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# **SAFETY OF SHIPS IN YARD: SHIP AND YARD MEASURES/RESPONSIBILITIES**

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# **PART "A"**

## **SAFETY OF SHIPS IN YARD GENERAL SAFETY CONSIDERATIONS**

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# WHY IS SHIPREPAIRING AN INHERENTLY HAZARDOUS OPERATION

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- ❖ HOT WORK IN TANKS WITH EXPLOSIVE OR TOXIC FUMES
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- ❖ PAINT AND CLEANING SOLVENTS
- ❖ ELECTRICAL HAZARDS - WELDING CABLES
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- ❖ X-RAY WORKS
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# THE SHIP'S SPECIAL CONDITION IN THE SHIPYARD

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- ❑ Under normal operating conditions both at sea and in port the Crew is responsible for the Safety of the ship in accordance with procedures established by the managing Company.
- ❑ During the ship's stay in the Yard however, either for repairs or during construction, the Safety of the ship and its personnel is to a large extent dependent upon the Shipyard's own Safety Management System.
- ❑ The Situation is aggravated by the fact that during the repair period a number of the ship's systems may be out of operation. The ship and personnel aboard may thus be exposed to unexpected and unfamiliar risks and hazards.

# **SAFETY BECOMES AN IMPORTANT FACTOR IN SELECTING A SHIPYARD**

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*Major Owners require as a Prerequisite for repairing Vessels the following:*

- DOCUMENTATION OF A SAFETY SYSTEM
- VERIFICATION OF ITS IMPLEMENTATION THROUGH AUDITING
- SPECIAL SAFETY REQUIREMENTS INCLUDED IN CONTRACT SPECIFICATIONS (SAFETY MEETINGS ON BOARD, SHIP VENTILATION AND LIGHTING, MEDICAL SUPPORT, ETC.)

## SHIPYARD SELECTION

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- ❑ Geographical location, size of ship, economics and knowledge of a Yard's ability are obviously major factors to be taken into account during the selection of a Shipyard.
- ❑ However, because of the potential impact on Company's personnel and assets, the manner, in which a Yard manages and controls the safety of repair operations should receive particular attention during the selection process and as a part of the tender process.

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## SHIPYARD SELECTION

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- ❑ OCIMF recommends that if a Company intends to assign a contract to carry out the work, whether construction or repair, it should be ensured that potential Shipyards have an HSE (Health, Safety and Environment) Policy and perform all work under a formal HSE Management System. This System should be adequately documented with an HSE Manual and be shown to be effective in implementing the aims and objectives of the Shipyard HSE Policy.
- ❑ It is also recommended that during the shipyard selection process , Shipowners should undertake an audit of the shipyards, which includes their HSE Management Systems and available data on HSE performance.

# HEALTH SAFETY AND ENVIRONMENT MANAGEMENT SYSTEM (OCIMF GUIDANCE NOTES)

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- ❑ The Shipyard HSE System should be designed to deliver continual improvement and additionally:
  - ❑ Incorporate measures to demonstrate that all shipyard personnel are competent to perform their tasks safely,
  - ❑ Ensure that all personnel are conversant with the working conditions at the work site, the rules and standards related to the working environment and the HSE hazards and risks associated with the work programme,
  - ❑ Provide means whereby hazards have been identified, assessed and eliminated where possible, or are being controlled/mitigated,
  - ❑ Ensure that all subcontractors understand the principles and requirements of the system,
  - ❑ Ensure that Yard's personnel and contractors comply with all relevant national statutory requirements, approved codes of practice and other guidance on HSE matters.

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# HEALTH SAFETY AND ENVIRONMENT MANAGEMENT SYSTEM (OCIMF GUIDANCE NOTES)

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- ❑ A permit to work system is in force in a written statement of the procedures to safeguard personnel working in potentially dangerous areas or in with potentially dangerous substances.
- ❑ The Shipyard should make available a Safety Arrangement Plan based on the general arrangement of the vessel. The plan should be displayed in prominent areas and updated promptly,
- ❑ The Shipyard should periodically prepare and issue to the on-site Owner Representative a written HSE report comprising an overview of all accidents, incidents and near-miss events.
- ❑ It is strongly recommended that shipyards have a formal Environmental Management System in place.

# **MOST IMPORTANT**

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TO REALISE THAT SAFETY OF THE SHIP  
DURING REPAIRS IS A RESULT OF A  
COMBINED EFFORT OF TWO PARTIES

**“THE SHIPYARD AND THE SHIP CREW”**

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# PART "B"

## **SHIPYARD SAFETY INFORMATION**

OIL COMPANIES INTERNATIONAL MARINE FORUM  
(OCIMF)

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# INTRODUCTION

## OCIMF – ESSENTIAL RULES FOR SHIPYARD SAFETY

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To ensure that safety of both the ship and the personnel is maintained during a Shipyard repair or construction, it is essential that:

- ❑ Shipyard and Company personnel are conversant with each other's systems and requirements
- ❑ All work is carefully coordinated so that there is no risk or danger from conflicting demands, and
- ❑ There is continuous communication between Shipyard and Company personnel in respect of all repair and Safety matters

## **OCIMF – CONTRACTUAL ASPECTS OF SAFETY**

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The repair Contract should clearly define certain key responsibilities in respect of Safety. As a minimum it should specify:

- ❑ The arrival condition of the ship with respect to condition of cargo tanks etc.
- ❑ The Yard's responsibility for certifying the status of all tanks and spaces and for maintaining and documenting this status throughout the repair period
- ❑ How fuel and lubricating oil tanks are identified
- ❑ Ship access requirements
- ❑ Allocation of Shipyard Safety and Medical support
- ❑ The Yard's responsibility for assessing, supervising and monitoring all aspects of work prior to and after each individual job

## OCIMF – CONTRACTUAL ASPECTS OF SAFETY

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- ❑ The Yard's and Ship's responsibility to properly isolate the work site from any potential hazards and to ensure that the work site remains properly isolated for the duration of the job
- ❑ The Yard's responsibility for regular cleaning of and removal of debris especially hazardous material such as asbestos from the ship,
- ❑ The Yard's responsibility to issue proper hot work and entry permits prior to commencing a job and for ensuring regular updating,
- ❑ The level of Safety awareness and particular Safety requirements that the Owner expects from the Shipyard.

## OCIMF – GENERAL SAFETY CONSIDERATIONS

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- Procedures relating to Gas Free Certificates and Hot Work Permits are to be strictly maintained
- All work is properly coordinated and appropriate Safety measures are enforced
- Any significant change of plan is approved by all parties concerned (Yard, Ship, Contractors etc.) to ensure that the implications for Safety are properly addressed
- Adequate Fire-Fighting capability is maintained throughout the repair period, both in general and specifically in the vicinity of hot work
- Enclosed spaces are maintained in a safe condition for people to enter
- Adequate lighting and integrity of lighting and electrical systems are maintained

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## **OCIMF – GENERAL SAFETY CONSIDERATIONS**

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- Scaffolding and staging is safe to use
- Lifting operations are carried out safely
- Openings in decks, platforms and other structures are properly indicated and fenced
- Emergency exit/access from/to the ship is maintained throughout the repair period
- Transfers of ballast, fuel and lubricating oils are properly coordinated with other repair activities
- Testing of machinery and systems is properly coordinated with other repair activities
- Electrical circuits supplying equipment under maintenance or equipment which should not be started for any reason, are properly de-energized and locked or tagged out

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## **OCIMF – GENERAL SAFETY CONSIDERATIONS**

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- Both Shipyard and Ship employed Subcontractors comply with designated Safety procedures
- Hazardous materials (asbestos, radioactive materials etc.) are handled in a safe manner
- High standards of house keeping and cleanness are maintained
- Correct safety clothing and equipment is worn by all parties at all times while on Board

# OCIMF – REQUIREMENTS PRIOR TO SHIPYARD ENTRY OR WORK

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## Arrival Condition

- The Company should arrange for the Ship to arrive with all cargo tanks, ballast tanks, void spaces, pipe tunnels, cofferdams, pump rooms and empty fuel tanks in a clean and gas free “safe for entry” condition and/or “safe for hot work” condition, if required, in accordance with local regulations
- All cargo, vent, inert gas and cow lines together with cargo heating coils and lines should have been flushed and/or ventilated
- Fuel lines and associated equipment should be similarly cleaned so far this is practical

**(Continues)**

# OCIMF – REQUIREMENTS PRIOR TO SHIPYARD ENTRY OR WORK

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- “safe for entry” criteria are defined as:
  - Oxygen content of 21% by volume
  - Hydrocarbon vapours not more than 1% of the Lower Flammable Limit (LFL) and
  - Toxic gases (e.g. hydrogen sulfide, etc.) below the relevant permissible exposure limit
- It is imperative that a qualified chemist inspect and certify the vessel to be gas free prior to entry into the Yard.
- It is important to note that this initial test may only be to verify that the status of the ship is suitable to enter the shipyard.

# OCIMF – REQUIREMENTS PRIOR TO SHIPYARD ENTRY OR WORK

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## Removal of Oily Residues

- In tanks where significant work is to be carried out, the tank bottom and horizontal stringers and other major surfaces of tank structures should be cleaned of any significant oily residues. Further local cleaning may be required once access is obtained to the work site and cleaning can be further assessed
- If there is work in adjacent tank it may be necessary to remove residue from the other side of the bulkhead
- In case removal of residues is allowed after the ship has entered the yard, hot work should be prohibited until the operation has been completed and all residues removed
- As an additional precaution it may be possible to cover the tank bottom with water, however it should be noted that most chemists do not accept this practice.

# OCIMF – REQUIREMENTS PRIOR TO SHIPYARD ENTRY OR WORK

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## **Non Gas-Free Repairs**

- If in exceptional circumstances and where no viable alternative exists it is necessary to carry out ship repairs with the ship in non gas-free condition, the Company should arrange for all cargo and slop tanks to be inerted
  - Prior to arranging for such repairs, the Company should establish that facilities are available for “topping up” inert gas during the repair period
  - No hot work should be carried out within 60 meters of a non-gas free space.
  - No repair involving hot work should be carried out in pump rooms, within the entire cargo area, or on decks above such spaces, within the inner hull space of a double hull tanker or to any pipeline system connected to these spaces etc., unless such spaces and pipelines are properly certificated “gas free” and suitable for hot work
  - Any tanks or compartments where work is to be carried out should be blanked off from common vent, inert gas and COW lines, with at least two valve segregation from the cargo systems. Valves should be secured and marked accordingly.
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# OCIMF – REQUIREMENTS PRIOR TO SHIPYARD ENTRY OR WORK

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## Verification of the Ship Status

- Prior to entry into the Yard an independent certified chemist should test all lines and tanks. On completion of the tests appropriate certificates should be issued to the Company representative and the Master
- It is important that any tank which is not certified as being safe for entry or safe for hot work is clearly identified as such
- The continuing maintenance and verification of the status of any tank or space throughout the repair period is the responsibility of the Yard

# OCIMF – REQUIREMENTS PRIOR TO SHIPYARD ENTRY OR WORK

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## Fuel and Lubricating Oil Tanks

- All tanks which contain fuel or lubricating oils should be clearly identified. Their boundaries should be clearly and adequately marked.
- No hot work should be carried out on bulkheads of such tanks or within 0.5 meters from such bulkheads.
- All valves or lines to and from such tanks should be clearly marked and should be secured against inadvertent operation.
- All vents from such tanks should be clearly identified.

# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## Safety Factors

Once the ship is in the Yard, the main areas of concern with respect to safety are the following:

- Establishing and maintaining safe working conditions.
- Ensuring that all parties involved are aware of what work is being done, by whom, where and when.
- Securing the personal safety of the ships personnel and others. Ship officers and Yard's Safety Staff should have the authority to stop any work which is considered unsafe.
- Shipyard should ensure that it's personnel and contractors comply with all relevant national statutory requirements and approved codes of practice are complied with.
- Protection of the environment.

# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## **Initial Safety Information on Arrival**

- The Master should be given copies of the Yard's safety and security arrangements and ensure compliance with these requirements
- The Yard should supply with a list of emergency telephone numbers, posted at several locations
- The Yard should demonstrate to the ship staff the fire and emergency alarms and evacuation procedures and tank rescue procedure in place in the Yard
- The Master should supply the Yard with a list of ship's crew and any other Company's staff or contractors who may be attending the ship
- Whilst in shipyard premises all Company personnel should wear identification and carry a card detailing ship, site office and shipyard emergency telephone numbers.

# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## **Fire Fighting Capability**

- The Yard must ensure that there are adequate fire fighting facilities on board the ship throughout the repair period
  - Ship personnel should be made familiar with the operation of extinguishers and nozzles
  - The ship's fire main should be kept pressurized by either the ship or the Yard with adequate pressure and flow rate
  - Fixed fire fighting systems, such as CO<sub>2</sub> and HALON, should have their normal operating means disabled so they cannot be inadvertently operated
  - Charged fire hoses should be available at each location where hot work is being carried out
  - The Yard should have fire patrol organization on the ship
  - Fire watchers should be stationed in the vicinity of all hot work locations provided with appropriate extinguishing media
  - Combustible material should be removed from all work locations in order to eliminate the chance of fire
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# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## **Ship Status Board**

The Yard should establish a protected location where an overall picture of work in progress can be easily determined by means of a status board which should indicate:

- Where work is being carried out
- The nature of the work (hot, blasting, chemical cleaning etc.)
- Who is doing the work (shipyard or ship personnel)
- The expected duration of the work
- What permits have been issued (hot work, confined entry, etc.) and are in effect

# **OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS**

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## **Atmosphere Monitoring**

- The atmosphere of all tanks, pump-rooms and machinery spaces should be monitored at least once a day for oxygen, hydrocarbon gas and any toxic gases which may be present, by a competent and qualified person
- The results of these inspections should be clearly marked at each entrance and the central status board
- Ship's staff should be alerted for opening of pipes lines or valves, introduction of chemicals or paints etc., which could make the atmosphere of the space hazardous or unhealthy

## **Status of Spaces**

- The status i.e. safe for entry, safe for hot work, do not enter etc. must be clearly displayed at each entrance and the central status board

# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## **Permit to Work Systems**

The Yard's safety system should incorporate a permit to work system to control and coordinate key repair activities. This as a minimum, should address:

- The control of hot work
- The control of entry into tanks and other confined spaces
- The use of solvents and other flammable materials
- The control of pressure testing, transfer of hydrocarbons etc.
- The need to verify that opening of any system will not result in any release of liquids or vapours

*Ship's personnel should be advised of permit systems in use by the Yard and copies of the permits to be available in central board*

# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## **Combustible Materials and Solvents**

- Strict control should be maintained over the introduction of combustible materials into work sites
- Before any combustible or hazardous material is brought on board, the company representative should review its product hazard identification bulletin to confirm that hazards from both fire and health point are well understood
- Hot work must not be carried out in any space where combustible liquids or vapours are being used i.e. painting etc.

# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## Control of Industrial Gases

Company representatives should assure themselves that:

- A procedure should exist to assure the safety of main supply or bottled gas used for heating, gas welding or cutting
  - Gas cylinders should be secured against accidental falling
  - Hoses used for acetylene, liquefied flammable gas and oxygen are fitted with flash back arrestors and have been recently pressure tested
  - Hoses should be deployed in a manner where they are not liable to physical damage and do not obstruct walkways
  - Whenever there is a break, torches should be physically disconnected from hoses and hoses leading into a tank should be disconnected from the gas supply
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# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## Safety Inspections

The Yard should have a system of regular inspections to ensure that safe working conditions are maintained including:

- Inspection of work areas during each shift
- The monitoring of unsafe acts
- A daily house keeping inspection to ensure that all walkways are clear from obstructions
- A regular inspection of all the gas hoses

# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## **Staging and Scaffolding**

The Yard should have procedures for scaffolding and staging standards including:

- The use of two course rails
- The use of toe boards
- The use of diagonal bracing
- Staging boards in good condition, not burnt or split
- The prevention of overload etc.
- The use of tags to indicate that scaffolds and staging are safe for use and for recording the regular inspections performed.
- Scrap steel and replacement steel not to be stored on scaffolding platforms

# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## **Personnel Lifting Equipment**

The Yard should be ready to present evidence to the Master that any lifting equipment such as lifts, cherry pickers etc. utilized by the company personnel or contractors:

- Is certified for lifting personnel
- Is regularly inspected and tested and the Certificates/Approval of the inspections should be available
- Is operated by operators properly trained in its use
- Is marked with the permissible weight to be carried etc.

## **Lifting Equipment**

The Yard should have procedures which address:

- The regular maintenance, inspection and checking of the SWL of lifting wires, slings, chain blocks, shackles etc.
  - Safe lifting practices
  - The marking of equipment with its SWL
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# **OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS**

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## **Smoking and Alcohol Consumption Regulations**

Smoking should be prohibited except in specifically identified areas. Ship's personnel should observe these restrictions.

The consumption of alcohol during working periods should be discouraged

## **Ventilation and Lighting**

Adequate ventilation and safe lighting should be provided and maintained in all work sites.

## **Subcontractors**

- The Yard safety management system should include procedures to ensure that subcontractors employed by both Yard and Ship will comply with the yard's requirements
- The Master and Company should advise the Yard where work is to be carried out by contract personnel

# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## **Transfer of Liquids**

- Ship and Yard personnel should be aware of any transfer of liquids (ballast, fuel, lubricants) within the ship and proper notification should be given to any potentially affected work activities
- Loading of fuel and lubricating oil in bulk should be avoided. If this is not possible then all hot work activities should be suspended until loading is completed

## **Testing Equipment and Systems**

- It is essential that both ship and yard personnel are aware of all tests which are to be carried out and coordinate their activities
  - All systems should be visually inspected by ship's personnel prior to commencement of the test
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# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## **Earthing of Welding Equipment**

- The shipyard must ensure that all transformers for arc-welding equipment are adequately earthed

## **Access to Ship**

- There should always be two separate points of access located as far apart as practicable and where possible on opposite sides and ends of the ship
- Where gangways are used a safety net should be positioned beneath each gangway, unless fully enclosed
- Cutting a side opening should be considered, if necessary

# OCIMF – SAFETY CONSIDERATIONS IN THE SHIPYARD DURING REPAIRS

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## **Moorings**

The ship should be securely moored throughout the repair period. The yard should have a system for mooring lines to be tightened if required. Both ship and yard should monitor the moorings on a regular basis to meet any adverse weather conditions.

## **Double Banking**

- In case double banking is necessary, although not desirable, the Master and Company should be advised of any repair activities on the other ship which might affect safety of their own ship and personnel
- A clear way should be marked across the deck of the vessel being crossed

# COMMUNICATIONS

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## **Managing Communications**

The Company representative must ensure that communication links between the yard staff, ship's personnel and Company's contractors are well established and maintained throughout to avoid conflict between jobs.

Battery operated equipment such as mobile phones and pagers represent a potential ignition source and their use on the worksite should be regulated.

## **Monitoring of Repair Activity**

- Ship's personnel should closely monitor all repair activities undertaken by the yard and report to the repair manager any infringements of safety requirements
- Conversely the yard should be invited to monitor all work being carried out by ship's personnel

## **DAILY SAFETY AND PROGRESS MEETINGS**

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Daily meetings on Board should be attended by:

- The Ship Repair Manager
- Ship Officers and Supervisory personnel
- Yard's Supervisory personnel
- Yard's and Company's Subcontractors
- Yard's Safety Officer and Safety Staff

## **DAILY SAFETY AND PROGRESS MEETINGS**

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The purpose of the meeting is to:

- Verify the ship gas status and the validity of gas free certificates
- Review all work permits which have been issued
- Coordinate all work done by the Yard, contractors and ship's crew in order to ensure that safe working conditions prevail in all areas
- Review all systems and equipment tests and coordinate these
- Define priorities in case a conflict exists between various activities
- Identifying the locations where blasting or painting is carried out

## **DAILY SAFETY AND PROGRESS MEETINGS**

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- Identify the pipes or valves which have to be dismantled within areas where people are working
- Verify that opening of lines or valves will not result in the flow of fluids into an area where safety might be compromised
- Review all system or equipment tests and coordinate these
- Inform vessel's crew of any ultrasonic, X-ray or hydrostatic testing which has to be done during the day
- Discuss any violation of safety measures noticed during the previous day, identify the cause of the incident and the action to be taken to prevent reoccurrence
- Confirm any changes in location of all bulk liquids on board including ballast, bunkers and slops
- Review any own or other vessel movements that could impact on safety or progress of the repairs

# PERSONAL SAFETY

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## **Management of Safety**

A ship in a shipyard presents unique combination of hazards in addition to the routine on board hazards, therefore all ship and Company personnel must be particularly diligent about ensuring their safety and contractors.

## **House Keeping**

The Master and Company representatives should establish house keeping standards in conjunction with the shipyard. These standards should include:

- Maintaining walkways clear of hoses, scrap steel and waste material
- Routine patrolling of work areas to maintain standards
- Keeping chemical and paint containers closed when not used
- Wiping up spilled oil or water etc.

# PERSONAL SAFETY

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## **Openings**

Substantial guards and notices around or over each and every opening (tank cleaning openings, access holes etc.) should be used.

## **Slip and Trip Hazards**

Risks from slippery surfaces due to cargo residues, water etc. or hazardous due to scrap metals, welding rods, dunnage etc. should be minimized through use of good housekeeping

## **Ladders and Walkways**

All personnel should verify that ladders and handrails are safe to use, properly secured and that their footing is secured

# PERSONAL SAFETY

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## **Hazards from Above**

Ship and Yard personnel should be alert to the threat of falling objects. Safety helmets should be worn by all personnel at all times that work is in progress.

## **Confined Space Entry**

- Entry into tanks and confined spaces should be carefully controlled for atmospheric conditions and means of rescue.
- A “personnel tracking system” for any ship or Company personnel entering a tank or a confined space should be established by either the shipyard or the Master.

# PERSONAL SAFETY

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## **Personal Protective Equipment**

The Master and Company representative should insist that ship's personnel and all contractors wear appropriate PPE including boiler suits, gloves, safety footwear, helmets, safety spectacles and hearing protection in areas exceeding 85dbA.

## **Respiratory Protection**

If the work being done causes contamination of the atmosphere by material that is inhalation hazard (asbestos, paint mist, boiler cleaning chemicals, blasting dust etc.) respiratory protection should be worn. Use of sand for blasting is not acceptable.

# ENVIRONMENTAL PROTECTION

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Particular attention should be paid to ensure that environment pollution does not occur during shipyard repair period. Issues to be addressed should include:

- All tank cleaning residues, including slops and tank sludge, must be disposed of properly in accordance with governmental regulations and MARPOL 73/78
- Deck scuppers are plugged or led to reception facilities
- Any and all transfers of liquids within the ship are planned so as to avoid the accidental discharge of oil mixtures
- Opening of any system should not release any fluids or ozone depleting substances, and
- Ship's sewage should be disposed of in accordance with governmental regulations and MAROL

# COMPLETION OF REPAIRS

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- All personnel must be vigilant to ensure that all the ships systems have been restored to their optimum seagoing condition and properly recommissioned prior to final testing
- The recommissioning is the direct responsibility of the responsible officers on board, regardless of who carried out the repair work, and therefore ship's personnel should establish prior to start up:
  - That is safe to start the machinery
  - The integrity of the machinery and any systems attached to it
  - That there is adequate supply of fuel, lubrication, cooling water, etc.
  - A Hazard Analysis Form associated with the activity should be worked out.

# COMPLETION OF REPAIRS

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- A predetermined machinery start up plan should be worked out to establish:
  - The respective responsibilities of yard and ship's personnel
  - The appropriate protective equipment should be worn
  - Prior to refloating from a dry dock, ship's personnel should carry out an external examination to ensure that all openings in the hull are properly secured

# OCIMF CHECKLISTS

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- Control of Industrial Gases
- Fire Fighting Capability
- House Keeping
- Lifting Equipment
- Loading/Transfer of Liquids
- Permit To Work System
- Scaffolding/Staging
- Site safety
- Ship Repair Pre-Docking
- Hot Work
- Non-Gas Free
- Pre-Test
- FAT and Offsite Inspection

# OCIMF CHECKLIST FOR LIFTING EQUIPMENT

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	Comment
Is equipment for lifting personnel certified as such?	
Are all cranes used to hoist personnel carriers certified for man riding?	
Are such cranes fitted with brakes or equivalent devices to arrest or prevent movement of the hoist or slewing mechanism when the drive motor is disengaged or in case of a power failure?	
Is equipment , including rigging, marked with its maximum safe working load (SWL)?	
Is the equipment regularly inspected and tested?	
Is all equipment including lifting wires, slings, chain blocks, shackles and associated equipment regularly inspected and proof tested?	
Are crane fail-safe devices and limit switches regularly tested?	
Are safe lifting practices in use?	

# OCIMF CHECKLIST FOR HOUSE KEEPING

	Comment
Walkways maintained clear without obstructions. Routing of cables, hose, etc should not obstruct passage.	
Emergency exit/access from/to ship in place and maintained (two routes at opposite ends of worksite are recommended)	
Openings in decks platforms and other structures are to be properly and adequately indicated and fenced (including corroded areas that will no longer support any weight).	
Adequate guarding must be in place at sides and ends of raised platforms. Particular attention should be paid to the removal of ship side rails and rails in the engine room.	
Lighting in all areas should be adequate. Note: Slips, trips and falls mainly occur due to bad lighting.	
Is all waste including scrap steel, welding rod ends, rags and other waste, etc being removed from the worksite?	
Are all chemical and paint containers closed when not in use?	
Is split oil, chemical and/or water mopped up?	
Hazardous materials. e/g/ asbestos, chemicals, radio active materials etc, should be handled in a safe and controlled manner	

# OCIMF CHECKLIST OF SCAFFOLDING/STAGING (Continues)

	Comment
Are all scaffolds/stages suitably tagged to indicate that they are safe for use and for recording the regular inspections?	
Has scaffolding been inspected and passed by competent inspectors from a recognised body?	
Are safety nets rigged when required?	
Are the staging boards in good condition, i.e. Not burnt or split?	
Are scaffolding platforms free from scrap and replacement steel?	
Is securing of the access ladders and maximum heights of straight run ladders without safety rails or rest platforms within the standards required?	
Steel tube scaffolding not used for earthing welding equipment?	
Is there a system to prevent overloading of the scaffold/staging?	

# OCIMF CHECKLIST OF SCAFFOLDING/STAGING

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	Comment
Are there two course rails capable of supporting 100 kg?	
Are toe boards installed?	
Is diagonal bracing utilised?	
Swinging and hanging scaffolding from wires or chaind to be avoided.	
Are safety harnesses used during erection and dismantling?	
Wooden and bamboo scaffolding to be avoided.	

# List of References

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1. OCIMF Shipyard Safety Information Final Draft Paper, 1997
2. OCIMF Health, Safety and Environment at Newbuilding and Repair Shipyards, 2003
3. International Safety Guide for Oil Tankers and Terminals, ISGOTT 1996
4. A.C. Antoniou, Safety of Ships in Yards during Repairs , Training Course for Shipping Companies.

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**THANK YOU FOR YOUR  
ATTENTION!**