be conducted, and vessels equipped with a Computerised Planned Maintenance System (PMS) and Inventory system must keep these records updated. The Chief Engineer is primarily responsible for ensuring that the computerized PMS and inventory are regularly updated, while the ship's Safety Officer oversees the inspection schedules. The Master, in collaboration with the Chief Engineer, must ensure that responsibilities are clearly divided, with dedicated Deck and Engineering Officers assigned for equipment maintenance.

6.0 RECORD OF SAFETY APPLIANCES AND INVENTORY

- **General Requirement:**
  All vessels must maintain accurate records for safety appliances and equipment inventories.
- **Routine Inspections & Maintenance:**
  - Regular inspection and maintenance schedules should be implemented.
  - Vessels fitted with computerized PMS and Inventory systems must ensure that records are kept up to date.
- **Responsibility:**
  - The Chief Engineer is responsible for updating the computerized PMS and inventory records.
  - The ship's nominated Safety Officer must carry out the inspection schedules.
  - The Master, in conjunction with the Chief Engineer, is responsible for assigning a Deck Officer and an Engineering Officer to maintain the equipment.

6.01 DECK

The following items must be maintained for the Deck area:

- All breathing apparatus and bottles must be fully charged.
- All fireman's outfits and lights must be charged.
- All oxygen equipment must be operational.
- All alarm bells must be tested regularly.
- All water fire-fighting equipment and portable extinguishers located outside the Engine Room and machinery spaces must be inspected.
- Lifeboats, life rafts, and their associated equipment must be maintained.
- All spares and refills for safety appliances should be kept readily available.
- All portable fire extinguishers and similar safety devices must be inspected.

6.02 ENGINE ROOM

For the Engine Room, the following items must be maintained:

- All fire pumps and emergency pumps must be operational.
- All fixed fire-fighting installations (including foam and CO_2 systems) must be regularly inspected.
- The entire fire detection system must be tested.
- All emergency control equipment must be in good working order.

- All water fire-fighting systems and portable equipment within the engine room and machinery spaces must be maintained.
- The Engineering Department must provide assistance to the Deck Department for maintenance or repairs of appliances and systems as needed.

✅ COMPLIANCE CHECKLIST – Chapter 6

- **Record Maintenance:**
  ☐ Confirm that accurate records of all safety appliances and equipment inventories are maintained and updated via the Computerised PMS & Inventory system.
  ☐ Verify that the Chief Engineer regularly updates these records.
- **Inspection Schedules:**
  ☐ Ensure that the Safety Officer conducts routine inspections as per the established schedule.
  ☐ Confirm that the Master and Chief Engineer assign dedicated Deck and Engineering Officers for equipment maintenance.
- **Deck Equipment:**
  ☐ Verify that all breathing apparatus, fireman's outfits, oxygen equipment, and alarm bells are inspected and charged.
  ☐ Confirm that water fire-fighting equipment and portable fire extinguishers on the Deck are maintained and spares/refills are available.
- **Engine Room Equipment:**
  ☐ Ensure that all fire pumps, emergency pumps, and fixed fire-fighting installations (Foam/CO_2) are operational.
  ☐ Confirm that the fire detection system and emergency control equipment are regularly tested.
  ☐ Verify that water fire-fighting systems within the engine room and machinery spaces are in good condition.

CHAPTER 07 – SAFETY OFFICERS

GLOBAL TANKERS PVT. LTD allows the Master to select a Safety Officer. When appointing the Safety Officer, the Master must ensure that the officer meets the following criteria:

- Shall be in a senior position.
- Shall have good knowledge of the safety and security equipment fitted on board.
- Shall be able to explain the working of safety and security equipment in simple language that is understood by the crew (this is to be judged by the Master during drills).
- Depending on the vessel's trading pattern, the officer must be able to devote sufficient time to the vessel's safety and security requirements.

Note: Since the Chief Officer is usually busy with cargo operations in port, the Master should consider appointing the Chief Engineer as Safety Officer if appropriate.

7.01 DUTIES AND FUNCTIONS OF THE SHIP'S SAFETY OFFICER

The Master shall act as the chairman of the Safety Committee and be present at all Safety meetings held on board. The duties and functions of the Ship's Safety Officer include:

i. Form a Safety Committee (with one member from each department) and log this in the Log Book.
ii. Arrange monthly Safety meetings, record minutes, and report outcomes to the Master.
iii. Encourage an active interest in accident prevention among all personnel.
iv. Assist the Master in ensuring that the crew understands the safety requirements for various operations and complies with all safety regulations.
v. Investigate and discuss accidents and unsafe working practices, and report findings along with any commendations.
vi. Ensure that all new crew members receive a "Safety Familiarization Tour" of the ship before sailing from the port of joining (using Form D-051).
vii. Discuss forthcoming operations, port calls, and major maintenance plans.
viii. Plan and formulate realistic fire and safety drills.
ix. Motivate crew members to report near misses to the Safety Committee.

7.02 THE SAFETY COMMITTEE SHOULD MAKE ALL ON BOARD AWARE OF

The Safety Committee must ensure that all personnel are informed about the following:

- Horseplay, fighting, or malicious damage to company property is strictly prohibited.
- Horseplay, even if innocently initiated, can lead to serious fighting or accidents.
- Misuse of pressurized air-lines, water jets, or fire extinguisher devices can cause serious injury.
- Fighting will not be tolerated.
- Malicious damage, however slight, can lead to injury, inconvenience, reduced living quality, and increased costs, and is grossly antisocial.
- Assault or willful damage will result in termination of employment with the company.

7.03 SAFETY, QUALITY AND ENVIRONMENT (SQE) MEETINGS ON BOARD

- The Safety Officer shall convene SQE meetings on board at least once per month or earlier if any incident, accident, or equipment damage occurs.
- It is essential that all personnel attend these meetings, which should not become mere lecture sessions. Instead, the Master and Safety Officer must encourage active participation.
- SQE meetings must be recorded using Form D-001 and forwarded to the Office along with the meeting report.
- The SQE department reviews the reports from each vessel and advises the relevant departments as necessary. All SQE reports are maintained in file SQM-02.

✅ COMPLIANCE CHECKLIST – Chapter 7

- **Selection & Criteria for Safety Officer:**
  ☐ Verify that the appointed Safety Officer is in a senior position, has comprehensive knowledge of

onboard safety and security equipment, and can clearly explain equipment functionality to the crew.
☐ Confirm that the officer's availability meets the vessel's trading pattern requirements.

- **Duties & Functions:**
  ☐ Ensure that a Safety Committee is formed and logged, with representation from each department.
  ☐ Confirm that monthly Safety meetings are arranged, minutes recorded, and reports submitted to the Master.
  ☐ Verify that accident prevention initiatives and investigations are actively conducted and communicated.
  ☐ Check that all new crew members receive a Safety Familiarization Tour (Form D-051).
  ☐ Confirm that realistic fire and safety drills are planned and executed.
- **Safety Committee Awareness:**
  ☐ Ensure the Safety Committee communicates the prohibitions against horseplay, fighting, and malicious damage to all personnel.
  ☐ Confirm that clear consequences (including termination for assault or willful damage) are emphasized.
- **SQE Meetings:**
  ☐ Verify that SQE meetings are held at least monthly or as required by incidents.
  ☐ Ensure that meeting reports are recorded using Form D-001, forwarded to the Office, and archived in file SQM-02.
  ☐ Confirm active participation of crew members in SQE meetings.

CHAPTER 08 – INVESTIGATION OF ACCIDENTS AND INCIDENTS

This chapter outlines the procedures for investigating accidents and incidents onboard. It covers the company's philosophy regarding personal accidents, classification of accidents, detailed accident description requirements, use of forms, management review, and office incident reporting.

8.0 INVESTIGATION OF ACCIDENTS AND INCIDENTS

- All accidents and incidents must be thoroughly investigated, recorded, and reported using dedicated forms.
- Investigations aim to identify contributing factors, prevent recurrence, and ensure compliance with company and regulatory requirements.

8.01 COMPANY PHILOSOPHY ON PERSONAL ACCIDENT

- **Accident Classification:**
  Personal accidents are classified into three categories:
  - No-lost Time Accident (NLTA)
  - Lost Time Accident (LTA)
  - Death Accident

- **Near Miss Reporting:**
  A "near miss" is any occurrence that could have resulted in injury or property damage if conditions were slightly different.
  - Every 900 unreported near misses statistically result in one major accident.
  - The Master shall educate and motivate the crew to report near misses, which will be discussed in Safety meetings.
- **Immediate Reporting:**
  The Master must immediately inform the Safety & Quality (S&Q) Department of any injury onboard.
  - For death or serious accidents, the Designated Person Ashore (DPA) must be notified by phone, followed by a written report.
  - Reports are to be sent monthly using dedicated forms, with a copy maintained onboard in a designated file.

8.01.1 NO-LOST TIME ACCIDENT

- Even light injuries (e.g., finger contusions, small cuts or burns) are recorded as potential indicators of more serious hazards.

8.01.2 LOST TIME ACCIDENT

For lost time and death accidents, the Master must answer key questions, including:

- Were entry and work permits completed?
- Was the injured person engaged in day work or overtime (and since when)?
- What were the weather/sea conditions at the time?
- Was proper personal safety equipment worn?
- Has the injured person been tested for alcohol content?
- Who was the supervising officer during the work?
- What preventive measures and safety arrangements were in place?
- Who accompanied the worker?
- Was the worker and supervisor's rest period adequate?

8.02 DESCRIPTION OF ACCIDENT

The Master must provide a detailed description of the accident, including:

- How the work was pre-planned and organized.
- Personnel involved and the work schedule.
- A brief description of the accident location.
- Immediate preventive measures or actions taken to avoid recurrence.

Additionally, the following contributing factors should be addressed:

- Condition of lighting.
- Condition of the deck or floor platform.
- What additional safety equipment could have prevented the accident.
- Retention of any faulty equipment in the condition found until further investigation.

8.03 GENERAL INSTRUCTIONS

- **Form Completion:**
  - In cases of death, the investigation form must be completed with all entries in a concise manner, stating only true facts without speculation.
  - The form should be printed in a minimum of four copies in the vessel's working language (English).
- **Supporting Documentation:**
  - Include photographs, sketches, diagrams, physician diagnostics, and signed witness statements.
- **Distribution:**
  - Original copy (with all supporting documents) is to be forwarded to Global Tankers Pvt. Ltd., attention Safety & Quality Manager.
  - Copies are to be forwarded to the Manning Office, SQE Department, Insurance Department, the injured crew member or passenger, the physician, and the local agent for settlement of medical invoices.
  - The original form is to be maintained onboard in a dedicated file.
- **Log Book Entries:**
  All accidents must also be reported in the Deck Log Book and the Official Log Book.

8.04 USE OF FORMS

- **For Vessels Under Panamanian Flag:**
  - Each personal injury that requires shore medical assistance must be reported using the "Analysis of Incident, Accident, Injury and/or Death" form (Form D-006B).
- **Official Log Book:**
  - The Master must record substantially the same information in the Official Log Book to comply with Merchant Shipping (Official Log Book) Regulations (Merchant Marine Circular No. 31, 32, and 33).
  - In the narrative section of the log, details of death incidents must be recorded, including notification of the deceased's next of kin.
  - When noting the cause of death, avoid terms like "suicide" or "missing" and use specific descriptions (e.g., "gunshot wound in head" or "lost at sea believed killed or drowned").
  - If in doubt about form completion or log entries, the Master should consult with the Safety & Quality Manager.

8.05 MANAGEMENT REVIEW OF INCIDENT/ACCIDENT

- After the investigation, findings along with the Incident/Injury Investigation Report must be forwarded to Global Tankers Pvt. Ltd.
- The Safety & Quality Manager will review the report for appropriate action.

8.06 OFFICE INCIDENT REPORT

- **Notification:**

  - Upon receipt of accident or incident information from a vessel, the S&Q Manager must notify the Managing Director and all relevant departments.
- **Purpose:**
  - This notification ensures immediate action to address all safety, technical, and commercial aspects.
- **Review and Compliance:**
  - All incident reports are reviewed by the S&Q Manager.
  - If the proper investigation procedure was not followed by the Master, the Managing Director will instruct the superintendents to adhere to the correct procedure.
  - Depending on the severity, the Managing Director may dispatch a team for further investigation.
- **Distribution:**
  - The S&Q Manager (as necessary) will prepare a **Head Office Incident Report**, which is distributed to all vessels to prevent recurrence.

✅ COMPLIANCE CHECKLIST – Chapter 8

- **Accident Classification & Reporting:**

  ☐ Verify that personal accidents are classified as NLTA, LTA, or Death Accident, and that near misses are actively reported and discussed in Safety meetings.

  ☐ Confirm that any injury (especially serious or fatal) is immediately reported to the S&Q Department and, if required, the DPA is notified.
- **Accident Description:**

  ☐ Ensure that the Master provides a detailed, factual description of each accident, including pre-planning, work organization, location, and immediate actions taken.

  ☐ Verify that contributing factors (e.g., lighting, deck conditions, missing safety equipment) are addressed, and any faulty equipment is retained until investigation is complete.
- **Form Completion & Distribution:**

  ☐ Confirm that investigation forms (with supporting documents) are completed in English, printed in at least four copies, and forwarded to all required departments and stakeholders.

  ☐ Ensure that originals are maintained onboard and that entries are also logged in the Deck and Official Log Books.
- **Use of Forms for Personal Injuries:**

  ☐ Verify that Form D-006B is used for personal injuries when shore medical assistance is sought, and that log entries comply with Merchant Shipping Regulations.

  ☐ Ensure specific and accurate language is used in death reports.
- **Management Review & Office Reporting:**

  ☐ Confirm that post-investigation reports are forwarded to the S&Q Manager and that a management review is conducted.

  ☐ Verify that any non-compliance with investigation procedures is addressed by the Managing Director and that a Head Office Incident Report is distributed.

CHAPTER 09 – MASTER'S REVIEW

This chapter outlines the procedures for the Master's review of the Safety, Quality, and Management System (SQMS) prior to signing off from the vessel. The review aims to identify discrepancies between actual practices and the company's manuals, and to provide suggestions for improvement. The process facilitates continuous improvement of the system.

9.0 MASTER'S REVIEW

9.01 FROM MASTER

- **Timing:**
  The Master must perform the review at least one month prior to signing off from the vessel.
- **Purpose:**
  - To compare actual onboard practices with what is written in the company's manuals.
  - To identify conflicts, gaps, or sections that are not relevant or adequately covered.
- **Documentation:**
  - The Master's findings and suggestions must be documented using Form D-002.
  - This review should include recommendations for inclusion, subtraction, or removal of certain manual sections.
- **Evaluation:**
  - The Master must formally evaluate the SQMS and communicate suggestions for improvement to the Company.
  - Improvement needs may arise due to:
    - Procedures not suited to the specific activity.
    - Changes in trading patterns.
    - Introduction of new requirements.
    - Failure to achieve company objectives regarding safe operations and regulatory compliance.
- **Continuous Improvement:**
  - Any deviations noted may indicate that the system lacks proper safeguards and must be reviewed.
  - This process establishes a "continuous improvement" cycle for the SQMS.

9.02 IN OFFICE

- **Evaluation by S&Q Manager:**
  - The Safety & Quality (S&Q) Manager will evaluate the Master's review and note all points for discussion at the Management review meeting.
  - Points requiring immediate action will be promptly brought to the Managing Director's attention.

✅ COMPLIANCE CHECKLIST– Chapter 9

- **Timely Review:**
  ☐ Confirm that the Master conducts the SQMS review at least one month prior to vessel sign-off.
- **Documentation:**
  ☐ Verify that the Master's review is documented in Form D-002, covering all nine components as prescribed.
- **Evaluation & Suggestions:**
  ☐ Ensure that the review clearly identifies conflicts between actual practices and the manuals, along with specific suggestions for inclusion, subtraction, or removal.
- **Continuous Improvement:**
  ☐ Confirm that the Master's review addresses reasons for improvement (e.g., unsuitable procedures, changes in trading patterns, new requirements, or failure to meet safety/compliance objectives).
- **Office Evaluation:**
  ☐ Verify that the S&Q Manager evaluates the Master's review and records all pertinent points for the Management review meeting. ☐ Confirm that any critical points are immediately communicated to the Managing Director.

CHAPTER 10 – GUIDELINES FOR RISK ASSESSMENT

10.1 Objectives

The purpose of risk assessment is to:

- **Implement safe practices in ship operations and maintain a safe working environment.**
- **Identify, evaluate, and control hazards associated with maritime operations.**
- **Ensure compliance with ISM Code, SOLAS, MARPOL, and other applicable regulations.**
- **Establish emergency preparedness procedures to mitigate risks.**

10.2 Introduction to Risk Assessment

- Risk assessment is a **systematic process** to **identify hazards and evaluate risks**.
- It determines whether **existing control measures are sufficient** or if **additional precautions are required**.

10.2.1 Importance of Hazard Identification

- **Failure to properly identify hazards** can result in accidents, environmental damage, or loss of life.
- Risk assessments must be **documented and periodically reviewed**.

10.2.2 Risk Management Process

1. **Hazard Identification** – Recognizing potential dangers.
2. **Risk Assessment** – Evaluating risks to people, property, and the environment.
3. **Risk Elimination or Reduction** – Implementing control measures.
4. **Monitoring & Review** – Ensuring continued effectiveness.

10.3 Key Definitions

- **Hazard:** Any condition that has the potential to cause injury, damage, or loss.
- **Accident:** An undesired event leading to harm to people, environmental damage, or operational failure.

- **Loss:** The consequence of an accident, including injuries, equipment damage, or financial loss.
- **Risk:** The likelihood of an accident occurring combined with the severity of its consequences.
- **Risk Ranking:** A system to classify risks as **low, medium, high, or very high**.

10.4 Legal Requirements for Risk Assessment

Risk assessments are **mandatory** under:

- **The Merchant Shipping and Fishing Vessels (Health & Safety) Regulations 1997** (UK).
- **Occupational Health & Safety (Maritime Industry) Act 1993** (Australia).
- **Industry standards** such as **OCIMF Tanker Management and Self-Assessment Guidelines**.

10.5 Classification of Risks

Risks are categorized into:

1. **Risk to People** – Workplace hazards affecting personnel safety.
2. **Risk to Environment** – Pollution or environmental hazards.
3. **Property & Process Risks** – Equipment failures or procedural non-compliance.
4. **Business Risks** – Operational failures affecting reputation or financial performance.

10.5.1 Risk to People

- Safety risks to personnel include **injuries, health hazards, and exposure to dangerous conditions**.
- The Master and Officers must:
  - **Implement procedural controls** for hazardous tasks.
  - **Verify that safety systems are functional and followed**.

10.5.2 Risk to Environment

- Environmental risks result from:
  - **Oil spills and pollution incidents**.
  - **Improper waste management**.
  - **Failure to comply with MARPOL regulations**.

10.5.3 Property & Technical Risks

- Equipment failures due to:
  - **Poor maintenance or incorrect operation**.
  - **Inadequate training or procedural errors**.

10.5.4 Business Risks

- Business risks include **financial losses, loss of reputation, or regulatory fines** due to:
  - **Operational failures**.
  - **Non-compliance with industry standards**.

10.6 Principles of Risk Assessment

A **risk assessment** is a **careful examination** of potential hazards **to prevent accidents**.

10.6.1 When to Conduct a Risk Assessment

- Before performing **any new operation**.
- **Whenever significant changes** occur in procedures or equipment.

- **After an incident or near-miss**.

10.6.2 Who is Responsible?

- **Company Management:** Overall responsibility for shipboard risk assessments.
- **Master & Chief Engineer:** Ensure all risk assessments are **conducted before any hazardous task**.
- **Deck & Engineering Officers:** Assist in identifying and mitigating risks.

10.7 The Risk Assessment Process

Risk assessment follows a **structured process**:

Step 1: Classify Work Activities

- Operations are classified into:
  - **Navigation**
  - **Cargo Handling**
  - **Deck Operations & Maintenance**
  - **Machinery Operations**
  - **Emergency Situations**
  - **Management of Change**

Step 2: Identify Hazards

- Use the **Structured What-If Technique (SWIFT)** to identify:
  - **Unsafe acts**
  - **Unsafe conditions**
  - **Job and human factors contributing to risk**

Step 3: Assess Consequences

- Consequences include:
  - **Injury to personnel**
  - **Damage to property**
  - **Environmental impact**
  - **Operational delays**

Step 4: Assign Risk Ratings

Risk rating is determined by:

- **Likelihood** (Rare, Unlikely, Possible, Likely, Very Likely).
- **Severity** (Minor, Medium, Major, Severe, Catastrophic).

Step 5: Implement Controls

- **Hierarchy of Controls:**
  1. **Eliminate hazards** if possible.
  2. **Reduce risk at the source** (engineering controls).
  3. **Improve procedures and training**.
  4. **Use personal protective equipment (PPE) as a last resort**.

Step 6: Monitor & Review

- Risk assessments must be **regularly reviewed**.
- **Additional measures** should be implemented **if new hazards emerge**.

10.8 ALARP (As Low As Reasonably Practicable) Principle

- Risk levels must be **reduced as much as possible**.
- **Unacceptable risks** must be **eliminated before operations begin**.

COMPLIANCE CHECKLIST – RISK ASSESSMENT

✅ **Risk Assessment Planning**

- Ensure **all tasks undergo a proper risk assessment before execution**.
- Verify that **officers understand risk classification and reporting procedures**.

✅ **Hazard Identification & Control**

- Implement **preventive measures for identified hazards**.
- Follow **Structured What-If (SWIFT) methodology** for risk analysis.
- Apply **hierarchy of controls to mitigate risks**.

✅ **Emergency & Environmental Preparedness**

- Assess **risks related to environmental pollution and oil spills**.
- Ensure **emergency action plans are in place for high-risk operations**.

✅ **Documentation & Review**

- Conduct **regular reviews of existing risk assessments**.
- Maintain **records of completed risk assessments** onboard.

CHAPTER 11 – RISK ASSESSMENT FORMS

11.0 Introduction

This chapter provides a **structured format for conducting risk assessments onboard**. The primary objectives are:

- **Systematic identification and evaluation of hazards**.
- **Implementation of appropriate control measures**.
- **Compliance with ISM Code, SOLAS, MARPOL, and company policies**.

Every **risk assessment must be documented and reviewed periodically** to maintain safety and operational efficiency.

11.1 Risk Assessment Form Structure

Each risk assessment must be completed using the following structured form:

11.1.1 Ship & Work Details

Field	Description
Ship's Name	Name of the vessel.
Ship's No.	Official number assigned to the vessel.

Field	Description
Work Activity	Description of the task being assessed.

11.2 Risk Evaluation Criteria

Each risk assessment form must evaluate the following aspects:

Column	Description
No.	Sequential number assigned to the task.
Activity/Operation	Specific job or task being performed.
Hazard/Impact	Potential risks associated with the activity.
Existing Control/Safeguards	Measures already in place to mitigate risks.
Likelihood (L)	Probability of occurrence (rated 1-5).
Degree of Impact (D)	Severity of potential consequences (rated 1-5).
Risk Level ($R = L \times D^2$)	Computed risk score to determine hazard severity.
Additional Controls Required (Y/N)	Determines if further risk mitigation is needed.

11.3 Additional Control Measures

If a risk level exceeds acceptable limits, additional control measures must be implemented. The assessment should include:

Activity No.	Further Action Required	Responsible Person	Due Date	Completion Date
B	Additional safety precautions for task B	Chief Officer	MM/DD/YYYY	MM/DD/YYYY
D	Enhanced monitoring required for task D	Chief Engineer	MM/DD/YYYY	MM/DD/YYYY

11.4 Risk Level Classification

Risk levels are assigned based on **likelihood and impact severity**.

11.4.1 Likelihood (L) Rating

Likelihood	Frequency	Value
Rare	Once in 20 years	1
Unlikely	Once in 5 years	2
Likely	Once per year	3
Imminent	Once in six months	4
Certain	Once per month	5

11.4.2 Degree of Impact (D) Rating

Impact	Consequence	Value
Minor	First aid injury	1
Medium	Serious injury requiring hospitalization	2

Impact	Consequence	Value
Major	Loss of body part, long-term disability	3
Severe	Loss of life, permanent disability	4
Catastrophic	Multiple fatalities	5

11.5 Risk Evaluation & Mitigation

- **Risk Level Calculation**: R=L×D2R = L \times D^2R=L×D2
- If **Risk Level > 10**, additional controls **must be implemented**.

11.6 Review & Implementation

Risk assessments must be:

- **Reviewed periodically** to ensure effectiveness.
- **Updated if work conditions change**.
- **Signed by the Chief Officer, Chief Engineer, and Master** before submission to the office.

COMPLIANCE CHECKLIST – RISK ASSESSMENT FORMS

✅ **Risk Documentation & Evaluation**

- Ensure **all high-risk operations have documented risk assessments**.
- Verify **likelihood and impact ratings are properly assigned**.
- Conduct **periodic reviews of all risk assessments**.

✅ **Implementation of Controls**

- Implement **additional control measures for risk levels above 10**.
- Assign **responsible persons for each additional control action**.
- Ensure **all safety precautions are properly followed**.

✅ **Review & Submission**

- Risk assessments must be **signed by the Master, Chief Officer, and Chief Engineer**.
- Submit a **copy of the completed assessment to the office**.
- Conduct **annual reviews to ensure risk controls remain effective**.