

OCEAN MARINE SURVEYS LTD.



PO BOX 172

GARDEN BAY, B.C. V0N 1S0

PHONE: 604-212-1170

SAFETY MANAGEMENT PLAN

OUR PRINCIPLES

"Accidents are Preventable"

Safety is an absolute

Health and Safety at work is our responsibility

OUR MANAGEMENT SYSTEM

Risks are identified and managed where they have the potential to cause an accident, injury to people, or unacceptable impacts upon environment or the community.

OUR COMMITMENTS

Provide a safe workplace and systems of work to prevent accidents and injuries to people.

Prevent pollution, minimize energy consumption and waste generation.

Increase employees Occupational Health & Safety awareness and safe behaviour.

Comply with relevant OHS legislation, group, client and other applicable requirements.

General Principles

Personal Safety must be the top priority during survey or audit works. Many hazards can be encountered on board during surveys. Systematically assess the risk involved before approaching or entering enclosure area and never take unnecessary risks or carry out the survey unaccompanied, unless a work alone procedure has been established. The Surveyor should take all necessary precautions preserving his own safety. If safety is in doubt for whatever reason, survey activities should be refused, or terminated.

Safety requirements imposed by a third party (local Authorities, boatyards, terminals, owners and others) must be strictly observed. These requirements shall not be transgressed under any circumstances, even if they prevent the Surveyor from proceeding with his surveys. The Surveyor should always require that necessary arrangements be made to allow him to complete his surveys. The Surveyor should always take advantage of local safety measures already adopted to satisfy various regulations in force, as mentioned above. These safety measures may concern protection against falling, the laying out of scaffolds,

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guardrails, nets, etc., including protection against the risk of explosion or suffocation (gas freeing, ventilation), protection against shocks or falling objects (wearing protective helmets), etc.

General precautions for all surveys

Cooperation with the customer and general precautions;

Surveyor must work with the yard/owner representative/manufacturer to maintain safe practices in the yard/ on board ships, and should always require that necessary arrangements are made to conduct surveys safely.

Below are listed unsafe environments that should not exist. In the event that they exist, should prevent the surveyors attendance:

- Unsafe temporary ladders (e.g. using part of cable racks as ladder) or, badly fixed, unsteady ladders.
- Unsafe (badly fixed, unsteady or unguarded) scaffoldings. Timber or wooden boards of scaffoldings in poor condition or overhanging.
- Missing or wobbly and unfixed temporary floor plates around the engine, or during equipment testing of any kind, unless the surveyor is a part of the testing team.
- Insufficient ventilation provided in confined spaces.
- Insufficient lighting provided within enclosed spaces
- No valid permit to entry made available by the client before entry into a confined space.
- Decks and openings without any railing, holes without any protection.
- Non protected electrical installations.
- Surveyors should also avoid entering or standing where there are men working overhead, or where heavy loads are being handled.
- Staring at an electric arc, in particular if it is an automatic welding unit which produces very intense light can be temporarily harmful to your vision.
- The surveyor must always be accompanied during surveys by competent personnel, unless a work alone procedure is developed and coordinated with another person whom is able to respond in a timely manner. An accident while working alone could mean that the Surveyor cannot get any help when needed most.

Additional recommendations for particular surveys when the vessel is in-service;

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The fact that the Surveyor takes all precautions concerning his own safety should not prompt the crew to dissociate themselves from safety matters. The Surveyor should point out that the crew is responsible for assessing hazards and precautions concerning the safety of the surveys once underway.

Boarding a ship in motion is a critical activity, and should be closely coordinated with the ships safety officer to ensure that emergency response protocols are in effect, and hazards are well documented, including drills being performed for recovery of personnel if required.

The following dangers are well known to Surveyors, but it is useful to recall them;

- Wooden hatch covers may be unsafe to walk on.
- Ladders, steps, securing of ladders and steps including securing of scaffolding are critical for protection against falls.
- Missing, or in poor condition decks, platforms, ladders, gangways, graving-dock stairs, ... slippery decks with openings left open and unguarded are particularly dangerous in poorly lit areas between deck conditions in engine room spaces (floors, slippery, insulation of hot parts, etc.)
- The surveyor shall not carry out surveys of tanks, compartments and holds when ballasting, loading or discharge operations are carried out (mistakes may be made, for example in valve operations, or the crane operator not being informed of the Surveyor's presence).
- Before the Surveyor proceeds to the examination of insulated parts of machinery components (on decks and in engine rooms), the insulation should be removed by the crew, the elements cleaned and the dust removed as necessary.

Personal Protective Equipment (PPE)

Always use the necessary personal safety equipment according to specific conditions and the activity specific procedures being carried out, including but not limited to;

- Safety Hard Hat - shall always be worn outside of site office building when in areas of other work areas.
- Safety Shoes - with steel toe caps and non-slip soles shall always be worn outside office building.
- Gloves – prevent slippery type.
- Eye protection – goggles should always be used when there is danger of getting solid particles or dust into the eyes. Protection against welding arc flashes and ultraviolet light should also be considered.

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- Ear protection – ear muffs or ear plugs should be used when remaining noisy areas with over 85 db noise level being generated.
- Safety belt and line – should be worn where there is a high risk of falling from more than 3 meters height, or where there is a potential for heavy pitching or rolling of the vessel.
- Breathing protection – dust masks shall be used for protection against the breathing of harmful dust, paint spraying and sand blasting.
- Gas Detectors - are necessary during surveys in confined spaces and poorly ventilated zones which might present a risk of the presence of toxic gases, or in a potentially explosive environment.

PPEs should be carried correctly and during the entire duration of the survey in order to ensure maximal efficiency.

- Each PPE should be adapted to the particular characteristics of the hazard.
- Each surveyor shall ensure that the PPEs are used in accordance with their purpose and strictly for professional use.
- Before each usage, the surveyor should verify that the expiry date of the equipment, if applicable, is not overdue, that the servicing or calibration of the equipment, as required by the manufacturer is not overdue.
- After each usage reusable PPEs should be maintained in accordance with the manufacturer's instructions.
- Responsibility belongs to each surveyor to request the replacement of each PPE or of a particular item of safety equipment when it appears that it is no more fit. The equipment should be used and maintained in compliance with the instructions of the manufacturer.
- Some safety equipment and PPE will be subject to compulsory periodical verifications by competent persons, in accordance with manufacturers instructions.
- Detailed inspection reports should be kept in the concerned equipment's individual record.

Personal Safety must be the top priority during surveys. Many hazards can be encountered on board during New Construction. The safety requirements imposed by Local Authorities and shipyard must be strictly observed. PPE should be carried correctly and during all the length of the survey in order to ensure maximal efficiency. Each PPE should be adapted to the particular characteristics of the danger. Each surveyor shall ensure that the PPEs are used in accordance with their purpose and strictly for professional use. Before each usage he should verify the good visual aspect (possibly the good functioning) of his equipment. After each usage, the reusable PPEs should be maintained in accordance with the manufacturer's instructions. It is the responsibility of each surveyor to request the replacement of PPE, or

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of an item of safety equipment when it appears that the equipment condition has been compromised, does not fit properly anymore, or if it has expired.

Most accidents occurring to Surveyors during their work are related to inspections inside confined spaces. The slightest dizziness or lack of balance is a warning which shall prompt the surveyor, before any other consideration, to return immediately to the open air, as any wasted time in this oxygen compromised area could be fatal.

A Confined Space means a space that has any of the following characteristics

- Limited openings for entry and exit.
- Unfavourable natural ventilation
- Not intended for continuous worker occupancy, which may include, but is not limited to: boilers, pressure vessels, cargo spaces (cargo holds or cargo tanks), cargo space stairways, ballast tanks, double bottoms, double hull spaces, fuel oil tanks, lubricating oil tanks, sewage tanks, pump rooms, compressor rooms, cofferdams, void spaces, duct keels, inter barrier spaces, engine crankcases, excavations and pits.

Confined space entry is the process of entering, working in and exiting a confined space.

Permit to Enter / Permit to Work

A Permit to Enter or Permit to Work is a documented authorization that has been signed and dated, including time of issue by the Responsible Person, which states that the space has been tested by a Competent Person and the space is safe for entry; what precautions, equipment, etc. are required and what works is to be done.

The Surveyor will be required to read the Confined Space Hazard Assessment carefully, attend a tailboard to address potential hazards, and fully understand the evacuation protocols in the event of an emergency.

Prior to working in all aspects of surveying, Ocean Marine Surveys Ltd. Personnel will be required to fill out a "Field Hazard Assessment Form" will assist the surveyor in identification of known hazards prior to the commencement of work.

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A Field Level Hazard Assessment - Marine Survey - Ocean Marine Surveys Ltd.

<u>Yard Rules</u>	<u>Treatment Considerations</u>	<u>Compliant</u>
<ul style="list-style-type: none"> Does the Facility have Boatyard, and Marina Rules. Does the Facility have Contractor Rules associated with the Marine Surveyor's work Does the Boatyard Facility require a Certificate of Public Liability Insurance The Facility will require Proof of WorkSafeBC Insurance Does the Facility require First Aid Certification Other rules and regulations to be read and understood 	<p>Read before entering</p> <p>Read before entering</p> <p>Proof in Hand</p> <p>Proof in Hand</p> <p>Proof in Hand</p> <p>Read & Understood</p>	
<p><u>Known Hazards</u></p> <ul style="list-style-type: none"> There is light vehicle traffic in and around the work areas. This is a heavy haul-out facility. There are Marine and Mobile Cranes in the vicinity of the work There are light and heavy tools being used in the vicinity of the work There is a potential for toxic airborne particulates from others work Am I working alone Ladders are used to access the boat There are potential confined or enclosed spaces in my work area 	<p>Be aware of traffic lanes</p> <p>Be aware of haul routes and overhead hazards</p> <p>Be aware of flying objects or hazardous particulates</p> <p>Talk to adjacent workers</p> <p>Is Owner attending Ladders tied & secured</p> <p>Work Permit/Entry Permit required</p>	

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<p><u>Other Considerations defined within my Safety Management Plan</u></p> <ul style="list-style-type: none">• Have I checked-in and notified the facility that I will be working?• Do I know where the Muster Point is, in the event of an emergency• Will I be creating or causing any hazards to adjacent workers?• Do I have an Emergency Contact identified? And what are the contact details?• Do I have appropriate PPE for the facility and the work I am doing?• Notify the facility when you have completed your work.	<p>I have signed in</p> <p>Locate Muster Point</p> <p>No.</p> <p>Details are on my person</p> <p>Hi visibility vest, eyeglasses and steel toed boots.</p> <p>Use proper exit protocols</p>	
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