

ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT SYSTEM

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04

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Title: Guidelines for Safe Operations in Offshore Marine Centre

Revision No.	Description of Change	Clause No.
00	Issued for implementation on 01 Nov 2016	NA
01	Change of document numbering Change of company logo Change of EHS to EHS Insertion of content page	
02	Addition of section 5 emergency preparedness and response process Addition of section 6 incident investigation process Revision of forms JPPL_EHS-19-03-F-01 OMC PTW Hot Work on VesselLand Based JPPL_EHS-19-03-F-02 OMC PTW for lifting operations JPPL_EHS-19-03-F-03 OMC PTW for Working at Heights JPPL_EHS-19-03-F-04 OMC PTW for Working into water JPPL_EHS-19-03-F-05 OMC PTW for Entry into confine space JPPL_EHS-19-03-F-06 OMC Mechanical Equipment Entry N Exit JPPL_EHS-19-03-F-15 OMC Contractor's Permit Form Addition of appendixes and forms JPPL_EHS-19-03-A-01 Appendix 01 In-House Rules And Regulations JPPL_EHS-19-03-A-02 Appendix 02 Supporting Documents to be Attached to the Permits JPPL_EHS-19-03-A-03 Appendix 03 OMC Emergency Preparedness and Response JPPL_EHS-19-03-A-04 Appendix 04 OMC Fall Protection Plan Falling from Height JPPL_EHS-19-03-A-05 Appendix 05 OMC Fall Protection Plan Falling into Water JPPL_EHS-19-03-F-16 Emergency Drill Report JPPL_EHS-19-03-F-17 Evacuation Head Count Report JPPL_EHS-19-03-F-18 OMC Emergency Response Plan Flow Chart	
03	Additional of forms and SWPs as below: JPPL_EHS-19-03-F-19 OMC Safety Violation Notice JPPL_EHS-19-03-SWP-10 OMC Manual Handling JPPL_EHS-19-03-SWP-11 OMC Use of Ladders JPPL_EHS-19-03-SWP-12 OMC Transportation & Road Safety JPPL_EHS-19-03-SWP-13 OMC Work Stations Revised of document names of the below:	

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JPPL_EHS-19-03-SWP-01 OMC Hot Works & Fire Prevention
 JPPL_EHS-19-03-SWP-02 OMC Lifting Operations & Equipment
 JPPL_EHS-19-03-SWP-03 OMC Working at Height
 JPPL_EHS-19-03-SWP-04 OMC Working Over Water
 JPPL_EHS-19-03-SWP-05 OMC Ergonomics
 JPPL_EHS-19-03-SWP-06 OMC Forklift Operations
 JPPL_EHS-19-03-SWP-07 OMC Use of Aerial Platforms
 JPPL_EHS-19-03-SWP-08 OMC Unloading of Heavy Cargo
 JPPL_EHS-19-03-SWP-09 OMC Confined Space

Revised of document format
 Revised of below documents:
 JPPL_EHS-19-03-A-02 Supporting Documents to be Attached to the Permits
 JPPL_EHS-19-03-A-01 Appendix 01 In-House Rules And Regulations
 JPPL_EHS-19-03-F-02 OMC PTW for lifting operations
 JPPL_EHS-19-03-F-04 OMC PTW for Working into water
 JPPL_EHS-19-03-F-020 OMC PTW for forklift operations
 JPPL_EHS-19-03-SWP-06 OMC Forklift Operations
 JPPL_EHS-19-03-A-06 Appendix 06 Traffic Management

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1 PURPOSE

- 1.1 The procedures in this document ensure that all operations that have been identified with EHS hazards and aspects are properly controlled in order to meet the organization's EHS policy and objectives.

2 SCOPE

- 2.1 This document describes the procedure for activities in OMC's wharf, Central Operations Building (COB) and the common roads that have been identified to have significant EHS risks and impact.

3 RESPONSIBILITIES

- 3.1 All managers and supervisors of OMC, tenants, lessees and sub-contractors concerned shall be responsible for the implementation of this procedure in his or her respective areas.

4 PROCEDURES

4.1 EHS Control Methods

- a) The identification of significant EHS hazards in various company operations is attained through risk assessments.
- b) To ensure that these operations are carried out properly and to minimize deviation from the attainment of the objectives and EHS management system, the following controls shall be implemented:
 - Provide documented Safe Work Procedures (SWPs) and communicate relevant procedures and requirements to OMC staff, tenants, lessees, sub-contractors. These procedures must contain clear and specific operating criteria.
 - Establish a Permit to Work (PTW) system to ensure precautionary measures are taken before the commencement of high risk operations / activities.
 - Provide in-house EHS rules & regulations to inculcate in all members of the staff, tenants, lessees and sub-contractors, a common understanding of their EHS obligations and responsibilities.
 - Provide an effective and practical maintenance regime for all plant, machinery and equipment used in OMC's wharf, Central Operations Building (COB) and common roads so as to prevent any failure of these equipment due to lack of maintenance or repair, which can results in occurrence of incident / accident.

- Provide a system for the identification and management of all hazardous chemical substances through the provision of Safety Data Sheets and the establishment of defined procedures for the proper use, storage, handling and movement and spillage of the hazardous chemicals.
- Establish a system to monitor OMC's sub-contractors' EHS performance and that only contractors that have achieved an acceptable EHS standard are employed at the work premises.
- Establish an EHS inspection program to identify hazardous and environmental impact situations and to implement remedial actions before personnel injury or other losses occur.
- Establish a Continuous Observation & Risk Evaluation (CORE) Process. The CORE process is to establish habitual safe behaviors by workers, and the habitual correction, praise and listening by supervision and management, whilst addressing Health & Environmental issues.

4.2 Safe Work Procedures

- a) Safe Work Procedures (SWPs) shall be implemented on operations or activities that have significant EHS risks. The SWPs shall incorporate adequate instructions on safety control measures to adopt while carrying out the job.
- b) Communication of SWPs
 - SWPs shall be communicated by OMC, tenants', lessees' and sub-contractors' Supervisors to their staff through regular trainings and briefings.
 - SWPs shall be communicated to the tenants and lessees through the distribution of the EHSMS Manual.
- c) Review of SWPs
 - The SWPs shall be reviewed and revised whenever there is an associated change, which may include:
 - Alteration to the work processes or facility operations
 - Change in the mode of storage
 - Purchase of new materials handling equipment
 - Change in operating procedure

- Relocation / extension of wharf
 - Significant staff changes such as new personnel in key positions or changes in number of operational staff
 - Any other changes which may have potential significant impact on the safety of existing operations.
- The SWPs must be reviewed before the changes can be adopted.

4.3 Permit to Work (PTW)

- a) The following work activities require a permit in order to gain approval for the work to commence:
 - General works (contractor permit)
 - Work involving hot works
 - Work involving lifting operations
 - Working at height
 - Work above / adjacent to waters
 - Work involving confined space entry
- b) The Supervisor shall raise the PTW by filling in the application forms. Before submission for approval, he / she shall ensure that safety conditions listed in the form are complied with.
- c) OMC WSH Department personnel shall verify the safety conditions are adhered to before countersigning the application. If he / she is not satisfied with the precautionary measures established, he / she shall reject the application and advice on improvements to be made.
- d) The appointed supervisor must also ensure that the workers performing the job are competent person who have at least attained the necessary certificates.
- e) The authorized manager may endorse and issue the permit when he / EHS is satisfied with the site safety evaluations. He / EHS shall also retain a copy of the permit.
- f) Communicating the Permit
 - The appointed supervisor must ensure that the Risk Assessment and SWP has been briefed to the workers highlighting the control measures, specific instructions (if any) and made known to the workers.

- The approved permit shall be posted at the site where the works are being carried out.
- If at any time the conditions change, workers must stop work and inform the permit issuer.
- Minor changes can be addressed immediately, assessed and planned by the Permit Acceptor / Supervisor in conjunction with the OMC Supervisor. The PTW supporting documentation (i.e. method statement / risk assessment etc) shall be revised with revisions signed off by both parties, who are then jointly responsible for communicating the changes

g) Permit Duration and Extension

- Work permits shall be valid until the specified date. Permits automatically expire 7 days after issue. (Applicable to hot work permit and confined space entry permit)
- For confined space work permits, the approved entry permit shall only be valid for 8 hours period from the last gas check performed by the Confined space safety assessor. Nobody is allowed to enter into confined space before gas check is conducted and re-endorsed.
- Where work is required to extend beyond the timeframe of the permit, the permit receiver must communicate this to the permit issuer.
- If “permitted” work is to continue after the closure time on the date of validation / revalidation, then the PTW shall be revalidated by the Issuing Authority that same day. Risk to be reassessed in line with emergency cover outside of normal working hours.
- On the day for which the PTW is to be revalidated, the OMC Safety Supervisor shall check the work site to identify any changed conditions prior to signing the revalidation to allow work to recommence.
- A permit can only be revalidated if all the requirements under the permit are satisfied. Any further renewal will require application for a new permit.

h) Work Completion

- Upon job completion, the appointed supervisor must endorse the permit and return back to OMC WSH Department.

- On hand back of the work area, the permit receiver should sign the permit stating that the work area is now ready to be returned.
- Upon receiving the permit for closure, OMC WSH Department to sign off on the acknowledgement of work completion.

4.4 In-house Rules and Regulations

- a) The in-house EHS rules & regulations are formulated with references to relevant Acts, Singapore Standards (SS), Code of Practices (CP) on environmental, safety and health, and other recognised industrial practices.
- b) All personnel (including tenants, lessees, sub-contractors and visitors) shall comply with the in-house safety rules & regulations in the course of their work.
- c) Supervisors of OMC, tenants, lessees and sub-contractors shall ensure the EHS rules & regulations are communicated and enforced among their staff. Appropriate disciplinary or corrective procedures shall be executed for failure to observe any of the rules.
- d) Disciplinary Actions to Violation of In-house Rules & Regulations
 - Any staff that violates safety rules & regulations shall be subjected to the following disciplinary actions:
 - Warning by the Supervisor concerned through the issue of safety violation record to the staff. He shall be warned on the unsafe work practices, the potential danger to himself and others, and on the possible damages to equipment and the environment.
 - For serious / repeated violations of the rules, the Manager may take one or more of the following disciplinary measures:
 - Issuance of warning letter
 - Administrative Charge.
 - For recalcitrant offenders, the Manager can propose suspension or termination of employment.

4.5 Inspection and Maintenance Regime

- a) All machines and equipment brought into and removed from OMC must be informed to the OMC WSH Department by submitting the Mechanical Equipment Entry / Exit Notification JPPL_EHS-19-03-F-06.
- b) All Plant & Equipment belonging to tenants, lessees and sub-contractors, used at all OMC Operational Area areas, shall be monitored by OMC WSH Department via the Inventory of Machinery and Equipment and subjected to regular inspection and maintenance by the respective owners. A copy of the inspection and maintenance report shall be submitted to OMC WSH Department.
- c) OMC will not inspect the following items:
 - Delivery vehicles with the exception of those that are fitted with a lifting device such as a HIAB.
 - One-off use vehicles with the exception of those vehicles that are fitted with a lifting device such as a HIAB or any other equipment that is specifically designed to be used as a lifting device.
 - Electrical equipment including hand tools, electrical welding equipment, mechanical / hydraulic / pneumatic tools / equipment / attachment without its own power source / engine. (Electrical MEWPs and Forklifts are not included in this exception.)
 - Marine equipment including all types of marine vessels and all types of construction plant and equipment used on marine vessels.

4.6 Management of Hazardous Substances

- a) Maintenance of a register of Safety Data sheet (SDS) of hazardous materials.
 - All hazardous materials brought into OMC must be informed to the OMC WSH Department by submitting the Hazardous Materials Notification.
 - OMC, tenants, lessees and sub-contractors shall appoint a competent person to maintain a register of hazardous materials compiled from Safety Data sheet (SDS). He / she is also appointed to receive all hazardous materials and ensure its safe storage and use.

- A copy of the register of hazardous materials and respective SDS shall be kept in the relevant file for the purposes of necessary reference and inspection.
- b) The hazards associated with the hazardous materials shall be communicated to the users by the competent person as well as the proper handling techniques and PPE to be worn.
- c) There shall be a designated storage area suitable for storing the materials and secured against unauthorised access. Hazardous materials shall be returned to designated storage areas when not in use.
- d) Disposal of hazardous materials shall be in accordance with statutory requirements or manufacturer's recommendations.

4.7 Evaluation, Selection and Control of Sub-contractors

- a) Selection of Sub-contractors
 - The OMC WSH Department shall prepare and maintain an approved sub-contractor list.
 - Sub-contractors with substandard safety performances may be removed from the list. Once the sub-contractor is removed from the list, the organization will not engage their services for future works.
 - The past safety and health performance of sub-contractors shall be considered in the selection of sub-contractors. Preference shall be given to sub-contractors who show good safety and work performance
- b) Assessment and Control of Sub-contractors
 - EHS rules and regulations enforced at the wharf, COB and common roads shall be conveyed to sub-contractors to ensure strict observance.
 - Sub-contractors who fail to observe safety rules or regulations shall face disciplinary actions imposed by OMC WSH Department.
 - On a regular basis, OMC WSH Department shall assess the EHS performance of sub-contractors using the JPPL_EHS-19-03-F-11 OMC Subcon Assessment Form.

- Sub-contractors that consistently score badly based on the assessment may not be considered for re-contract.

4.8 Safety, Health and Environmental Inspections

- a) EHS inspections shall be conducted by the OMC WSH Department whenever there is a scheduled operation at the wharf.
- b) During inspections, all observations shall be recorded in the JPPL_EHS-19-03-C-01 OMC Safety Inspection Checklist.
- c) Managers / Supervisors of OMC, tenants, lessees and resident contractors shall ensure corrective actions are taken to rectify EHS issues highlighted in the inspection reports.

4.9 Continuous Observation & Risk Evaluation (CORE) Process

- a) The CORE process provides a measure of individuals' acts performed and conditions in real work situations which can be fed back to the workforce, with praise for improving scores, and by allowing areas for improvement to be explored, with management, supervision and the workforce involved, in the continuous improvement and formation of habitual behaviours.
- b) The CORE behavioural EHS process requires that management and supervision are briefed as CORE observers to:
 - Observe
 - Analyse
 - Evaluate
 - Act
 - Communicate

Whilst addressing the following behavioural aspects:

- Safety and Health
- Environmental

c) CORE Implementation

- Implementation CORE observation process through utilizing the CORE card.
- Analysis of ongoing observations and feedback.

- Use of a Tracking System with clearly defined review / reporting schedule.
 - Action plan to close significant open EHS observation via a CORE action tracking register.
- d) Behaviour Based Observation
- Observers will be briefed in evaluating individual behaviour in order to assist the observers in successfully carrying out a CORE observation.
 - **OBSERVE:** People's behaviours in real work situations.
 - **ENGAGE:** Praise safe behaviours and discuss the consequences of unsafe behaviours.
 - **CHANGE:** With mutual agreement change own and other people's behaviours to safe behaviours.
 - **DEMONSTRATE:** Visible leadership to support EHS concern for people's welfare.
- e) EHS Accountability Management
- Seven Steps To Engagement:
 - Engage the employee in a non-threatening way and make the situation safe in required.
 - Put the employee at ease through positive reinforcement of safe behaviours (**praise**)
 - **Comment** on your concerns on the unsafe behaviours that you observed.
 - Explore ideas and suggestions on how the employee could behave more safely in future.
 - Gain **agreement** to work safely in the future.
 - Continue the conversation to discuss other EHS issues, if any.
 - **Thank** the employee.
- f) CORE Action Tracking
- OMC shall maintain a CORE Observation Tracking Register containing the results of the CORE Analysis key trends. On a monthly basis, a summary of the CORE observation analysis

shall be incorporated as part of the OMC Monthly EHS reports.

4.10 Tool Box and Job Safety Analysis (JSA) Talks

- a) OMC Safety Supervisor and WSH personnel shall attend the EHS toolbox talks to demonstrate management commitment, verify quality, and encourage two-way communications.
- b) In addition, OMC Safety Supervisor and WSH personnel shall participate in JSA (JPPL_EHS-19-03-F-14 OMC Job Safety Analysis) talks in order to ensure contractor personnel are fully aware of the potential risks involved in their work task and take the required mitigation measures.

4.11 Transportation and Road Safety

- a) General
 - Only vehicles necessary to the operation shall be permitted to enter the wharf.
 - The Contractor must not bring vehicles onto the OMC Premises unless they are roadworthy and conform to the OMC and Singaporean legal requirements. All vehicles must be well maintained, and exhaust emissions must be clean, with no visible black smoke.
 - The Contractor must ensure that only licensed and authorised personnel are allowed to drive vehicles.
 - Loads shall be within the safe weight limit for the vehicle and should not project beyond the vehicle body in such a manner as to present a hazard to other vehicles, pedestrians or adjacent structures.
 - Passengers must never be carried unless a proper seat is provided. If necessary other additional safeguards i.e. guardrails shall be provided.
 - Contractor personnel must not get on or off any vehicle whilst it is in motion.
 - All vehicles must be parked on level ground with the hand brake applied.
 - Vehicles shall not block access or emergency points e.g. exits, fire hydrant/extinguishers.

- Transport of personnel and materials at the same time in the bed of a truck is not allowed.
- Vehicle maintenance shall not be permitted to be undertaken on site or any other plant area.
- Vehicle breakdown shall be repaired offsite, wherever possible.

b) Vehicle/Road Safety

- All OMC and OMC Contractor drivers shall obey the laws of Singapore as they relate to driving on public roads, and shall comply with this policy. Passengers shall not request drivers to break the law or this policy.
- All drivers are required to drive in a safe and considerate manner, obeying all relevant and applicable road safety legislation and with respect for other road users. They shall adhere to the relevant sections of this policy at all times. Drivers are responsible for the safety of themselves and any passengers carried in the vehicle they are using. Drivers of OMC owned or operated vehicles shall refuse to drive if passengers do not wear a seat belt and report such noncompliance to the relevant Supervisor.
- Vehicles owned or operated by OMC and OMC Contractors shall be subject to routine inspection and confirmed to be in safe working order. All maintenance procedures, equipment and replacement parts must be suitable for use on the vehicle in question. Maintenance of vehicles shall not be carried out on site or any of the areas related to the project.
- Drivers shall be deemed competent and fit to operate the class of vehicle as demonstrated by license.
- Passenger numbers shall not exceed manufacturer's design specification for the vehicle; one seat for each person and one person in each seat.
- Seat belts shall be installed for, and without exception worn by, all occupants in all vehicles used for transportation of company staff. Drivers shall not move off until he has confirmed that passengers have secured their seatbelts. He shall stop the vehicle at the earliest opportunity in the event that passengers undo their seatbelts subject to it being safe to stop.

- Drivers shall not use radios or other communication devices when they are in control of the vehicle whilst on site. Hands free kits can be used, as prescribed by law, for driving on the public highway. Cell phones or radios should not be used while refuelling a vehicle, or in a petrol station.
- The maximum speed limit for all company owned or leased vehicles is the speed restrictions imposed by authorities and must be obeyed. Should passengers feel that their driver is not driving safely, it is the passenger's duty to tell the driver, and if the situation warrants, report it to the Manager responsible for the driver.
- Driving any company vehicle while under the influence of alcohol e.g. drugs is strictly prohibited.
- Smoking is not permitted in any company vehicle at any time.
- Contractor staffs who wish to use their own motorbikes for the journeys to and from work must wear a properly fitted approved helmet and must obtain a driving license and insurance as required by law.
- Driver of vehicles must conduct daily inspections which cover as a minimum:
 - Headlights and Side Lights
 - Tail Lights and Stop Lights
 - Indicators and hazard lights
 - Washer/ Wipers
 - Mirrors
 - Tyre Condition
 - Window
 - Body panels for damage

c) Road Traffic Accident Reporting and Investigation

- Contractor drivers must report all incidents to their respective company. For incidents occurring on the OMC Premises, incidents should be reported to OMC Security Personnel / JP WSH on duty immediately or after calling for emergency

services should there be injured parties or leaking fluid resulting for the incident.

4.12 Housekeeping

a) General

- The Contractor shall keep their work areas tidy and not allow rubbish or scrap to accumulate. If a storage area is required, an approach must be made to the OMC WSH Supervisor that any request can be considered and where appropriate an area allocated for this purpose.
- The Contractor shall ensure housekeeping is included as part of periodic audits and inspections.
- It shall be the responsibility of Contractor to ensure that a dedicated housekeeping crew are allocated to keeping work areas clean and tidy, where the requirement is identified by OMC WSH Manager. The numbers involved in the housekeeping crew shall be dependent upon the type of work and numbers of personnel employed to carry out the work.
- In the event that housekeeping is unacceptable, OMC reserves the right to mobilise housekeeping crews and back charge the Contractor accordingly.

b) Waste Management

- A “duty of care” is applicable throughout OMC Premises. This implies that all waste will be disposed of by a transfer note system to a licensed contractor and ultimately to a disposal site. All copies of transfer notes shall be kept on site by the Contractor.
- Singapore legislation regarding the disposal of waste shall be complied with by the Contractor as a minimum. Hazardous wastes must be properly contained, identified and segregated from other waste and disposed of accordingly.
- The burning of waste on site is not permitted.
- Construction debris, in particular, combustible rubbish must be disposed of at the end of each shift or more regularly if necessary, by the Contractor

c) Cable and Hose Management

- The Contractor shall ensure cables and hoses shall be routed in such a way that they do not form a tripping hazard.
- The Contractor shall ensure that electrical cables are routed in such a fashion that they are protected from impact from mobile plant and equipment, tools and materials and construction work process such as hot work etc,.
- Cables shall be either buried or run at a minimum height of 2.5 metres above the ground, and where hung along plant structures they shall be supported by non-conductive hangers.
- The Contractor shall elevate leads and hoses where they run a distance of 3 meters or more or when they obstruct travel paths.
- Cable stands where appropriate shall be stand alone with sufficient base weighting to prevent tipping and shall be constructed of tubing or rebar type material covered with non-conductive material. Cables that are to be suspended should be clearly marked e.g. by tying Red and White tape at frequent lengths.

4.13 Lightning Alert

a) General

- The Contractor shall ensure that an employee is nominated to receive and disseminate communication of the lightning alert from the OMC Safety Supervisor for the scope of works.
- The Contractor shall ensure that they have a radio that is tuned to the OMC frequency to receive the above alerts.
- The Contractor will provide adequate shelters with lightning protection.
- All work in the field will stop and the workforce evacuated to the lightning shelters during Cat 1 Alerts.
- The Contractor shall put in place an effective warning and communication system to alert the workforce of Cat 1 Alerts.

4.14 Simultaneous Operations

a) General

- Where Contractors and their Sub-contractors work activities could have an unsafe impact on the work activities of others these activities shall be reviewed so that any unsafe conditions are identified and control measures introduced accordingly.
- These activities and their potential unsafe impact on site shall be discussed by the Contractor with their Sub-contractors and safe working systems agreed and implemented prior to any work commencing.
- Contractors are responsible for communicating the control measures for SIMOP work activities to their Sub-contractors and employees and for implementing the control measures at site.
- To assist in reducing any unsafe act or condition caused by SIMOP work activities Contractors and their Sub-contractors should identify any hazardous conditions associated with their work activities that would affect others and control the work by implementing the following:
 - Lifting Operations
 - Working at Height
 - Hot Works
 - Working Adjacent to Water
- Where activities for wharf operations are taking place, the respective Project Managers will discuss and decide which activities is most important and then communicate this to the OMC Operations team for approval to commence work.

4.15 Use of Ladders

a) General

- Ladders selected by OMC and the Contractor shall be commercially manufactured to an international and local industrial standard and Code of Practice (CP).
- Aluminium ladders shall comply with SS 176: Portable Aluminium Ladder.
 - No ladders will be used for operations requirements

b) Types of Portable Ladders

- Portable ladders are designed and manufactured in various forms to meet the requirements. It includes
 - Straight ladder
 - Extension ladder
 - Sectional ladder
 - Hooked ladder
 - Step ladder
 - Trestle ladder
 - Platform ladder
- Contractors shall use certified portable ladders only

c) Use of Ladders

- Portable ladders can be inherently hazardous depending on location and proposed use, and as such they should only be used where safer means of access such as stairs, scaffolds, man-lifts, or ramps are not suitable or practical.
- Contractors shall consider the number of workers requiring access to elevated work locations, as well as the extent and duration of the work before deciding on the safest and the most economical means of access.
- Where a significant amount of elevated work is to be performed the Contractor shall carry out a risk assessment, JSA to determine the appropriate method of access.
- Ladders shall not be used as default work platform.
- Hot work shall not be conducted from ladders.
- Work requiring the use of both hands shall not be executed from portable ladders.
- Contractors are recommended to consider safer types of access for these types of work, such as stationary or rolling

scaffolds or powered elevating platforms which is more efficient and significantly reduce the potential accidents.

- In deciding on the best type of access for various tasks and work locations, the Contractors shall also consider:
 - the amount of materials involved;
 - the time workers spend on the access equipment;
 - weather conditions;
 - equipment available onsite;
 - condition of surface from which access must be made;
 - room available;
 - potential for shared use with other trades; etc.

- It is critical that consideration be given to worker access for specific tasks and for entire work areas. Ladders must not be used where other means of access are practical and safer.

- If there is no practical alternative to ladders, Contractor shall ensure that ladders provided are suitable and in good condition, and the employees are trained to use them properly.

- While using ladders, the local legal requirements and best practices shall be followed by the Contractors, which include, but not limited to:
 - Check the ladder for defects at the start of a shift, after it has been used in another location by other workers, or after it has been left in one location for a lengthy period of;

 - Areas surrounding the base and top of the ladder should be clear of trash, materials and other obstructions since getting on and off the ladder is relatively more hazardous than other aspects of use;

 - The base of the ladder should be secured against accidental movement. Use a ladder equipped with non-slip feet appropriate for the situation, nail a cleat to the floor, or otherwise anchor the feet or bottom of the side rails;

 - The ladder must be set up on a firm level surface. If its base is to rest on soft, uneven or rough soil, a mud sill should be used;

- The top of the ladder should be tied off or otherwise secured to prevent any movement. If this is not possible, given the type of ladder or circumstances of its use, one worker shall hold the base of the ladder while it is being used;
 - If a ladder is used for access from one work level to another, side rails shall be installed and shall extend a minimum of 900 mm above the landing. Grab rails shall be installed at the upper landing so that a worker getting on and off the ladder has secure handholds;
 - Erected at an angle of 4:1 i.e. for every 4 metres vertical, the base of the ladder shall be 1 metre.
- Portable ladders shall not be used horizontally as substitutes for scaffold planks, runways, or any other service for which they have not been designed;
 - When a task can only be done while standing on a portable ladder, the length of the ladder must be such that the worker stands on a rung no higher than the fourth rung from the top i.e. the top 3 rungs of the ladder shall not be used to stand on.
 - Ladders shall be supported by an additional person whilst in use. The third person shall ensure that they are positioned in such a way as to prevent the ladder from slipping or falling backwards. Step ladders shall be supported, by an additional person, to prevent sideward falls.
 - Unless suitable barricades have been erected, ladders shall not be set up in passageways, doorways, driveways, or other locations where they can be struck or displaced by persons or vehicles using the access route;
 - Ladders shall not be placed against flexible or movable surfaces;
 - Personnel shall always face the ladder when climbing up or down and when working from it.
 - 3-points of contact shall always be maintained when climbing up and down a ladder, i.e. two hands and one foot or two feet and one hand on the ladder at all times. This is especially important when the user gets on or off a ladder at heights;
 - When working from a ladder, users shall keep their centre of gravity between the side rails. A person's centre of gravity is

approximately in the centre of the body at belt height (so-called buckle rule).

- Climbing or descending a ladder, while carrying tools or equipment, shall be prohibited. Tools, equipment and materials should be placed in a container and raised or lowered by rope.
- Boots shall be free of mud, grease, or other slippery materials when using ladders.
- Never straddle the space between a ladder and another object.
- Never erect ladders on boxes, carts, tables, or other unstable surfaces.
- When erecting long, awkward, or heavy ladders, two or more persons should share the task to avoid injury from over-exertion and damage to ladders.
- Ladders may not be painted, except for the platform and top step, which will be painted to warn users not to step thereon.
- Before setting up straight or extension ladders, check the area for overhead power lines. Ladders made of aluminium or other conductive material should never be used near power lines. Only competent electricians and approved workers using ladders made of non-conductive material are allowed to work in close proximity to energized electrical lines.
- Straight ladders will not be longer than 7.5 meters, and extension ladders will not be longer than 11 meters.
- Step ladders and platform ladders will not be longer than 3.5 meters as determined by the front rail.
- The ladder shall be secured at the top or equipped with a suitable stabilizer;
- Ladders must never be spliced together to make a longer ladder. Side rails will not be strong enough to support the extra loads.
- Straight ladders should not be used as bracing, skids, storage racks, or guys. They were not designed for these purposes and the damage caused by such abuse can later result in an accident during normal use;

- Only one person at a time should be allowed on a single-width ladder.
- Step ladder, trestle ladder and platform ladder must have locking mechanisms locked before using.

d) Inspection of Ladders

- Regular inspection and maintenance will increase the useful life of ladders and reduce the potential for incidents.
- Repairs of ladders shall only be done by qualified personnel.
- The procedures for ladder inspection and maintenance include:
 - Ladders shall be inspected for structural rigidity.
 - All joints between fixed parts should be tight and secure.
 - Hardware and fittings should be securely attached and free of damage, excess wear, and corrosion.
 - Movable parts should operate freely without binding or excessive play. This is especially important for gravity-action ladder locks on extension ladders.
 - Non-skid feet should be checked for wear, imbedded material, and proper pivot action on swivel feet.
 - Deteriorated, frayed or worn ropes on extension ladders should be replaced with a size and type equal to the manufacturer's original rope or sent back manufacturer for repair.
 - Aluminium ladders shall be checked for dents and bends in side rails, steps, and rungs. Repair should be made only by the manufacturer. Replacing a rung with a piece of conduit or pipe is not allowed on site.
 - Wooden ladders are susceptible to cracking, splitting, and rot and should either be unpainted or covered with a transparent finish in order that checks, cracks, splits, rot, or compression failures can be readily detected. Repairs should be consistent with good woodworking practice. Only wood equal to or better than the wood used by the manufacturer should be used in the repair.

- The bases, rungs, and steps of all ladders should be examined for grease, oil, caulking, imbedded stones and metal, or other materials that could make them slippery or otherwise unsafe.
- e) Storage of Ladders
- Storage areas should permit easy access and be cool and dry, particularly if wooden ladders are kept there.
 - Areas where the moving of other materials can damage ladders should be avoided.
 - Ladders should be supported during storage and transportation to prevent sagging or chafing.
 - Sufficient storage racks are recommended for the storage of ladders to avoid sagging. Long ladders need support at least every 1.8 meters.
 - Never rest a ladder on any of its rungs. Ladders must rest on their side rails;
 - When being transported, ladders should be “top freight”, – nothing should be piled on them, and secured to prevent movement.
 - If damage occurs during storage, the ladder shall be tagged using an out of service tag and repaired. Cause of damage shall be studied and corrected to prevent further damage to ladders.

5 EMERGENCY PREPAREDNESS AND RESPONSE

5.1 This section outlines the procedures for preparedness and response to potential accidents and emergency situations giving rise to significant environmental impacts and workplace disasters in OMC.

5.2 Refer to below for more details:

- JPPL-EHS-19-03-A-03 Appendix 03 OMC Emergency Preparedness and Response
- JPPL-EHS-19-03-A-04 Appendix 04 OMC Fall Protection Plan Falling from Height
- JPPL-EHS-19-03-A-05 Appendix 05 OMC Fall Protection Plan Falling into Water

6 INCIDENT INVESTIGATION

- 6.1 All incidents shall be reported, investigated and analysed to identify the root causes and to implement effective preventive and corrective measures or systems to prevent occurrence and/or recurrence.
- 6.2 Prompt actions shall be taken to report any incident to the relevant authorities under the regulatory requirements.
- 6.3 The process of reporting, investigation and analysing all incidents shall be referred to JPPL-EHS-12 Incident Investigation And Analysis.

7 RECORDS

- a. Safe Work Procedures
- b. Mechanical Equipment Entry / Exit Notification Records
- c. Inventory of Machinery and Equipment
- d. Register of Hazardous Substances
- e. Daily Manpower Man-Hour Report
- f. Safety Inspection Checklist
- g. Subcontractor Safety Performance Assessment Form
- h. CORE Card
- i. Contractor EHS Screening Questionnaire
- j. JSA Form
- k. Emergency Drill Report
- l. Evacuation Head Count Report

8 ATTACHMENTS

- a. JPPL-EHS-19-03-C-01 OMC Safety Inspection Checklist
- b. JPPL-EHS-19-03-F-01 OMC PTW Hot Work on Vessel/Land Based
- c. JPPL-EHS-19-03-F-02 OMC PTW for lifting operations
- d. JPPL-EHS-19-03-F-03 OMC PTW for Working at Heights
- e. JPPL-EHS-19-03-F-04 OMC PTW for Working into water

- f. JPPL-EHS-19-03-F-05 OMC PTW for Entry into confine space
- g. JPPL-EHS-19-03-F-06 OMC Mechanical Equipment Entry N Exit
- h. JPPL-EHS-19-03-F-07 OMC Inventory of Machinery and Equipment
- i. JPPL-EHS-19-03-F-08 OMC Hazardous Materials Notification
- j. JPPL-EHS-19-03-F-09 OMC Register of Hazardous Substances
- k. JPPL-EHS-19-03-F-10 OMC Daily Manpower Manhour Report
- l. JPPL-EHS-19-03-F-11 OMC Subcon Assessment Form
- m. JPPL-EHS-19-03-F-12 OMC CORE Card
- n. JPPL-EHS-19-03-F-13 OMC Contractor EHS Screening Questionnaire
- o. JPPL-EHS-19-03-F-14 OMC Job Safety Analysis
- p. JPPL-EHS-19-03-F-15 OMC Contractor's Permit Form
- q. JPPL-EHS-19-03-F-16 Emergency Drill Report
- r. JPPL-EHS-19-03-F-17 Evacuation Head Count Report
- s. JPPL-EHS-19-03-F-18 OMC Emergency Response Plan Flow Chart
- t. JPPL-EHS-19-03-F-19 OMC Safety Violation Notice
- u. JPPL-EHS-19-03-F-020 OMC PTW for forklift operations
- v. JPPL-EHS-19-03-A-01 Appendix 01 In-House Rules and Regulations
- w. JPPL-EHS-19-03-A-02 Appendix 02 Supporting Documents to be Attached to the Permits
- x. JPPL-EHS-19-03-A-03 Appendix 03 OMC Emergency Preparedness and Response
- y. JPPL-EHS-19-03-A-04 Appendix 04 OMC Fall Protection Plan Falling from Height
- z. JPPL-EHS-19-03-A-05 Appendix 05 OMC Fall Protection Plan Falling into Water
- aa. JPPL-EHS-19-03-A-06 Appendix 06 Traffic Management

9 REFERENCES

- a. Workplace Safety and Health Act
- b. OMC Equipment Mobilization Flowchart, refer to OMC Wharf Operation Guidelines (OMC Website)
- c. Pass-Application-Training-Matrix