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GUJARAT PIPAVAV PORT LTD

EXCAVATION WORKS BEHIND THE NEW CUSTOM GATE (NEAR FIRE FIGHTING AREA) AT APM TERMINALS PIPAVAV

TENDER DOCUMENT

VOLUME - IV

Appendix & Drawings

April 2025

Revision, Review and Approval Records

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B				
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Revision	**Description**	**Prepared by/ date**	**Reviewed by/ date**	**Approved by/ date**

GUJARAT PIPAVAV PORT LTD

EXCAVATION WORKS BEHIND THE NEW CUSTOM GATE (NEAR FIRE FIGHTING AREA) AT APM TERMINALS PIPAVAV

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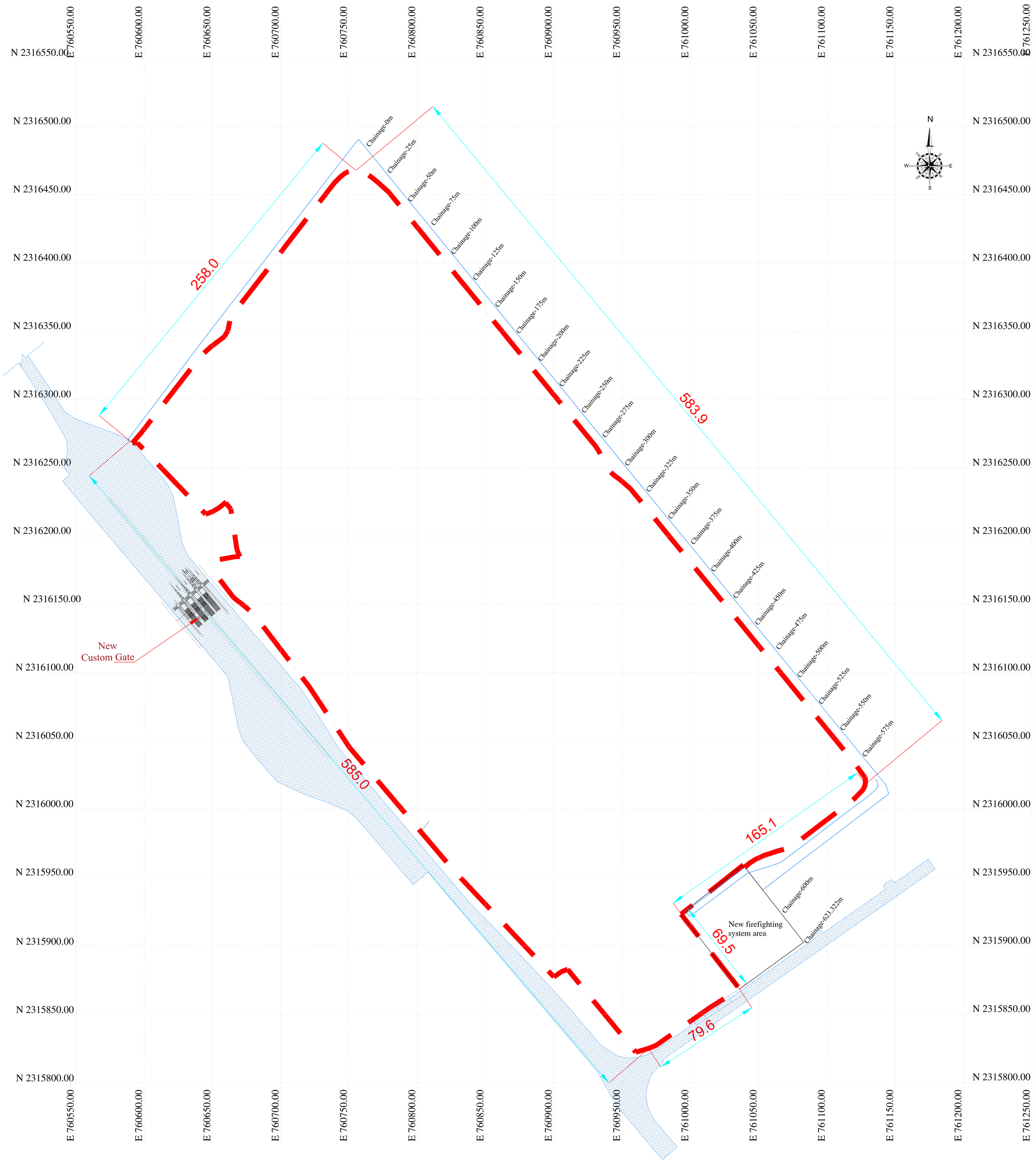
Proposed excavation area behind new Custom gate



Main Grid 50mX50m

ANTI-CORRUPTION, COMPETITION AND SANCTIONS LAWS AND REGULATIONS

1. Compliance
Anti-Corruption, Competition and Sanctions Laws and Regulations

1.1 Each Party represents that in the context of this Agreement:

a) neither itself nor, to the best of its knowledge, any of its affiliates, directors or officers has engaged in any activity or conduct which would violate any applicable anti-bribery, anti-corruption, competition or anti-money laundering laws or regulations and it has instituted and maintain policies and procedures designated to prevent violation of such laws, regulations and rules; and

b) neither itself nor, to the best of its knowledge, any of its affiliates, directors or officers is: (i) the subject of any sanctions (a “Sanctioned Person”) or (ii) located, organized or resident in a country or territory that is, or whose government is, the subject of sanctions broadly prohibiting dealings with such government, country, or territory (a “Sanctioned Country”)

1.2 Each Party undertakes that it shall not:

a) engage in any activity or conduct which would violate any applicable anti- bribery, anti-corruption, competition or anti-money laundering laws or regulations; and

b) directly or indirectly, lend, contribute or otherwise make available any amount received under this Agreement to a Sanctioned Person or a person located in a Sanctioned Country or otherwise violate any applicable foreign trade control regulation or sanction.

Audit and Inspection Rights

1.3 During the term of this Agreement, at the reasonable request of a Party with at least [three (3)] business days’ prior notice, either Party may at its own expense during regular business hours [inspect] [have a mutually-agreed independent third party inspect] [the facility and] audit the other Party's books, records, and other documents as necessary to verify compliance with the terms and conditions of this Agreement.

Remedies

1.4 If a Party breaches any of its obligations or representations in this Clause [X] (Compliance):

1.5

a) such Party shall indemnify and hold the other Party harmless from all fines, penalties and all associated expenses arising out of or resulting from such violation. Notwithstanding the foregoing, no Party shall be liable for any indirect or consequential loss or damage or any loss or damage due to loss of goodwill or reputation; and

b) the other Party may terminate this Agreement and recover from the violating Party as a debt the amount of any loss or damage resulting from the termination.

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CIVIL CONSTRUCTION SAFETY GUIDELINES

APMT TERMINALS PIPAVAV

CIVIL CONSTRUCITON SAFETY GUIDELINES

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SAFETY PRACTICES DURING CONSTRUCTION

1.0 INTRODUCTION

Safety in Construction Management deserves utmost attention especially in the Construction industry. Construction is widely recognized as one of the accident-prone activities. Most of the accidents are caused by inadequate planning, failure during the construction process and/or because of design deficiencies. Besides property loss, accidents also result in injuries and fatalities to the personnel; same needs to be prevented.

The reasons for accidents during construction activities are related to unique nature of the industry, human behavior, difficult work-site conditions, extended odd duty hours, lack of training & awareness and inadequate safety management. Unsafe working methods, equipment failure and improper housekeeping also tend to increase the accident rate in construction.

Ensuring good quality of materials, equipment and competent supervision along with compliance of standard engineering practices shall go a long way to in built safety in the system.

The objective of this standard is to provide practical guidance on technical and educational framework for safety and health in construction with a view to:

(a) prevent accidents and harmful effects on the health of workers arising from employment in construction;
(b) ensure appropriate safety during implementation ofconstruction;
(c) provide safety practice guidelines for appropriate measures of planning, control and enforcement.

2.0 SCOPE

This document specifies broad guidelines on safe practices to be adhered to during construction activities. However, before commencing of any job, specific hazards and its effects should be assessed and necessary corrective/preventive actions should be taken by all concerned. The document is intended only to supplement and not to replace or supersede the prevailing statutory requirements, which shall also be followed as applicable. The scope of this document does not include the design aspects and quality checks during construction.

3.0 GENERAL DUTIES

3.1 GENERAL

- The Contractor shall strictly comply & follow up “Contractor’s Safety Guidelines” and “Consequence Management” of Gujarat Pipavav Port Limited and all other local regulations which may be in force from time to time. Contractor shall strictly follow up Port security rules.

Contractor shall arrange and responsible for all securities of their work site, workers, staffs, materials etc in port area. Contractor shall responsible for taking necessary permission for the execution of work from respective state/central government authority as required.

- Contractors shall submit risk assessment of this work & taken approval from HSSE Department GPPL before execution of work.

- Contractors shall arrange and fix galvanize sheet metal barricading upto 3 mtrs height surrounding worksite for safety in his risk and cost.

- Contractors shall arrange and fix fall protection safety net as per safety standard inside & surrounding of building for safety in his risk and cost.

- Contractor shall arrange diversion as per site condition including all required necessary arrangement like manpower, equipments, material etc.

- Contractor shall arrange and fix proper metal scaffolding for staging for the work as per APMT Guidelines and conform the latest IS standard.

- Contractor shall responsible for the security of the work site during the whole work period & taking all necessary steps to prevent any loss, theft, damage, accident etc of own equipments, construction materials, manpower, store etc. Gujarat Pipavav Port shall not liable to any losses or damages or accident for the same.

- Contractor shall take all essential steps, on his own responsibility and at his expense, to ensure that existing structures and installations alongside the road are protected, preserved and maintained

- During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction, and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required. The Contractor shall be responsible for site maintenance, cleaning and waste management in accordance with the detailed requirements of the Specification.

- Prior to the submittal of the Contractor's application for a Taking-over Certificate for a Section, the Contractor shall undertake final cleaning of all completed permanent Works to remove all surplus material, construction debris, wreckage and rubbish. Drainage elements shall be flushed clean to remove any accumulated material and all other service pits shall be cleaned out with attention to any pit drainage or weep holes. The frames of all cast iron service pit access covers shall be cleaned and greased. The final cleaning of the site shall be to the satisfaction of the Engineer.

- Stickily prohibited to carry out any un-authorized activities like storage & delivery of un-authorized materials, depute shelter to criminal person at site, doing un-professional & un-authorized business or activities etc in Port area by the Contractor.

3.1.1 Work Site Barricades

- The **Contractor** shall erect and maintain barricades required in connection with his operation to guard or protect:

  - Excavation
  - Construction areas
  - Areas adjudged hazardous by the **Contractor's** or the **Owner's** inspectors.
  - **Owner's** existing property liable to damage by **Contractor's** operations, in the opinion of Engineer-in-Charge.
  - Materials loading-unloading area.

- The **Contractor's** employees and those of its sub-contractors shall become acquainted with the **Owner's** barricading practices and shall respect the provisions thereof.

- Barricades and hazardous areas adjacent to but not located in normal routes of travel shall be marked by red flasher lanterns at nights.

- Materials used for barricades should be only metal sheet with proper support with reflective safety sign & board. No bamboo or single tap or rope allowed for barricades.

3.1.2 Safety Equipments

- All necessary personal safety equipment as considered adequate by the Engineer-in- charge should be made available for the use to the persons employed on the site and maintained in a condition suitable for immediate use, and the CONTRACTOR should take adequate steps to ensure proper use of equipment by those concerned.

- Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective gloves.

- Those engaged in white washing and mixing or stacking of cement bags or any materials which are injurious to the eyes shall be provided with protective goggles.

- Those engaged in welding and cutting works shall be provided with protective face and eye shields, and gloves, etc.

- Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

- When workers are employed in sewers and manholes, which are in use, the **Contractor** shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident.

- The **Contractor** shall not employ men below the age of 18 years and women on the work of painting or products containing lead in any form. Wherever men above the age of 18 years are employed on the work of lead painting, the following precautions should be taken:

- No paint containing lead product shall be used except in the form of paste or readymade paint.

- Suitable face masks shall be supplied for use by the workers when paint is applied in the form of spray or if a surface having lead paint dry rubbed and scrapped.

- Overalls shall be supplied by the **Contractor** to workmen and adequate facilities shall be provided to enable the working painters to wash during and on cessation of work.

3.1.3 Maintenance of Safety Devices

All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe conditions and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near the place of work.

3.1.4 Display of Safety Inductions

These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at the job site. The person responsible for compliance of the safety code shall be named therein by the **Contractor**.

3.1.5 Enforcement of Safety Regulations

To ensure effective enforcement of the rules and regulations relating to safety precautions, the arrangements made by the **Contractor** shall be open to inspection by the Welfare Officer, Engineer-in-charge or Safety Engineer of the **Owner** or their representatives.

3.1.6 No Exemption

- The works throughout including any temporary works shall be carried on in such a manner as not to interfere in any way whatsoever with the traffic on any roads or footpaths at the site or in the vicinity thereof or with any existing works whether the property of the **Owner** or of a third party.

- In addition to the above, the **Contractor** shall abide by the safety code provision as per mentioned in reference clause Safety Code framed from time to time.

- The **Contractor** shall also arrange to obtain valid Entry passes/gate passes for his men and equipment from the concerned authorities of **Owner & Government Authorities.**

- No man/material/equipment not covered by valid passes shall be permitted within Port premises area and no material/equipment shall be permitted to be taken out of Port Premises area, unless authorized by the concerned authorities of Owner & its Representative. The **Contractor** shall be held fully responsible for any or all delays/ losses/ damages that may result consequent on any lapse(s) that may occur on the part of his sub-contractors/ employees in this regard.

3.1.7 Port Entry Passes

- The **Contractor** must apply for photo Entry Passes for his workers and staff and the workers and staff of his sub-Contractors in a prescribed proforma provided by the **Owner**. The Application shall be accompanied by a Statement and Declaration in the form prescribed by the **Owner** signed by the employees for whom the Entry Passes are sought and confirmed by the employer. The photo Entry Passes shall be issued by the **Owner** for a maximum period of 30 (Thirty) Days, which will be extendable upon the **Contractor's** application. As a special case, Temporary Passes may be issued for a maximum period of 5 (five) days.
- If work execution under Port Custom Bonded area, Contractor should be getting entry passes approval from Custom Department – Pipavav Port & follow up Custom rules & regulation.
- Unutilized/expired Entry Passes/Identity Cards shall have to be immediately surrendered to the **Owner**.
- In case of the loss of an Entry Pass/Identity Card, the **Contractor** shall immediately lodge an FIR with the local police station and inform the Engineer-in-Charge of the loss of passes. and shall pay

a charge of Rs.150/- against Entry Pass/Identity Card lost.

- The **Contractor** is required to keep an account and track of all Entry Passes issued and surrendered. Gate Passes/Identity Cards issued by the Security Section should always be displayed by the **Contractor's** or Sub-contractor's employees while working inside the Plant.

3.1.8 Gate Passes

- To bring materials, equipment, tools and tackle and other things inside the Port Premises for construction Work, the **Contractor** has to produce proper documents of title or authority relative thereto for inspection by the **Owner**'s personnel at the gate.

- These shall be checked thoroughly by the **Owner's** personnel at the Gate and recorded in their Register before permitting the same to be brought inside the Port Premises. It is the **Contractor's** responsibility to see that the entry is duly recorded in the Register with proper Entry Number, date and signature of **Owner's** authorized representative and that the supporting challans/documents are stamped and signed by the **Owner's** personnel at the gate at the time of entry.

- Any materials, equipments, tools & tackles, vehicles not related to works are not allowed to entry, stock, loading-unloading, transfer from one vehicle to another vehicle is strictly not allowed & taking necessary action on **Contractor** by **Owner**.

- Those materials which need repairing/ replacement as per site condition will be allowed to move beyond **Owner's** battery limit only after exchange of good equivalent material.

3.1.9 Work Permit

- The Work shall be carried out inside the Port Area limits to conform to the **Owners** safety section and in accordance with any instructions of the Engineer-in-Charge issued from time to time. Sometimes working hours may be drastically reduced or increased to satisfy safety requirements and the **Contractor** shall meet these requirements without any time and cost implications. No claim for idling of machinery, plant, manpower or equipment shall be entertained for reason of delay in the issue of a Work Permit and it

- In order to keep the **Owner** informed of the various jobs being undertaken within the Port Premises and to enable the **Owner** to regulate the same to ensure the observance of safety regulations relative thereto, when Work is to be carried out in hazardous areas, a Hot Work Permit is to be obtained by the **Contractor** from the **Owner** before start of Work on jobs which are capable of generating a flame, spark or heat e.g., gas cutting, grinding, welding, use of any electrical, diesel, petrol or battery operated prime mover, machine, tool or equipment or generator set, mixer machine, drilling machine, pump, crane, fork lift or hand truck or trailer or chipping or breaking of rocks or concrete or hacksaw cutting and drilling. Similarly, the **Contractor** shall obtain a Cold Work Permit from the **Owner** for jobs which do not come under the category of hot work and in respect of which there is no risk of fire, e.g., transportation, backfilling of ordinary soil by manual process, pile testing, hydrotesting, shuttering, fixing of reinforcement, hand mixed concreting, plastering and brickwork.

- Depending on the nature of the Work and the equipments and tools involved, the **Contractor** shall take work Permit in a prescribed format at prior to start the work.

- No Work Permit shall be issued by the **Owner** unless proper arrangement is made by the **Contractor** to ensure safe performance of the Work inside the Port Premises. Job-wise and area-wise permits shall be issued to the **Contractor.**

- All Work Permit shall be valid only for 12 hours on issue day OR prescribed hours in Work Permit.

- Thereafter the validity of the Permit must be renewed for each shift (morning & evening) by the shift in-charge/ shift representative of the **Owner**.

- The permit may be renewed for a maximum period of one month from the date of issue and if extension is required, the CONTRACTOR has to apply for a fresh permit.

- A permit is not valid for Work on holidays unless special permission of the OWNER is obtained for the purpose.

- Contractor shall depute at least One post of Construction Engineer and one post of Safety Supervisor at site for day to day work supervision.

3.1.10 Vehicle Permit

- Permits are to be obtained separately for entry/use of vehicles/trailers and other mobile equipment inside the Port Premises. All the **Contactor's** vehicles should have a valid 'PUC Certificate'. The following requirements are to be met to obtain vehicle permit :

  – Vehicle/Equipment shall be in good condition and fitted with spark arrestor.
  – Vehicles should carry, wherever applicable, valid Road Tax Certificate and Fitness Certificate from the Competent authority and insurance policy.
  – Valid operating/driving license of driver/operator.

3.2 GENERAL DUTIES OF CONTRACTORS

3.2.1 Execution agency should:

- Provide means and organization to comply with the safety and health measures required at the workplace.
- Provide and maintain workplaces, plant, equipment, tools and machinery and organize construction work so that, there is no risk of accident or injury to health of workers. In particular, construction work should be planned, prepared and undertaken so that:

  – Dangers, liable to arise at the workplace, are prevented;
  – Excessively or unnecessarily strenuous work positions and movements are avoided;
  – Organization of work takes into account the safety and health of workers;
  – Materials and products used are suitable from a safety and health point of view;
  – Working methods are adopted to safeguard workers against the harmful effects of chemical, physical and biological agents.

- Establish committees with representatives of workers and management or make other arrangement for the participation of workers in ensuring safe working conditions.
- Arrange for periodic safety inspections by competent persons of all buildings, plant, equipment, tools, machinery, workplaces and review of systems of work, regulations, standards or codes of practice. The competent person should examine and ascertain the safety of construction machinery and equipment.
- Provide such supervision to ensure that workers perform their work with due regard to safety and

health of theirs as well as that ofothers.

- Employ only those workers who are qualified, trained and suited by their age, physique, state of health and skill.
- Satisfy themselves that all workers are informed and instructed in the hazards connected with their work and environment and trained in the precautions necessary to avoid accidents and injury to health.
- Ensure that buildings, plant, equipment, tools, machinery or workplaces in which a dangerous defect has been found should not be used until the defect has been rectified.
- Organize for and remain always prepared to take immediate steps to stop the operation and evacuate workers as appropriate, where there is an imminent danger to the safety of workers.
- Establish a checking system by which it can be ascertained that all the members of a shift, including operators of mobile equipment, have returned to the camp or base at the close of work on dispersed sites and where small groups of workers operate in isolation.
- Provide appropriate first aid, training and welfare facilities to workers as per various statutes like the Factories Act, 1948 etc. and, whenever collective measures are not feasible or are insufficient, provide and maintain personal protective equipment and clothing in line with the requirement as per safety standard. They should also provide access to workers to occupational health services.
- Educate workers about their right and the duty at any workplace to participate in ensuring safe working conditions to the extent of their control over the equipment and methods of work and to express views on working procedures adopted as may affect safety and health.
- Ensure that except in an emergency, workers, unless duly authorized, should not interfere with, remove, alter or displace any safety device or other appliance furnished for their protection or the protection of others, or interfere with any method or process adopted with a view to avoiding accidents and injury to health.
- Ensure that workers do not operate or interfere with plant and equipment that they have not been duly authorized to operate, maintain or use.
- Ensure that workers do not sleep, rest or cook etc in dangerous places such as scaffolds, railway tracks, near container stake, Below Equipment, garages, confined spaces or in the vicinity of fires, dangerous or toxic substances, running machines or vehicles and heavy equipment etc.
- Obtain the necessary clearance/Work permits as required and specified by owner.
- Ensure & comply with all statutory requirements under the Labour laws, the Provision of Factory Act, Wages Act, Workers Compensation Act, Provident Fund and other applicable statutes, rules, regulations, laws, bye laws of the Government of Gujarat and Government of India. The Contractor has to comply and submit all documents such as Labour License, Workman Compensation Insurance policy, Proof of Provident Fund of manpower, wages register etc before starting the work.
- Ensure that following facilities are to be provided by contractor at site :
  - Arrangement for drinking water
  - Toilet facilities
  - A creche where women workers are having children below the age of 6 years
  - Transport arrangement for attending to emergencies.
  - Transport arrangement for Labour, staff pick & drop upto work site.
  - Proper Rest area for Labour & Staff.

- Should deploy a safety officer at site

3.3 GENERAL DUTIES OF OWNERS

3.3.1 Owners should:

- Co-ordinate or nominate a competent person to co-ordinate all activities relating to safety and health on their construction projects;

- Inform all contractors on the project of special risks to health, safety & Environment;

- Ensure that executing agency is aware of the owner's requirements and the executing agency's responsibilities with respect to safety practices before starting the job.

4.0 SAFETY PRACTICES AT WORK PLACES

4.1 General Provision

4.1.1 All openings and other areas likely to pose danger to workers should be clearly indicated.

4.1.2 Workers & Supervisors should use the safety helmet and other requisite Personal Protective Equipment according to job & site requirement. They should be trained to use personal protective equipment.

4.1.3 Never use solvents, alkalis and other oils to clean the skin.

4.1.4 Lift the load with back straight and knees bent as far as possible. Seek the help in case of heavy load.

4.1.5 Ensure the usage of correct and tested tools and tackles. Don't allow the make shift tools and tackles.

4.1.6 No loose clothing should be allowed while working near rotating equipment or working at heights.

4.2 MEANS OF ACCESS

Adequate and safe means of access (atleast two, differently located) to and from all workplaces should be provided. Same should be displayed and maintained.

4.3 HOUSE-KEEPING & STORAGE OF MATERIALS

4.3.1 **Ensure:**

- All contraction materials shall be proper storage, stack & segregate at site.
- All storage materials should be identified with sign & specification.
- All materials storage site should be identified & proper steel barricaded.
- Hazardous materials should be storages separate & identified.
- removal of scrap, inflammable material, waste and debris at appropriate intervals.

4.3.2 Removal of loose materials, which are not required for use, to be ensured. Accumulation of these at the site can obstruct means of access to and egress from workplaces and passageways.

4.3.3 Workplaces and passage ways, that are slippery owing to oil, grease or other causes, should be

cleaned up or strewn with sand, sawdust, ash etc.

4.4 PRECAUTIONS AGAINST THE FALL OF MATERIALS & PERSONS AND COLLAPSE OF STRUCTURES

4.4.1 Precautions should be taken such as the provision of fencing, look-out men or barriers to protect any person against injury by the fall of materials, or tools or equipment being raised or lowered.

4.4.2 Where necessary to prevent danger, guys, stays or supports should be used or other effective precautions should be taken to prevent the collapse of structures or parts of structures that are being erected, maintained, repaired, dismantled or demolished.

4.4.3 All openings through which workers are liable to fall should be kept effectively covered or fenced and displayed prominently.

4.4.4 As far as practicable, guardrails and toe-boards should be provided to protect workers from falling from elevated workplaces.

4.5 PREVENTION OF UN-AUTHORISED ENTRY

4.5.1 Construction sites located in built-up areas and alongside vehicular and pedestrian traffic routes should be fenced to prevent the entry of unauthorized persons & vehicle.

4.5.2 Visitors should not be allowed access to construction sites unless accompanied by or authorized by a competent person and provided with the appropriate protective equipment.

4.6 FIRE PREVENTION AND FIRE FIGHTING

4.6.1 All necessary measures should be taken by the executing agency and owner to:

- Avoid the risk of fire;
- Control quickly and efficiently any outbreak of fire;
- Bring out a quick and safe evacuation of persons.
- Inform unit/fire station control room, where construction work is carried out within existing operating area.

4.6.2 Combustible materials such as packing materials, sawdust, greasy/oily waste and scrap wood or plastics should not be allowed to accumulate in workplaces but should be kept in closed metal containers in a safe place.

4.6.3 Places where workers are employed should, if necessary to prevent the danger of fire, be provided with:

- suitable and sufficient fire-extinguishing equipment, which should be easily visible and accessible;
- an adequate water supply at sufficient pressure meeting the requirements of various Oil Industry Safety Directorate (OISD) standards.

4.6.4 To guard against danger at places having combustible material, workers should be trained in the action to be taken in the event of fire, including the use of means of escape.

4.6.5 At sites having combustible material, suitable visual signs should be provided to indicate clearly the direction of escape in case of fire.

4.6.6 Means of escape should be kept clear at all times. Escape routes should be frequently inspected particularly in high structures and where access isrestricted.

4.7 LIGHTING

4.7.1 Where natural lighting is not adequate, working light fittings or portable hand-lamps should be provided at workplace on the construction site where a worker will do a job.

4.7.2 Emergency lighting should be provided for personnel safety during night time to facilitate standby lighting source, if normal system fails.

4.7.3 Artificial lighting should not produce glare or disturbing shadows.

4.7.4 Lamps should be protected by guards against accidental breakage.

4.7.5 The cables of portable electrical lighting equipment should be of adequate size & characteristics for the power requirements and of adequate mechanical strength to withstand severe conditions in construction operations.

4.8 PLANT, MACHINERY, EQUIPMENT AND HAND TOOLS

4.8.1 General Provisions

- Plant, machinery and equipment including hand tools, both manual and power driven, should:
  - be of proper design and construction, taking into account health, Safety and ergonomic principles.
  - be maintained in good working order;
  - be used only for work for which they have been designed.
  - be operated only by workers who have been authorized and given appropriate training.
  - be provided with protective guards, shields or other devices as required.
- Adequate instructions for safe use should be provided.
- Safe operating procedures should be established and used for all plant, machinery and equipment.
- Operators of plant, machinery and equipment should not be distracted while work is in progress.
- Plant, machinery and equipment should be switched off when not in use and isolated before any adjustment, clearing or maintenance isdone.
- Where trailing cables or hose pipes are used they should be kept as short as practicable and not allowed to create a hazard.
- All moving parts of machinery and equipment should be enclosed or adequately guarded.

- Every power-driven machine and equipment should be provided with adequate means, immediately accessible and readily identifiable to the operator, of stopping it quickly and preventing it from being started again inadvertently.
- Operators of plant, machinery, equipment and tools should be provided with PPEs, including where necessary, suitable ear protection.

4.8.2 **Hand tools**

- Hand tools should be repaired by competent persons.
- Heads of hammers and other shock tools should be dressed or ground to a suitable radius on the edge as soon as they begin to mushroom or crack.
- When not in use and while being carried or transported sharp tools should be kept in sheaths, shields, chests or other suitable containers.
- Only insulated or nonconducting tools should be used on or near live electrical installations.
- Only non-sparking tools should be used near or in the presence of flammable or explosive dusts or vapours.

4.8.3 **Pneumatic Tools**

- Operating triggers on portable pneumatic tools shouldbe:
- So placed as to minimise the risk of accidental starting of the machine.
- so arranged as to close the air inlet valve automatically when the pressure of the operator's hand is removed.
- Hose and hose connections for compressed air supply to portable pneumatic tools should be:
- designed and tested for the pressure and service for which they are intended;
- fastened securely on the pipe outlet and equipped with the safety chain, as appropriate.
- Pneumatic shock tools should be equipped with safety clips or retainers to prevent dies and tools from being accidentally expelled from the barrel.
- Pneumatic tools should be disconnected from power and the pressure in hose lines released before any adjustment or repair is made.

4.8.4 **Electrical Tools**

- Low voltage portable electrical tools should generally be used.
- All electrical tools should be earthed, unless they are "all insulated" or "double insulated" tools which do not require earthing.
- All electrical tools should get inspected and maintained on a regular basis by a competent electrician and complete records kept.

5.0 CONSTRUCTION ACTIVITIES

The various common activities in construction are as under:

- Excavation
- Scaffolding, Platforms & Ladders
- Structural Work,
- Reinforcement Work

- Concrete Work
- Road Work (Laying of roads)
- Cutting/ Welding
- Working in Confined Space
- Working at Heights
- Handling & Lifting Equipments
- Vehicle Movement
- Electrical
- Demolition
- Sand/shot blasting/ spray painting

The safe practices to be followed during the implementation of above construction activities are given below:

5.1 EXCAVATION

5.1.1 All excavation work should be planned and the method of excavation and the type of support work required should be decided considering the following:

- The stability of the ground;
- The excavation will not affect adjoining buildings, structures or roadways;
- To prevent hazard, the gas, water, electrical and other public utilities should be shut off or disconnected, if necessary;
- Presence of underground pipes, cable conductors, etc.,
- The position of culvert/bridges, temporary roads and spoil heaps should be determined;

5.1.2 Before digging begins on site, all excavation work should be planned and the method of excavation and the type of support work required decided.

5.1.3 All excavation work should be supervised.

5.1.4 Sites of excavations should be thoroughly inspected:

- Daily, prior to each shift and after interruption in work of more than one day;
- After every blasting operation;
- After an unexpected fall of ground;
- After substantial damage to supports;
- After a heavy rain, frost or snow;
- When boulder formations are encountered.

5.1.5 Safe angle of repose while excavating trenches exceeding 1.5m depth upto 3.0m should be maintained. Based on site conditions, provide proper slope, usually 45 degree and suitable bench of 0.5m width at every 1.5m depth of excavation in all soils except hard rock or provide proper shoring and strutting to prevent cave-in or slides.

5.1.6 As far as possible, excavated earth should not be placed within one meter of the edge of the trench or

depth of trench whichever is greater.

5.1.7 Don't allow vehicles to operate too close to excavated area. Maintain at least 2m distance from edge of excavation or depend of soil strata. No load, plant or equipment should be placed or moved near the edge of any excavation where it is likely to cause its collapse and thereby endanger any person unless precautions such as the provision of shoring or piling are taken to prevent the sides from collapsing.

5.1.8 Adequately anchored stop blocks and barriers should be provided to prevent vehicles being driven into the excavation. Heavy vehicles should not be allowed near the excavation unless the support work has been specially designed to permitit.

5.1.9 If an excavation is likely to affect the security of a structure on which persons are working, precautions should be taken to protect the structure from collapse.

5.1.10 Barricade at 1m height (with red & white band/self-glowing reflective caution board) should be provided for excavations beyond 1.5m depth. Provide two entries/exits for such excavation.

5.1.11 Necessary precautions should be taken for underground utility lines like cables, sewers etc. and necessary approvals/clearances from the concerned authorities shall be obtained before commencement of the excavation job.

5.1.12 Water shall be pumped/bailed out, if any accumulates in the trench. Necessary precautions should be taken to prevent entry of surface water in trenches.

5.1.13 During rains, the soil becomes loose. Take additional precaution against collapse of side wall.

5.1.14 In hazardous areas, air should be tested to ascertain its quality. No one should be allowedentry till it is suitable for breathing.

5.1.15 In case of mechanized excavation, precaution shall be taken to not to allow anybody to come within one meter of extreme reach of the mechanical shovel. The mechanized excavator shall be operated by a well-trained experienced operator. When not in operation, the machine shall be kept on firm leveled ground with mechanical shovel resting on ground. Wheel or belt shall be suitably jammed to prevent any accidental movement of the machine. Suitable precautions as per manufacturer guidelines should be taken for dozers, graders and other heavy machines.

5.1.16 In case of blasting, follow strictly IS:4081-1986 & Indian Explosive Act and rules for storage, handling and carrying of explosive materials and execution of blasting operation.

5.2 SCAFFOLDING, PLATFORMS & LADDERS

5.2.1 Only MS 'H' frame scaffold should be use for scaffolding in construction work

5.2.2 A scaffold should be provided and maintained or other equally safe and suitable provision should be made where work cannot safely be done on or from the ground or from part of a building or other permanent structure.

5.2.3 Scaffolds should be provided with safe means of access, such as stairs, ladders or ramps. Ladders should be secured against inadvertent movement.

5.2.4 Every scaffold should be constructed, erected and maintained so as to prevent collapse or accidental displacement when in use.

5.2.5 Every scaffold and part thereof should be constructed:

- In such a way so as not to cause hazards for workers during erection and dismantling;
- In such a way so as guard rails and other protective devices, platforms, ladders, stairs or ramps can be easily put together;
- With sound material and of requisite size and strength for the purpose for which it is to be used and maintained in a proper condition.

5.2.6 Boards and planks used for scaffolds should be protected against splitting.

5.2.7 Materials used in the construction of scaffolds should be stored under good conditions and apart from any material unsuitable for scaffolds.

5.2.8 Couplers should not cause deformation in tubes. Couplers should be made of drop forged steel or equivalent material.

5.2.9 Tubes should be free from cracks, splits and excessive corrosion and be straight to the eye, and tube ends cut cleanly square with the tube axis.

5.2.10 Scaffolds should be designed for their maximum load as per relevant code.

5.2.11 Scaffolds should be adequately braced.

5.2.12 Scaffolds which are not designed to be independent should be rigidly connected to the building at designated vertical and horizontal places.

5.2.13 A scaffold should never extend above the highest anchorage to an extent which might endanger its stability and strength.

5.2.14 Loose bricks, drainpipes, chimney-pots or other unsuitable material should not be used for the construction or support of any part of a scaffold.

5.2.15 Scaffolds should be inspected and certified by competitive authorities & approved by HSSE Department:

- Before being taken into use;
- At periodic intervals thereafter as prescribed for different types of scaffolds;
- After any alteration, interruption in use, exposure to weather or seismic conditions or any other occurrence likely to have affected their strength or stability.

5.2.16 Inspection should more particularly ascertain that:

- The scaffold is of suitable type and adequate for the job;
- Scaffold materials used in its construction are sound and of sufficient strength;
- It is of sound construction and stable;
- That the required safeguards are in position.

5.2.17 A scaffold should not be erected, substantially altered or dismantled except by or under the supervision of Safety Officer.

5.2.18 Every scaffold should be maintained in good and proper condition, and every part should be kept fixed or secured so that no part can be displaced in consequence of normal use.

5.2.19 Lifting appliances on scaffolds

When a lifting appliance is to be used on a scaffold:

- The parts of the scaffold should be carefully inspected to determine the additional strengthening and other safety measures required;
- Any movement of the scaffold members should be prevented;
- If practicable, the uprights should be rigidly connected to a solid part of the building at the place where the lifting appliance is erected.

5.2.20 Pre-fabricated scaffolds

- In the case of pre-fabricated scaffold systems, the instructions provided by the manufacturers or suppliers should be strictly adhered to. Prefabricated scaffolds should have adequate arrangements for fixing bracing.
- Frames of different types should not be intermingled in a single scaffold.
- Scaffolding shall be erected on firm and levelground.
- All members of metal scaffolding shall be checked periodically to screen out defective/ rusted members. All joints should be properly lubricated for easy tightening.
- Entry to scaffolding should be restricted.
- Erection, alteration and removal shall be done under supervision of experienced personnel.
- Use of barrels, boxes, loose bricks etc., for supporting platform shall not be permitted.
- Each supporting member of platform shall be securely fastened and braced
- Where planks are butt-joined, two parallel putlogs shall be used, not more than 100mm apart, to give support to each plank.
- Platform plank shall not project beyond its end support to a distance exceeding 4 times the thickness of plank, unless it is effectively secured to prevent tipping. Cantilever planks should be avoided.
- The platform edges shall be provided with 150mm high toe board to eliminate hazards of tools or other objects falling from platform.
- Erect ladders in the "four up-one out position"
- Lash ladder securely with the structure.
- Using non-slip devices, such as, rubber shoes or pointed steel ferules at the ladderfoot, rubber wheels at ladder top, fixing wooden battens, cleats etc.
- When ladder is used for climbing over a platform, the ladder must be of sufficient length, to extend at least one meter above the platform, when erected against the platform in "four up-one out position."
- Portable ladders shall be used for heights not more than 4mt. Above 4mt flights, fixed ladders shall be provided with at least 600 mm landings at every 6mt or less.
- The width of ladder shall not be less than 300mm and rungs shall be spaced not more than

300mm.

- Every platform and means of access shall be kept free from obstruction.
- If grease, mud, gravel, mortar etc., fall on platform or scaffolds, these shall be removed immediately to avoid slippage.
- Workers shall not be allowed to work on scaffolds during storms or high wind. After heavy rain or storms, scaffolds shall be inspected beforereuse.
- Don't overload the scaffolding. Remove excess material and scrap immediately.
- Dismantling of scaffolds shall be done in a pre-planned sequential manner.

5.2.21 Strictly prohibited to use of suspended scaffold, Bamboo Scaffold, or any other unidentified materials use as scaffolding in construction work.

5.3 STRUCTURAL WORK, LAYING OF REINFORCEMENT &CONCRETING

5.3.1 General provisions

- The erection or dismantling of buildings, structures, civil engineering works, formwork, falsework and shoring should be carried out by trained workers only under the supervision of a competent person.

- Precautions should be taken to guard against danger to workers arising from any temporary state of weakness or instability of astructure.

- Formwork, falsework and shoring should be so designed, constructed and maintained that it will safely support all loads that may be imposed on it.

- Formwork should be so designed and erected that working platforms, means of access, bracing and means of handling and stabilizing are easily fixed to the formwork structure.

5.3.2 Erection and dismantling of steel and pre-fabricated structures

- The safety of workers employed on the erection and dismantling of steel and prefabricated structures should be ensured by appropriate means, such as provision and use of:

  - Ladders, gangways or fixed platforms;
  - Platforms, buckets, boatswain's chairs or other appropriate means suspended from lifting appliances;
  - Safety harnesses and lifelines, catch nets or catch platforms;
  - Power-operated mobile working platforms.

- Steel and pre-fabricated structures should be so designed and made that they can be safely transported and erected.

- In addition to the need for the stability of the part when erected, the design should explicitly take following into account:

  - The conditions and methods of attachment in the operations of transport, storing and temporary support during erection or dismantling as applicable;
  - Methods for the provision of safeguards such as railings and working platforms, and, when necessary, for mounting them easily on the structural steel or prefabricated parts.

- The hooks and other devices built in or provided on the structural steel or prefabricated parts that are required for lifting and transporting them should be so shaped, dimensioned and positioned as:

  - to withstand with a sufficient margin the stresses to which they are subjected;
  - Not to set up stresses in the part that could cause failures, or stresses in the structure itself not provided for in the plans, and be designed to permit easy release from the lifting appliance. Lifting points for floor and staircase units should be located (recessed if necessary) so that they do not protrude above the surface;
  - To avoid imbalance or distortion of the lifted load.

- Store places should be so constructed that:

  - There is no risk of structural steel or prefabricated parts falling or overturning;
  - Storage conditions generally ensure stability and avoid damage having regard to the method of storage and atmospheric conditions;
  - Racks are set on firm ground and designed so that units cannot move accidentally.

- While they are being stored, transported, raised or set down, structural steel or prefabricated parts should not be subjected to stresses prejudicial to their stability.

- Every lifting appliance should:

  - Be suitable for the operations and not be capable of accidental disconnection;
  - Be approved or tested as per statutory requirement.

- Lifting hooks should be of the self-closing type or of a safety type and should have the maximum permissible load marked on them.

- Tongs, clamps and other appliances for lifting structural steel and prefabricated parts should:
  - Be of such shape and dimensions as to ensure a secure grip without damaging the part;
  - be marked with the maximum permissible load in the most unfavorable lifting conditions.

- Structural steel or pre-fabricated parts should be lifted by methods or appliances that prevent them from spinning accidentally.

- When necessary to prevent danger, before they are raised from the ground, structural steel or pre-fabricated parts should be provided with safety devices such as railings and working platforms to prevent falls of persons.

- While structural steel or prefabricated parts are being erected, the workers should be provided with appliances for guiding them as they are being lifted and set down, so as to avoid crushing of hands and to facilitate the operations. Use of such appliances should be ensured.

- A raised structural steel or prefabricated part should be so secured and wall units so propped that their stability cannot be imperiled, even by external agencies such as wind and passing loads before its release from the lifting appliance.

- At work places, instruction should be given to the workers on the methods, arrangements and means required for the storage, transport, lifting and erection of structural steel or prefabricated parts, and, before erection starts, a meeting of all those responsible should be held to discuss and confirm the requirements for safe erection.

- During transportation within the construction area, attachments such as slings and stirrups mounted on structural steel or prefabricated parts should be securely fastened to the parts.

- Structural steel or prefabricated parts should be so transported that the conditions do not affect the stability of the parts or the means of transport result in jolting, vibration or stresses due to blows, or loads of material or persons.

- When the method of erection does not permit the provision of other means of protection against fall of persons, the workplaces should be protected by guardrails, and if appropriate by toe-boards.

- When adverse weather conditions such as snow, ice and wind or reduced visibility entail risks of accidents, the work should be carried on with particular care, or, if necessary, interrupted.

- Structures should not be worked on during violent storms or high winds, or when they are covered with ice or snow, or are slippery from other causes.

- If necessary, to prevent danger, structural steel parts should be equipped with attachments for suspended scaffolds, lifelines or safety harnesses and other means of protection.

- The risks of falling, to which workers moving on high or sloping girders are exposed, should be limited by all means of adequate collective protection or, where this is impossible, by the use of a safety harness that is well secured to a strong support.

- Structural steel parts that are to be erected at a great height should as far as practicable be assembled on the ground.

- When structural steel or prefabricated parts are being erected, a sufficiently extended area underneath the workplace should be barricaded or guarded

- Steel trusses that are being erected should be adequately shored, braced or guyed until they are permanently secured in position.

- Load-bearing structural member should not be dangerously weakened by cutting, holing or other means.

- Structural members should not be forced into place by the hoisting machine while any worker is in such a position that he could be injured by the operation.

- Open-web steel joists that are hoisted singly should be directly placed in position and secured against dislodgment.

5.4 Reinforcement Work

- Ensure that workers use Personnel Protective equipment like safety helmet, safety shoes, gloves etc.
- Don't place the hand below the rods for checking clear distance. Use measuring devices.
- Don't wear loose clothes while checking the rods.
- Don't stand unnecessarily on cantilever rods.
- To carry out welding/cutting of rods, safety procedures/precautions as mentioned in Item No. 6.5 to be followed.
- For supplying of rods at heights, proper staging and/or bundling to be provided.
- Ensure barricading and staging for supplying and fixing of rods at height.
- For short distance carrying of materials on shoulders, suitable pads to be provided.
- While transporting material by trucks/trailers, the rods shall not protrude in front of or by the sides of driver's cabin. In case such protrusion cannot be avoided behind the deck, then it should not extend 1/3rd of deck length or 1.5M which ever is less and tied with red flags/lights.

5.5 Concreting

- Ensure stability of shuttering work before allowing concreting.
- Barricade the concreting area while pouring at height/depths.
- Keep vibrator hoses, pumping concrete accessories in healthy conditions and mechanically locked.
- Pipelines in concrete pumping system shall not be attached to temporary structures such as scaffolds and formwork support as the forces and movements may effect their integrity.

- Check safety cages & guards around moving motors/parts etc. provided in concreting mixers.
- Use Personal Protective Equipment like gloves, safety shoes etc. while dealing with concrete and wear respirators for dealing with cement.
- Earthing of electrical mixers, vibrators, etc. should be done and verified.
- Cleaning of rotating drums of concrete mixers shall be done from outside. Lockout devices shall be provided where workers need to enter.
- Where concrete mixers are driven by internal combustion engine, exhaust points shall be located away from the worker's workstation so as to eliminate their exposure to obnoxious fumes.
- Don't allow unauthorized person to stand under the concreting area.
- Ensure adequate lighting arrangements for carrying out concrete work during night.
- Don't allow the same workers to pour concrete round the clock. Insist on shift pattern.
- During pouring, shuttering and its supports should be continuously watched for defects.

5.6 ROAD WORK

5.6.1 Site shall be barricaded and provided with warning signs, including night warning lamps at appropriate locations for traffic diversion.

5.6.2 Filled and empty bitumen drums shall be stacked separately at designated places.

5.6.3 Mixing aggregate with bitumen shall preferably be done with the help of bitumen batch mixing plant, unless operationally non-feasible.

5.6.4 Road rollers, Bitumen sprayers, Pavement finishers shall be driven by experienced drivers with valid driving license.

5.6.5 Workers handling hot bitumen sprayers or spreading bitumen aggregate mix or mixing bitumen with aggregate, shall be provided with PVC hand gloves and rubber shoes with legging up to knee joints.

5.6.6 At the end of day's work, surplus hot bitumen in tar boiler shall be properly covered by a metal sheet, to prevent anything falling in it,

5.6.7 If bitumen accidentally falls on ground, it shall be immediately covered by sprinkling sand, to prevent anybody stepping on it. Then it shall be removed with the help of spade.

5.6.8 For cement concrete roads, besides site barricading and installation of warning signs for traffic diversion, safe practices mentioned in the chapter on "Concreting", shall also be applicable.

5.7 CUTTING/WELDING

5.7.1 Common hazards involved in welding/cutting are sparks, molten metal, flying particles, harmful light rays, electric shocks etc. Following precautions should be taken: -

- A dry chemical type fire extinguisher shall be made available in the work area.
- Adequate ventilation shall be ensured by opening manholes and fixing a shield or forced circulation of air etc, while doing a job in confined space.
- Ensure that only approved and well-maintained apparatus, such as torches, manifolds, regulators or pressure reducing valves, and acetylene generators, be used.
- All covers and panels shall be kept in place, when operating an electric Arc welding machine.
- The work piece should be connected directly to Power supply, and not indirectly through pipelines/structures/equipments etc.
- The welding receptacles shall be rated for 63 A suitable for 415V, 3-Phase system with a scraping earth. Receptacles shall have necessary mechanical interlocks and earthing facilities.
- All cables, including welding and ground cables, shall be checked for any worn out or cracked insulation before starting the job. Ground cable should be separate without any loose joints.
- Cable coiling shall be maintained at minimum level, if not avoidable.
- An energized electrode shall not be left unattended.
- The power source shall be turned off at the end of job.
- All gas cylinders shall be properly secured in upright position.
- Acetylene cylinder shall be turned and kept in such a way that the valve outlet points away from oxygen cylinder.
- Acetylene cylinder key for opening valve shall be kept on valve stem, while cylinderis in use, so that the acetylene cylinder could be quickly turned off in case of emergency. Use flash back arrestors to prevent back-fire in acetylene/oxygen cylinder.
- When not in use, valves of all cylinders shall be kept closed.
- All types of cylinders, whether full or empty, shall be stored at cool, dry place under shed
- Forced opening of any cylinder valve should not be attempted.
- Lighted gas torch shall never be left unattended.
- Store acetylene and oxygen cylinders separately.
- Store full and empty cylinders separately.
- Avoid cylinders coming into contact with heat.
- Cylinders that are heavy or difficult to carry by hand may be rolled on their bottom edge but never dragged.
- If cylinders have to be moved, be sure that the cylinder valves are shut off.
- Before changing torches, shut off the gas at the pressure reducing regulators and not by crimping the hose.
- Do not use matches to light torches, use a friction lighter.
- Move out any leaking cylinder immediately.
- Use trolleys for oxygen & acetylene cylinder and chain them.
- Always use Red hose for acetylene and other fuel gases and Black for oxygen, and ensure that both are in equal length.
- Ensure that hoses are free from burns, cuts and cracks and properly clamped.
- Avoid dragging hoses over sharp edges and objects
- Do not wrap hoses around cylinders when in use orstored.

- Protect hoses from flying sparks, hot slag, and other hot objects.
- Lubricants shall not be used on Ox-fuel gasequipment.
- During cutting/welding, use proper type goggles/faceshields

5.8 WORKING IN CONFINED SPACES

5.8.1 Following safety practices for working in confined space like towers, columns, tanks and other vessels should be followed in addition to the safety guidelines for specific jobs like scaffolding, cutting/welding etc.

- Shut down, isolate, depressurize and purge the vessel as per laid down procedures.
- Entry inside the vessel and to carry out any job should be done after issuance of valid permit only in line with the requirement of HSSE Department.
- Ensure proper and accessible means of exit before entry inside a confined space.
- The number of persons allowed inside the vessel should be limited to avoid overcrowding.
- When the work is going on in the con fined space, there should always be one man standby at the nearby manway.
- Before entering inside the vessels underground or located at lower elevation, probability of dense vapours accumulating nearby should also be considered in addition to inside the vessel.
- Ensure requisite O2 level before entry in the confined space and monitor level periodically or other wise use respiratory devices.
- Check for no Hydrocarbon or toxic substances before entry and monitor level periodically or use requisite Personal Protective Equipment.
- Ensure adequate ventilation or use respiratory devices.
- Depending upon need, necessary respirator system, gas masks and suit shall be worn by everyone entering confined space. In case of sewer, OWS or in the confined area where there is a possibility of toxic or inert gas, gas masks shall be used by everyone while entering.
- Barricade the confined spaces during hoisting, radiography, blasting, pressure testing etc.
- Use 24V flameproof lamp fittings only forillumination.
- Use tools with air motors or electric tools with maximum voltage of 24V.
- House keeping shall be well maintained.
- Safety helmet, safety shoes and safety belt shall be worn by everyone entering the confined space.
- Don't wear loose clothing while working in a confined space.
- In case of the vessels which are likely to contain pyropheric substances (like Iron Sulphide), special care need to be taken before opening the vessel. Attempt should be made to remove the pyropheric substances. Otherwise, these should be always kept wet by suitable means
- The cutting torches should also be kept outside the vessel immediately after the cutting.
- The gas cylinders used for cutting/welding shall be kept outside.

- All cables, hoses, welding equipment etc., shall be removed from confined space at end of each work day, even if the work is to be resumed in the same space the next day.
- To the extent possible sludge shall be cleared and removed from outside before entering.
- No naked light or flame or hot work such as welding, cutting and soldering should be permitted inside a confined space or area unless it has been made completely free of the flammable atmosphere, tested and found safe by a competent person. Only non-sparking tools and flameproof hand lamps protected with guard and safety torches should be used inside such confined space or area for initial inspection, cleaning or other work required to be done for making the area safe.
- Communication should be always maintained between the worker and the attendant.

5.9 WORKING AT HEIGHTS

5.9.1 General Provision

- While working at a height of more than 2 meters, ISI approved safety belt shall be used.
- While working at a height of more than 2 meters, permit should be issued by competent person before commencement of the job.
- Worker should be well trained on usage of safety belt including its proper usage at the time of ascending/descending.
- All tools should be carried in tool kits to avoid their falling.
- If the job is on fragile/sloping roof, roof walk ladders shall be used.
- Provide lifeline wherever required.
- Additional safety measures like providing Fall Arrestor type Safety belt, safety net should be provided depending upon site conditions, jobrequirements.
- Keep working area neat and clean. Remove scrap material immediately.
- Don't throw or drop material/equipment from height.
- Avoid jumping from one member to another. Use proper passageway.
- Keep both hands free while climbing. Don't try to bypass the steps of the ladder.
- Try to maintain calm at height. Avoid overexertion.
- Avoid movements on beam.
- Elevated workplaces including roofs should be provided with safe means of access and egress such as stairs, ramps or ladders.

5.9.2 Roof Work

- All roof-work operations should be pre-planned and properly supervised.
- Roof work should only be undertaken by workers who are physically and psychologically fit and have the necessary knowledge and experience for such work.
- Work on roofs shouldn't be carried on in weather conditions that threaten the safety of workers.
- Crawling boards, walkways and roof ladders should be securely fastened to a firm structure.

- Roofing brackets should fit the slope of the roof and be securely supported.
- Where it is necessary for a person to kneel or crouch near the edge of the roof, necessary precautions should be taken.
- On a large roof where work have to be carried out at or near the edge, a simple barrier consisting of crossed scaffold tubes supporting a tubing guardrail may be provided.
- All covers for openings in roofs should be of substantial construction and be secured in position.
- Roofs with a pitch of more than 10 should be treated as sloping.
- When work is being carried out on sloping roofs, sufficient and suitable crawling boards or roof ladders should be provided and firmly secured in position.
- During extensive work on the roof, strong barriers or guardrails and toe-boards should be provided to stop a person from falling off theroof.
- Where workers are required to work on or near roofs or other places covered with fragile material, through which they are liable to fall, they should be provided with suitable roof ladders or crawling boards strong enough and when spanning across the supports for the roof covering to support those workers.
- A minimum of two boards should be provided so that it is not necessary for a person to stand on a fragile roof to move a board or a ladder, or for any other reason.

5.10 HANDLING AND LIFTING EQUIPMENT:

5.10.1 General Provisions

Following are the general guidelines to be followed with regard to all types of handling and lifting equipment in addition to the guidelines for specific type of equipments dealt later on.

- There should be a well-planned safety programme to ensure that all the lifting appliances and lifting gear are selected, installed, examined, tested, maintained, operated and dismantled with a view to preventing the occurrence of any accident;
- All lifting appliances shall be examined by competent persons at frequencies as specified in "The Factories act".
- Check thoroughly quality, size and condition of all lifting tools like chain pulley blocks, slings, U-clamps, D-shackles etc. before putting them in use.
- Safe lifting capacity of all lifting & handling equipment, tools and shackles should be got verified and certificates obtained from competent authorities before its use. The safe working load shall be marked on them.
- Check periodically the oil, brakes, gears, horns and tire pressure of all moving equipments like cranes, forklifts, trailers etc as per manufacturer's recommendations.
- Check the weights to be lifted and accordingly decide about the crane capacity, boom length and angle of erection.
- Allow lifting slings as short as possible and check packing at the friction points.
- While lifting/placing of the load, no unauthorized person shall remain within the radius of the

boom and underneath the load.

- While loading, unloading and stacking of pipes, proper wedges shall be placed to prevent rolling down of the pipes.
- Control longer jobs being lifted up from both ends.
- Only trained operators and riggers should carry out the job. While the crane is moving or lifting the load, the trained rigger should be there for keeping a vigil against hitting any other object.
- During high wind conditions and nights, lifting of heavy equipments should be avoided. If unavoidable to do erection in night, operator and rigger should be fully trained for night signaling. Also proper illumination should be there.
- Allow crane to move on hard, firm and leveled ground.
- When crane is in idle condition for long periods or unattended, crane boom should either be lowered or locked as per manufacturer's guidelines.
- Hook and load being lifted shall remain in full visibility of crane operators, while lifting, to the extent possible.
- Don't allow booms or other parts of crane to come within 3 meters reach of overhead electrical cables.
- No structural alterations or repairs should be made to any part of a lifting appliance, which may affect the safety of the appliance without the permission and supervision of the competent person.

5.11 VEHICLE MOVEMENT

- Park vehicles only at designated places. Don't block roads to create hindrance for other vehicles.
- Don't overload the vehicle.
- Obey speed limits and traffic rules.
- Always expect the unexpected and be a defensive driver.
- Drive carefully during adverse weather and road conditions.
- Read the road ahead and ride to the left.
- Be extra cautious at nights. Keep wind screens clean and lights in working condition.
- All vehicles used for carrying workers and construction materials must undergo predictive / preventive maintenance and daily check.
- Driver with proper valid driving license shall only be allowed to drive the vehicle
- Routes shall be leveled, marked and planned in such a way so as to avoid potential hazards such as overhead power lines and sloping ground etc.
- While reversing the vehicles, help of another worker should be ensured at all times
- An unattended vehicle should have the engine switched off
- Wherever possible one-way system shall be followed
- Barriers/fixed stops should be provided for excavation/openings to prevent fall of vehicle
- Load should be properly secured
- The body of the tipper lorry should always be lowered before driving the vehicle off.
- Signs/signals/caution boards etc. should be provided on routes.

5.12 ELECTRICAL

5.12.1 General

- Trained and certified licenses holder persons shall be allowed to work on electrical work.
- No person should be allowed to work on live circuit. The same, if unavoidable, special care and authorisation need to be taken.
- Treat all circuits as "LIVE" unless ensured otherwise.
- Electrical "Tag Out" procedure "MUST" be followed for carrying out maintenance jobs.
- Display voltage ratings prominently with "Danger" signs.
- Put caution/notice signs before starting the repair works.
- All electrical equipment operating above 250V shall have separate and distinct connections to earth grid.
- Proper grounding to be ensured for all switch boards and equipment including Portable ones prior to taking into service.
- Make sure that electrical switchboards, portable tools, equipments (like grinding machine etc.) don't get wet during their usage. If it happens, stop the main supply, make the tools dry and then only use them. Check proper earthing. All temporary switch boards/ KIOSKS put up at work site should be suitably protected from rain and the level of same should be high enough to avoid contact with water due to water logging.
- Don't work wet on electrical system.
- Don't overload the electrical system.
- Use only proper rated HRC fuses.
- Industrial type extension boards and Plug sockets are only to be used.
- ELCB for all temporary connections must be provided. Use insulated 3-pin plug tops.
- All power supply cables should be laid properly and neatly so that they don't cause hindrance to persons working and no physical damage also takes place to the cables during various construction activities.
- All Power cables to be properly terminated using glands and lugs of proper size and adequately crimped.
- Use spark-proof/flame proof type electrical fittings in Fire Hazard zones as per area classification as per BIS standard.
- Check installations of steel plates/pipes to protect underground cables at crossings.
- Don't lay unarmored cable directly on ground, wall, roof or trees. All temporary cables should be laid at least 750 mm below ground and cable markers should be provided. Proper sleeves should be provided at road crossings. In case temporary cables are to be laid on wooden poles/steel poles, the minimum cable heights should be 4.5 M.
- Maintain safe overhead distance of HT cables as per Indian Electricity Rules and relevant acts.
- Don't connect any earthing wire to the pipelines/structures.
- Don't make any unsafe temporary connections, naked joints/wiring etc.
- Ensure that temporary cables are free from cuts, damaged insulation, kinks or improper insulated joints.

- Check at periodic intervals that pins of sockets and joints are not loose.
- Protect electrical wires/equipments from water and naked flames.
- Illuminate suitably all the work areas.
- All switchboards should be of MS structure only and incoming source should be marked.
- Hand lamps should not be of more than 24V rating.
- Fire extinguishers (DCP/CO2/Sand buckets) should be kept near temporary switch boards being used for construction purposes. Don't use water for fighting electrical fires.
- Insulating mats shall be provided in the front and back end of switch boards.
- All parts of electrical installations should be so constructed, installed and maintained as to prevent danger of electric shock, fire and external explosion. Periodic checking/certification of electrical safety appliances such as gloves, insulating mats, hoods etc. to be done/witnessed along with maintaining a register at site signed by competent authority.
- A notice displaying following, should be kept exhibited at suitable places:
  - prohibiting unauthorized persons from entering electrical equipment rooms or from handling or interfering with electrical apparatus;
  - containing directions as to procedures in case of fire, rescue of persons in contact with live conductors and the restoration of persons suffering from electric shock;
  - specifying the person to be notified in case of electrical accident or dangerous occurrence, and indicating how to communicate with him.
- No other cables/pipes to be laid in trench used for electrical cables.
- Utmost care should be taken while excavating Earth from cable trench to avoid damage or any accident.
- Sub-station floor cut-outs meant for switch board installations to be covered wherever installation is incomplete.
- A Residual Current Operated Circuit Breaker (RCCB) or Earth Leakage Circuit Breaker (ELCB), when installed, protects a human being to the widest extent. RCCB or ELCB should be provided as per Indian Electricity Rules

5.12.2 Inspection and maintenance

- All electrical equipment should be inspected before taking into use to ensure suitability for its proposed use.
- At the beginning of every shift, the person using the electrical equipment should make a careful external examination of the equipment and conductors, especially the flexible cables.
- Apart from some exceptional cases, work on or near live parts of electrical equipment should be forbidden.
- Before any work is begun on conductors or equipment that do not have to remain live:
  - the current should be switched off by a responsible authorised person;
  - precautions should be taken to prevent the current from being switched on again;
  - the conductors or the equipment should be tested to ascertain that they are dead;
  - the conductors and equipment should be earthed and short-circuited;

- neighboring live parts should be adequately protected against accidental contact.

- After work has been done on conductors and equipment, the current should only be switched on again on the orders of a competent person after the earthing and short- circuiting have been removed and the workplace reportedsafe.
- Electricians should be provided with approved and tested tools, and personal protective equipment such as rubber gloves, mats etc.
- All conductors and equipment should be considered to be live unless there is a proof of the contrary.
- When work has to be done in dangerous proximity to live parts the current should be cut off. If for operational reasons this is not possible, the live parts should be fenced off or enclosed by qualified staff from the sub-stationconcerned.

5.12.3 Testing

- Electrical installations should be inspected and tested and the results recorded.
- Periodic testing of the efficiency of the earth leakage protective devices should be carried out.
- Particular attention should be paid to the earthing of apparatus, the continuity of protective conductors, polarity and insulation resistance, protection against mechanical damage and condition of connections at points of entry.

5.12.4 Fire Prevention And Control

- Provision be made for safe handling and storage of dirty rags, trash, and waste oil. Flammable liquids and chemicals applied on platform should be immediately cleaned.
- Paint containers and hydrocarbon samples, gas cylinders for welding and cutting should be stored properly. Cylinders should be transported in hand-cart.
- Smoking should be restricted and no smoking area should be identified.
- Special attention should be given to crude oil pump seals, diesel and gas engineswhich are potential source of ignition in the event of failure.
- Fire and smoke detectors i.e. ultraviolet heat, thermal and smoke detector should be function tested once in three months.
- Fire is controlled in offshore by water spraying, Halon, CO2 flooding, DCP and sprinkler system.
- Foaming agent is applied for controlling fire in liquid hydrocarbon. The system is not effective in gas fire.
- Light weight breathing system should be used.
- The fire control plan at offshore should reveal control station, fire alarms and fire detectors, deluge valves and sprinkler, fire extinguishing appliances, fireman outfit and ventilation system.
- Fire fighting equipment should be maintained in ready to use condition.

5.13 DEMOLITION

5.13.1 General provisions

- When the demolition of any building or structure might present danger to workers or to the public:
  - necessary precautions, methods and procedures should be adopted, including those for the disposal of waste or residues;
  - the work should be planned and undertaken only under the supervision of a competent person.
- Before demolition operations begin:
  - structural details and builders' drawings should be obtained wherever possible;
  - details of the previous use should be obtained to identify any possible contamination and hazards from chemicals, flammables, etc.;
  - an initial survey should be carried out to identify any structural problems and risks associated with flammable substances and substances hazardous to health. The survey should note the type of ground on which the structure is erected, the condition of the roof trusses, the type of framing used in framed structures and the load-bearing walls;
  - a method of demolition should be formulated after the survey and recorded in a method statement having taken all the various considerations into account and identifying the problems and their solutions;
- All electric, gas, water and steam service lines should be shut off and, as necessary, capped or otherwise controlled at or outside the construction site before work commences.
- If it is necessary to maintain any electric power, water or other services during demolition operations, they should be adequately protected against damage.
- As far as practicable, the danger zone round the building should be adequately fenced off and sign posted. To protect the public a fence 2m high should be erected enclosing the demolition operations and the access gates should be secured outside working hours.
- The fabric of buildings contaminated with substances hazardous to health should be decontaminated. Protective clothing and respiratory devices should be provided and worn.
- Where plant has contained flammable materials, special precautions should be taken to avoid fire and explosion.
- The plant to be demolished should be isolated from all other plant that may contain flammable materials. Any residual flammable material in the plant should be rendered safe by cleaning, purging or the application of an inert atmosphere as appropriate.
- Care should be taken not to demolish any parts, which would destroy the stability of other parts.
- Demolition activities should not be continued under adverse climatic conditions such as high winds, which could cause the collapse of already weakened structures.
- To prevent hazards parts of structures should be adequately shored, braced or otherwise supported.
- Structures should not be left in a condition in which they could be brought down by wind pressure or vibration.
- Where a deliberate controlled collapse technique is to be used, expert engineering advice should be obtained, and:

- it should only be used where the whole structure is to come down because it relies on the removal of key structural members to effect a total collapse;
- it should only be used on sites that are fairly level and where there is enough surrounding space for all operatives and equipment to be withdrawn to a safe distance.

- When equipment such as power shovels and bulldozers are used for demolition, due consideration should be given to the nature of the building or structure, its dimensions, as well as to the power of the equipment being used.
- If a swinging weight is used for demolition, a safety zone having a width of at least one- and-a-half times the height of the building or structure should be maintained around the points of impact.

5.13.2 Demolition of structural steelwork

- All precautions should be taken to prevent danger from any sudden twist, spring or collapse of steelwork, ironwork or reinforced concrete when it is cut or released.
- Steel construction should be demolished tier by tier.
- Structural steel parts should be lowered and not dropped from a height.

5.14 SAND/SHOT BLASTING/ SPRAY PAINTING

- Sand blasting should be used only after approval from competent person.
- Air Compressor used for sand/shot blasting/painting should have guard and positioned away from the work place.
- Exhaust of the prime mover, if IC engine is used, should be directed away from the work place.
- In case of motor driven compressor, the body of the motor as well as the compressor to be properly earthed.
- The hoses used for compressed air should be of proper quality, and health of the same to be ensured through regular check/ test.
- The operator of sand/shot blasting/painting should wear suitable PPE's including mask.
- Adequate measures to be taken to suppress dust/sprayparticle.
- Sand used for sand blasting should be suitably covered & protected from to rain/moisture.
- When these activities are done in confined places, adequate measure to be taken for proper ventilation.

6.0 CONSTRUCTION & DIMOLATION WASTE (C & D Waste)

- The Contractor shall remove all construction and demolition waste and clean the work area time to time and deposit these wastes to the dedicated area within the Port premises earmarked as “C & D wastes storage Area.
- The Contractor shall get the collected waste transported to dedicated site of Port for storage through own resources and with weight measurement
- The Contractor shall ensure that there is no littering or deposition of construction and demolition waste so as to prevent obstruction to the traffic or the public or drains
- The Contractor shall ensure that other waste (such as solid waste) does not get mixed with

this waste and is stored and disposed separately as mentioned above.

- The Contractor shall ensure safe disposal of construction and demolition waste contaminated with industrial hazardous or toxic material if any; at Waste management cell of the Port.
- Contractor shall have proper storage of construction & demolition Waste (C &D Waste) at site.
- Hazardous & Chemical waste should be stored at separate place as identified from other Waste & Man moved area.
- Storage of C & D Waste should have proper display sign board and barricading.
- Contractor shall dispose of Civil waste like Concrete, brick, stone etc at landfill area designated by the Engineer in charge.
- Contractor shall remove solid waste like steel, aluminum, wooden, cable & electrical, e-waste, pipe etc. at User storage scrap yard with proper storage & as per instruction of Engineer in charge.
- Contractor shall dispose Hazardous waste like chemical, glass wool, glass etc through Government authorized disposal service area only.
- While transportation of C & D Waste from work site, Contractor shall have proper loading, unloading facility & cover the truck and strictly follow up the GPCB, CPCB & Environment rule.
- Contractor shall maintain all records of waste like waste generate, disposed off, transport & its weight.
- Contractor shall obtain proof of waste disposed certificate from Government Authorized disposal service provider as directed by Engineer In Charge.
- Contractor shall submit all records related to C & D to the Engineer In Charge.
- Contractor shall strictly follow up & comply Guidelines of Environment Management of C & D Waste, CPCB March 2017 and maintain all records in terms of the same.

7.0 FIRST AID

First aid facilities should be provided in line with various statutory regulations like factory act etc. However following care should be taken:

- First aid, including the provision of trained personnel should be ensured at work sites.
- Arrangement should be made for ensuring the medical attention of the injured workers.
- First aid box should be as per the Factory rules.
- Suitable rescue equipment, like stretchers should be kept readily available at the construction site.
- First-aid kits or boxes, as appropriate and as per statutory requirements, should be provided at workplaces and be protected against contamination by dust, moisture etc.
- First-aid kit or boxes should not keep anything besides material for first aid in emergencies.
- First-aid kits and boxes should contain simple and clear instructions to be followed, be kept under the charge of a responsible person qualified to render the first aid and be regularly inspected and stocked.
- Where the work involves risk of drowning, asphyxiation or electric shock, first aid personnel should be proficient in the use of resuscitation and other life saving techniques and in rescue procedures.
- Emergency telephone numbers of nearby Hospitals, Police, Fire Station and Administration should be prominently displayed.

- The Contractor shall maintain first aid facilities for its employees, workers and those of its sub - contractors.

- The Contractor shall make outside arrangements for ambulance service and for the treatment of injuries. Names of those providing these services shall be furnished to the Engineer-in-Charge prior to start of construction, and their telephone numbers shall be prominently posted in Contractor's field office.

- All critical injuries shall be reported promptly to the Engineer-in-Charge, and a copy of Contractor's report covering each personal injury requiring the attention of a physician shall be furnished to the Owner.

- Carrying/Striking of matches, lighters inside the Refinery area, smoking within the Port area are strictly prohibited. Violators of the "No Smoking" rules shall be discharged immediately. Within Port area, no hot work shall be permitted without valid gas safety/fire permits. The Contractor shall be held liable and responsible for all lapses of his subcontractors/ employees in this regard.

8.0 DOCUMENTATION

The intention of keeping documentation of all types of accident(s) is to prevent recurrence of similar accident(s). All accidents should be reported as per APMT Guidelines and Factories act, 1948.

All accidents (major, minor or near miss) should be investigated, analyzed and recommendations should be documented along with implementation status.

All related data should be well-documented and further analysis highlighting the major cause(s) of accidents be done. This will help in identifying thrust areas and training needs for prevention of accidents.

9.0 SAFETY AWARENESS & TRAINING

Safety awareness to all section of personnel ranging from site-in-charge to workmen helps not only preventing the risk but also build up the confidence. Time and expenditures also get saved as a result.

Safety awareness basically seeks to persuade/inform people on safety besides supplementing skill also. Awareness programme may include followings:

- **Poster:** Posters with safety slogan in humorous, gruesome demonstrating manner may be used to discourage bad habits attributable to accidents by appealing to the workers' pride, self-love, affection curiosity or human aspects. These should be displayed in prominent location(s).
- **Safety Sign Boards:** Different type of message of cautioning, attention, notice etc. should be displayed at the appropriate places for learning/ awareness of the workmen while working at site.
- **Films & Slides:** Film(s) narrating the accident including the causes and possible remedial ways of preventing the recurrence of a similar accident should be displayed at regular intervals. Slides consisting main points of the film show may also be shown to workers.

- **Tool Box meeting, lectures & conferences:** The success of these events would depend much on audience's understandings of the speaker (s). The speakers are to be knowledgeable and good presenter. Speakers should know to hold the attention and to influence the audiences.
- **Competitions:** Organize competition(s) between the different departments/categories of workers. The sense of reward/recognition also will improve safety awareness and result in enhancing safety levels.
- **Exhibitions:** Exhibitions also make the workers acquainted with hazards and means of preventive measures.
- **Safety Publication:** Safety publications including pocket books dealing with ways of investigation and prevention in the field of safety and so on, may be distributed to workers to promote the safety awareness.
- **Safety Drives:** From time to time, an intensive safety drive by organizing a safety day or a safety week etc. should be launched.
- **Training:** Training for covering the hazards for different trade should be imparted. Training should also include the specific hazards related to a job in addition to the general safety training as has been dealt in various chapters and should include all workers as per APMT guidelines.

10.0 REFERRENCES

The Contractor shall be comply & follow up the following Rules, regulations, standard, guidelines & its latest amendment for the Construction work.

1. Factory Act, 1948
2. Indian Electricity Rules
3. Safety & Health in Construction by ILO
4. The Building & Other Construction Workers (Regulation, Employment and Conditions of Service) Act 1996
5. (IS : 818) Code of Practice for Safety and Health Requirements in Electric and Gas Welding and Cutting Operations – First Revision.
6. (IS : 875) Code of practice for Structural safety of buildings: Masonry walls
7. (IS : 933) Specification for Portable Chemical Fire Extinguisher, Foam Type - Second Revision.
8. (IS : 1179) Specification for Equipment for Eye and Face Protection during Welding - First Revision.
9. (IS : 1904) Code of practice for Structural safety of buildings: Shallow foundations
10. (IS : 1905) Code of practice for Structural safety of buildings: Masonry walls
11. (IS : 2171) Specification for Portable Fire Extinguishers, Dry Powder Type -Second Revision.
12. (IS : 2361) Specification for Building Grips - First Revision.
13. (IS : 2750) Specification for Steel Scaffoldings.
14. (IS : 2925) Specification for Industrial Safety Helmets - First Revision.
15. (IS : 3016) Code of Practice for Fires Precautions in Welding and Cutting Operations - First Revision.
16. (IS : 3521) Industrial safety belts and harnesses
17. (IS : 3696 - Part I) Safety Code for Scaffolds and Ladders : Part I - Scaffolds.
18. (IS : 3696 - Part II) Safety Code for Scaffolds and Ladders : Part II - Ladders.
19. (IS : 3764) Safety Code for Excavation Work.
20. (IS : 4014 -Part I & II) Code of practice for Steel tubular scaffolding
21. (IS : 4081) Safety Code for Blasting and Related Drilling Operations.
22. (IS : 4082) Recommendations on staking and storage of construction materials at site
23. (IS : 4130) Safety Code for Demolition of Buildings - First Revision.
24. (IS : 4138) Safety Code Working in Compressed Air-First Revision
25. (IS : 4756) Safety code for Tunneling works
26. (IS : 4912) Safety requirements for Floor and Wall Openings, Railings and toe Boards -First Revision.
27. (IS : 5121) Safety Code for Piling and other Deep Foundations.
28. (IS : 5916) Safety Code for Construction involving use of Hot Bituminous Materials.
29. (IS : 5983) Specification for Eye Protectors - First Revision.
30. (IS : 6922) Structures subject to underground blasts, criteria for safety and design
31. (IS : 7155) Code of recommended practices for conveyor safety

32. (IS : 7205) Safety Code for Erection on Structural Steel Works.
33. (IS : 7069) Safety Code for Handling and Storage of Building Materials.
34. (IS : 7293) Safety Code for Working with Construction Machinery.
35. (IS : 7323) Guidelines for operation of Reservoirs
36. (IS : 7969) Safety code for handling and storage of building material
37. (IS : 8758) Recommendation for Fire Precautionary Measures in construction of Temporary Structures and Pandals.
38. (IS : 8989) Safety Code for Erection of Concrete Framed Structures.
39. (IS : 9706) Code of Practices for construction of Arial ropeways for transportation of material
40. (IS : 9759) Guidelines for de-watering during construction
41. (IS : 9944) Recommendations on safe working load for natural and manmade fibre roap slings
42. (IS : 10291) Safety code for dress divers in civil engineering works
43. IS :10386 - Part I) Safety Code for Construction, Operation and Maintenance for River Valley Projects.
44. (IS :10386 - Part II) Safety Code for Construction, Operation and Maintenance of River Valley Projects.
45. (IS : 11057) Code of practice for Industrial safety nets
46. (IS : 13415) Code of Practice on safety for Protective barriers in and around building
47. (IS : 13416) Recommendations for preventive measures against hazards at working places

Lifting Global Trade℠

APM TERMINALS

CONTRACTORS SAFETY GUIDELINES

PORT PIPAVAV

Oct-2017

ACKNOWLEDGEMENT BY CONTRACTOR

Contractors name :.....

Job/task to be carried out :.....

Address :.....

:.....

I hereby acknowledge the receipt of the contractors Safety guideline and confirm that contents of the guideline have been understood by me.

I agree to abide by the guidelines and will undertake assigned job in a safe manner.

Recipient's sign Stamp:

Date:

Note: Copy of the page duly signed by the contractor should be forwarded to HSSE Department for record.

CONTENTS

HSSE POLICY

PORT PIPAVAV is committed to providing a safe and pollution free working environment to its employees and visitors.

SAFETY is a part of each employee's job, active participation to the safety program is a condition of each employee's employment.

Everyone within Port Pipavav is responsible for managing Health, Safety, Security and Environment matters and acceptance of their individual responsibility and their respective accountability is critical to the successful implementation of safety management system at Port.

Our goal is to ensure that all activities carried out at port are managed in the most possible secure manner so as to avoid, reduce and control all risks pertaining to health, safety, security and environment.

PORT PIPAVAV will,
Adopt and annually review its Health, Safety, Security and Environment policy.
Comply with all relevant legal requirements and where legislation does not exist set its own standards in line with APMT guideline.
Develop and deliver appropriate Health, Safety, Security and Environment training for staff to ensure risk are managed in the most efficient manner so as to avoid any occupational illness, injury or fatality at work place.
Ensure Health, Safety, Security and Environment implications of new project are identified and measures are in place to minimize the impact and where possible such risks are eliminated.
Report and investigate incidents in accordance with legislative requirements and APMT guidelines ensuring that appropriate remedial steps are taken to prevent recurrence.
Establish appropriate safety objective and targets to measure and drive for its continual improvement.
Encourage partners, contractors and suppliers to achieve comparable Safety, Health, Security and Environment standards.

Keld Pedersen
(Managing Director)
Date: 13th Oct 2015

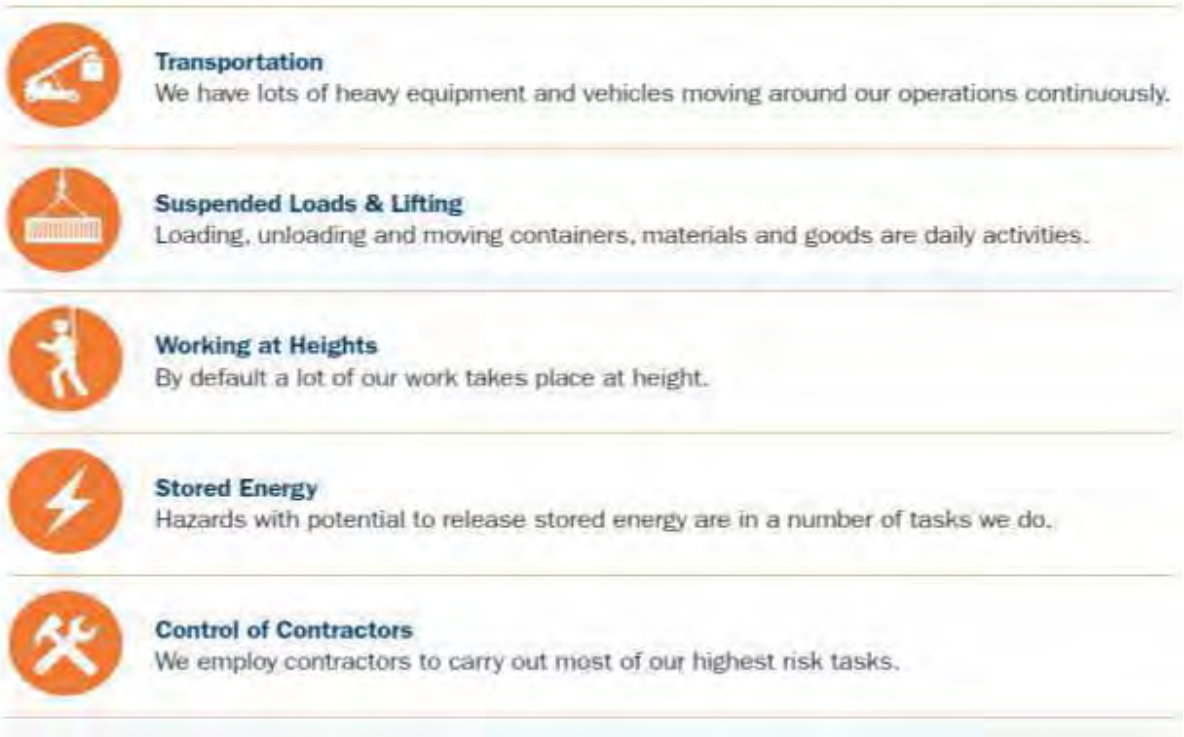
1 FATAL 5

A review of the most serious incidents and fatalities occurring in APMT in recent years has highlighted a number of recurring fatality-potential risks that we are concentrating our efforts on and calling these "The Fatal 5".

The top 5 risks represented by the "Fatal 5" are Transportation, Suspended loads & Lifting, Working at Height, Stored Energy and Control of Contractors

To reach our target of a providing a safe work place, minimum controls for the management of these top 5 safety risks have been defined within the relevant standards. (See Appendix A)

In emphasizing the top 5 risks, it should also be acknowledged that other fatality potential risks in our operations exist beyond this initial list.



2. PERSONAL PROTECTIVE EQUIPMENT

PPE is a second line of defense for personal protection. The first line of defense is to eliminate or control the accident-causing situations at the work place by effective engineering measures.

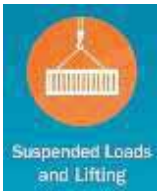
PPE does not and cannot eliminate hazards at work. As a barrier between the hazard and the worker, PPE can help eliminate an injury or reduce its severity.

PPE is resorted to only if absolute removal of the hazard in the work environment is impossible or impracticable.

PPE's principal requirements are: -

- To safeguard the wearer from identified hazard to which he is exposed.
- To afford reasonable comfort.
- To permit essential movements of limbs required for efficient job performance.
- To be possible for easy cleaning and maintenance.

2.1 SAFETY HELMET



Head injuries at work may result from but not limited to falling object, fall of person, persons hitting their head on fixed objects, flying hard particles etc.

Safety helmet to be worn in all areas posing risk of injury to the head.

Standard: IS 2925 and DGMS Approved

Recommended Brand: Joseph Leslie & Co LLP, Karam, MSA

HOW A SAFETY HELMET PROTECTS YOUR HEAD

The hard shell of the helmet is designed to protect the head against the impact. It deflects objects and distributes the force of the impact over the whole head, diffusing the gravity of the blow.

The peak, a permanent extension of the shell over the eyes, protects the face, and especially the eyes from the injury. The brim is a narrow rim surrounding the shell that also helps deflect objects away from the head.

The chinstrap and the ratchet hold the helmet securely in place. It is to adjust so as to fit correctly and comfortably. Straps should be snugly but not too tightly in place.

SAFETY HELMET USE & CARE: -

Wear the helmet straight, not tilted, on your head. The helmet is the protector of your head and not a storage bin. Do not stash away cigarette packs, cards, letters etc, in the clearance inside your hard hat and never wear an ordinary cap under it.

The following care to be taken for the safety helmets: -

- Helmets to be inspected prior to use for defects.
- Once damaged helmet to be discarded and a new helmet to be used.
- Helmet outer and inner to be kept clean always to avoid infection.
- Check the suspension for any crack/defects.
- If the ratchets are not working properly get the headband replaced.
- No changes to be done to the original parts of the helmet.

Safety helmets are compulsory in area with risk of injury to head due to falling objects, flying materials, striking hazard etc

2.2 EAR MUFF/EARPLUGS



Too much noise can damage hearing temporarily or even permanently, create stress that can and does sometimes affect one's physical and mental health and cause accidents in the work place. Earmuffs can protect your ears (hearing) from potentially damaging levels of sound by fit over the whole ear to seal out the noise.

A set of earmuffs consists of 3 components: -

- Cups made of moulded plastic and filled with foam or other material. They vary in size and can be adjusted up or down.
- Cushions covered with plastic and filled with foam, liquid or air to ensure comfort and protection, seal out noise;
- The spring-loaded headband holds the cups in place.

Wear your protection on the job. Even a short period exposure to high level noise may damage your hearing. Remember that noise pollution is a very real hazard. It needs everybody's co-operation to keep it under control and conserve hearing.

Standard: EN 352-1-1993, EN 352-2-2002

Recommended Brand: 3M, MSA, Karam

USE & CARE

The earmuff to be cleaned with soft cloth, no chemicals should be used for cleaning.

Earplugs are to be cleaned before and after use to avoid ear infection.

PERMISSIBLE EXPOSURE LEVELS OF CONTINUOUS NOISE

TOTAL TIME OF EXPOSURE (CONTINUOS SHORT TERM EXPOSURE)	MAXIMUM ALLOWABLE SOUND LEVEL IN Db(A)
8 Hrs	85
6 Hrs	87
4 Hrs	90
3 Hrs	92
2 Hrs	95
1.5 Hrs	97
1 Hrs	100
45 Minute	102
30 Minute	105
15 Minute	110

PERMISSIBLE EXPOSURE LEVELS OF IMPULSIVE OR IMPACT NOISE

PEAK SOUND PRESSURE LEVEL IN dB	PERMITTED NUMBER OF IMPULSES OR IMPACT PER DAY
140	100
135	315
130	1000
125	3160
120	10000

Ear plugs are compulsory in area generating high noise posing risk to ear drum Viz; DG Set, Compressor area/room, machinery room, grinding, chipping, vibrating equipment etc.

2.3 SAFETY GOGGLES



Eyes are precious, vital parts of our body; we cannot and must not neglect them. Carelessness, in many cases, causes irreparable damages. Eye protectors are must to avoid injury to the eye resulting from flying objects, splashing liquids, dust particles etc.

Safety eye wear must be right fit for you, should not be too tight or too loose, fitting snugly close to the eyes without touching the eye lashes and without hampering the body movement. Never use somebody else's safety goggles.

Standard **:** EN-166.2001

Recommended Brand **:** 3M, Udyogi, Venus

CLEANING AND DISINFECTING

Clean with soap and warm water to remove oil or grease.

Rinse in cold water and dry it with a clean cloth.

PRECAUTIONS

Petrol, thinner, spirit etc should not be used for cleaning.

Safety goggles are compulsory in area having risk of injury to eye Viz; Grinding, chipping, batching plant, blocking making area, spray painting, pressurized pipe/hose maintenance, welding/cutting etc.

Safety goggles should be selected according to job risk and wearing it is compulsory in carrying out task which can cause eye injury.

2.4 RESPIRATORY MASK


The respiratory system, consisting of some vital organs of the body, is the very core of a human body. If this breaks down, life itself is extinguished. Therefore one must give the best possible protection against the hazards of the workplace that threatens it.

HARMFUL CONTAMINANTS

Dust	: Coal, iron ore, cement, soda ash, fine sand etc
Smoke	: Exhaust from vehicle G set etc
Chemical fumes	: Chemical fumes can lead to asphyxiation.

Respiratory mask selected should be suitable for eliminating/reducing risk of the job. Wrong mask selection will not provide protection and continue to harm people.

Standard: As per the requirement of the area.

Recommended Brand: 3M, Venus, Promax

Respiratory mask is compulsory in areas posing risk to respiratory system.

2.5 HAND GLOVES




Hands are the two busiest, most important, indispensable and invaluable at the same time vulnerable tools the human body has at its disposal.

Standard: As per the area of use.

Recommended Brand: Joseph Leslico

Types of gloves:

Electrical safety gloves (Correct rating of electrical potential necessary)

Chemical Safety gloves

Low temperature gloves : For handling of cargo/liquid having risk of cold burn.

Leather gloves : For preventing injury from sharp object.

Cotton gloves : For preventing contact of hand with dust, oil etc.

Hygiene gloves : For handling edible materials.

Correct selection of gloves is important for eliminating/reducing injury to hand.

For handling material with sharp edge leather glove with vein guard should be selected.

Wearing suitable hand gloves is compulsory in all task/job with risk of hand injury.

2.6 SAFETY SHOE/ BOOT

Our feet are prone to hazards such as striking/falling objects, contact with acids/ alkali, exposure to hot surfaces, wet slippery surfaces etc. These impact of the hazards can be minimized/eliminated by use of suitable safety footwear

Standard: IS-15298 Part 2-2011

Recommended Brand: Liberty Warrior, Karam, ACME

HAZARDS TO FEET

- Falling, rolling objects and materials
- Sharp cutting edges, wood chips, glass pieces, nails etc.
- Oily/greasy floors
- Skids and slips.
- Sanitation hazards.

USE & CARE

- Safety footwear to be kept clean and dry.
- Safety footwear to be comfortable to the wearer.
- Periodically dry the boots/shoes under sunlight.

- Wearing wet shoe can cause foot mycosis.

Torn, damaged Safety footwear should be replaced with new safety footwear.

Safety footwear are compulsory in areas of working viz; quay side, yard, CFS, workshop, construction site, warehouses, fabrication and repair site etc.

2.7 HIGH VISIBILITY VEST

High visibility vest provides visibility of people and working in the area and helps in preventing incidents.

Recommended Brand: Jackets should have Two reflective strips of 50 mm minimum.

Wearing high visibility vest is compulsory in all working areas excluding offices.

2.8 SAFETY HARNESS

Safety harness is the second level of protection during working at height. Only Full Body safety harness is allowed to use in the Port area.

Safety harness is compulsory for working on heights; it should be anchored to a fixed/rigid object which could take load of the person performing the task in the event of accidental fall.

Standard: IS-3521-1999

Recommended Brand: Karam, Udyogi

2.9 LIFE VEST

Life vest: Life vest is compulsory for all personnel carrying out any work within 1 meter of jetty edge or work being carried out above water (pile work, jetty edge repairing etc.) to ensure floatation of person in case of accidental fall.

Life vest is compulsory for all personnel working on marine craft when working in deck area.

Standard: MMD, IRS and SOLAS Approved

Recommended Brand: Lalizas, Galvanisers

3. TRAFFIC GUIDELINES

Any Vehicle can be used in Port only after getting it inspected by HSSE department of its roadworthiness. Security issue vehicle Port entry pass only after the Safety Department inspect the vehicle and if mark it SAFE.

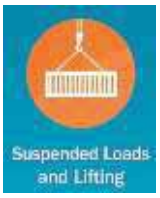
- Drivers/operator of vehicle/equipment should be in possession of valid driving license applicable for driving/operating vehicle/equipment.
- Vehicle /equipment should be in road worthy condition and in possession of fitness certificate from RTO.
- Vehicle/equipment should always be in possession of all valid documents as per prevailing RTO regulation/s.
- Vehicle carrying capacity should not exceed the capacity as specified in the RC book or as stipulated by RTO.
- All lights, indicators and horn to be in working condition.
- Seat belts are compulsory for all drivers and operators.
- Personnel carrying capacity should not be exceeded beyond the capacity as endorsed in the RC book or prevailing RTO regulation/s.
- Vehicle/equipment should be in possession of First aid box and fire extinguisher.
- Vehicle/equipment to be parked in designated parking areas only.
- Drivers/operators of equipment are not allowed to get down at yard or at quay side. For any breakdown/inspection contact concerned department or HSSE on emergency contact No (9924 333 333).
- Usage of high beam light at night is not allowed inside port premises.
- Overtaking of vehicle is prohibited.
- Usage of cell phone while operating/driving is prohibited.
- Vehicle/equipment should not be parked below hanging load.
- Operators/drivers are not allowed to drive/operate more than 12 hours with break every 6 hours.
- Traffic signs/boards messages are to be followed while driving inside port premises.
- Speed limit of the vehicle/equipment should not exceed Port Speed limits.

Speed Limits

Port Area outside the Customs Zone	40 km/hr
Port Area inside the Customs Zone	30 km/hr
Yards, Quayside and sheds	20 km/hr

All vehicle/equipment and their driver/operator should be in possession of valid port security passes.

4. LIFTING GEARS/EQUIPMENT



Lifting gears in operation should have valid test certificates on the day of operation.

Lifting gears should have stamp of SWL and year of inspection on it.

All lifting appliances should be examined by a competent person as per Dock Safety once in 12 months and certificate of inspection to be made available to port Safety on demand.

All lifting appliances should be inspected at least once every month and logged into the gear register which should be available for inspection by port Safety.

Safe operating practices: Whenever any sling is used, the following practices shall be observed:

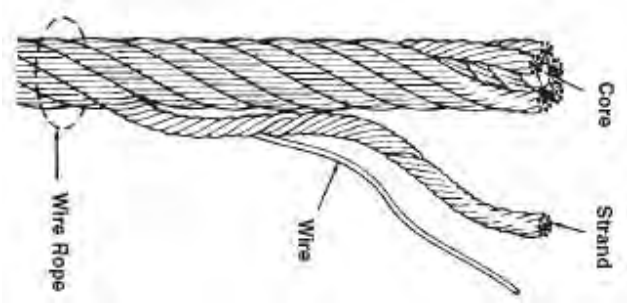
- Slings that are Damaged, disfigured or cracked should be discontinued from operation.
- Slings shall not be shortened with knots or bolts or other makeshift devices.
- Sling legs shall not be kinked.
- Slings shall not be loaded in excess of their rated capacities.
- Slings used in a basket hitch shall have the loads balanced to prevent slippage.
- Slings shall be securely attached to their loads.
- Slings shall be padded or protected from the sharp edges of their loads.
- Suspended loads shall be kept clear of all obstructions.
- All employees shall be kept clear of loads about to be lifted and of suspended loads.
- Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.
- Shock loading is prohibited.
- Worn or damaged alloy steel chain slings or attachments shall not be used until repaired, examined and certified. When welding or heat testing is performed, slings shall not be used unless repaired, reconditioned and proof tested by the sling manufacturer or an equivalent entity.
- A sling shall not be pulled from under a load when the load is resting on the sling.

Inspections: Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person designated by the employer. Additional inspections shall be performed during sling use, where service conditions warrant. Damaged or defective slings shall be immediately removed from service.

4.1 WIRE ROPE

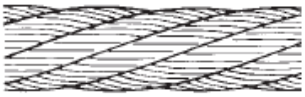
A wire rope is a piece of flexible, multiwired, stranded machinery made of many precision parts.

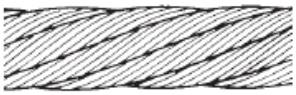
Usually a wire rope consists of a core member, around which a number of multi wired strands are laid or helically bent. There are two general types of cores for wire ropes-fiber cores and wire cores.

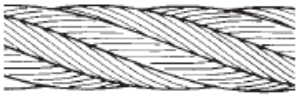


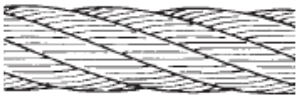
4.2 LAYS OF WIRE ROPE

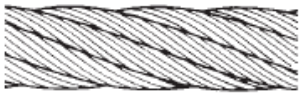
'Lay" of a wire rope is simply a description of the way and strands are placed during construction. Right lay and left lay refer to the direction of strands


Left Lay REGULAR LAY


Left Lay LANG LAY


Right Alternate Lay


Right Lay REGULAR LAY


Right Lay LANG LAY

5. FIREFIGHTING ARRANGEMENTS

Firefighting arrangements needs to be in place for all equipment/vehicles being mobilized /used at the port.

5.1 FIRE FIGHTING MEDIA

Place adequate numbers of Portable Fire Extinguishers at the working site. All the fire extinguisher shall be of BIS Approved type only. All the fire extinguisher shall bear the last test and refill dates.

5.2 FIRE EXTINGUISHER SUITABILITY CHART

CLASS OF FIRE	WATER	FOAM	CO 2	DCP	ABC
A	✓	×	×	✓	✓
B	×	✓	×	✓	✓
C	×	×	×	✓	✓
D	×	×	×	✓(Spl. Pwdr)	-
ELECTRICAL	×	×	✓	✓	✓

6. ELECTRICAL SYSTEM

All electrical system installed should be as per standards specified by BIS or international regulations and found safe for working by Port electrical department.

Basic electrical Safety:

- Electrical wiring and colour code of wires should be as per BIS code.
- Supply and distribution board must have adequate circuit breaker (ELCB/RCCB).
- Correct rating of wires should be selected for wiring.
- All electrical components should be grounded properly.
- Switch boards/panels to be in weather proof enclosures.
- Prior to laying any cable work permit needs to be taken from Port Safety.
- No modification/repair/replacement to be done in any Port electrical system/component without approval from Ports electrical department.
- No part of any electrical circuit should be exposed.
- Do not overload an electrical circuit beyond its rating.
- Tools without required insulation should not be used.
- Electrical work can be hazardous if worker, location or equipment is wet.
- Always use the correct PPE for performing the job.
- Use right tool for performing the job.
- Do not use metal ladder for doing electrical job.
- De energize all circuits prior commencement of work.
- Do not run electrical wires/cables through area of vehicle/equipment/personnel movement.

Power tool Safety

Use of power tool can make a job go faster and easier. The misuse of portable tools can cause electric shock, burns, cuts, puncture wounds, severed finger and limbs etc.

Safety note:

- Do not attempt to adjust, clean or service tools without disconnecting power supply.
- Do not use tool with broken bits and blades.
- Do not use tool with defective wiring.
- Do not work near flammable gas.
- Do not work without proper PPE
- Do not operate if not familiar with operation of tool.
- Do not point tool on any person.
- Do not use worn out/defective tools.
- Do not carry power tool with finger on the ‘trigger’.
- Always store power tool in its designated Safe place.
- Do not use power tool with broken cable.
- Do not work with power tool in area with poor lighting.

7. HOUSEKEEPING

Good housekeeping helps in eliminating most of the workplace hazards.

Some basic elements of good housekeeping.

- Incompatible materials should be stored separately with sufficient safety distance/barrier.
- Proper lighting in working area.
- Floor to be dry and free from slip, trip and fall hazard.
- Emergency exit marked and free from obstruction.
- Firefighting arrangements in place.

Working area should always be kept clean and free of any hazard which may result into an accident.

It will be contractor's responsibility to keep his working area clean.

7.1 GARBAGE MANAGEMENT

Waste generated from the work place should be disposed as per port garbage management system given below;

Wastes generated have been classified in three categories

Organic solid waste	**GREEN**	Leftover food material, vegetable slicing & decayed material etc.
Recyclable waste	**BLUE**	Paper, cardboard, plastic bottles, glass bottles etc.
Household garbage	**BLACK**	Used fuel oil & lube oil, paints, thinner, tube lights, wires etc.

8. ILLUMINATION

Illumination level at work place should be arranged so as to assist workforce in carrying out the assigned job in a safe manner.

Illumination level at **work place should not be less than 50 lux.**

All means of illumination (portable or fixed) should meet the electrical system standards.

Glare from illumination should not pose risk to other operation, personnel and equipment working in the vicinity.

Any form of fire created for illumination at work place is strictly prohibited.

9. OIL SPILL

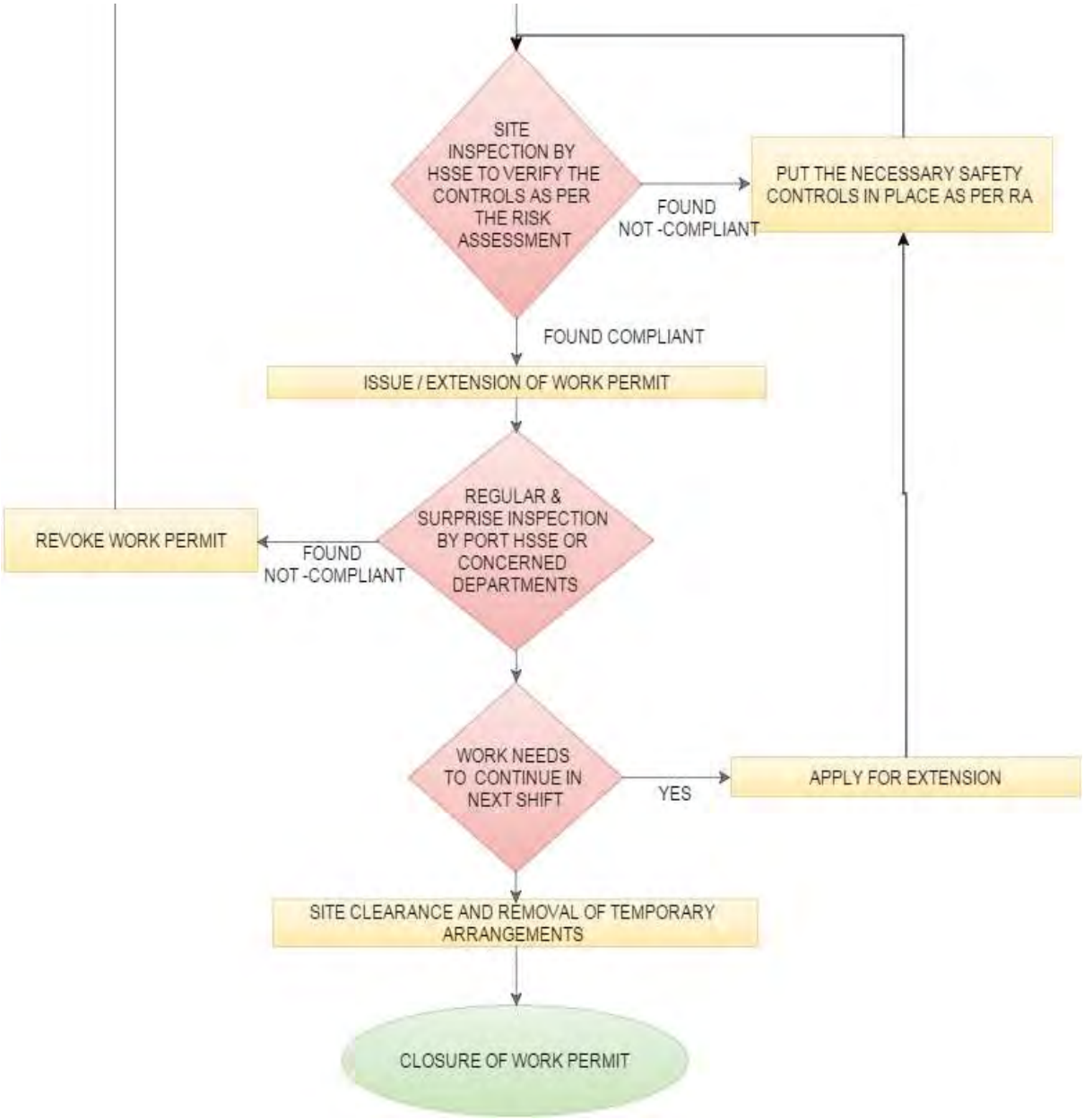
Any form of oil spill at work place is to be restricted /controlled.

- Oil spill if any at work place has to be contained and collected.
- In the event of any large spill beyond control Port Safety has to be contacted for assistance.
- For disposal of any form of waste Oil, procedures mandated by State Pollution control board should be followed.
- Disposal of oil or any hazardous material into drain or in open area is strictly prohibited and will lead to strict disciplinary action.
- Contractors will have to maintain minimum quantity of saw dust or other suitable containment media for containment of oil spill at work place.

10. WORK PERMIT

Work permit system is an effective way of controlling work place hazard and preventing any work place accident. All the non-routine activity shall be performed only under Work Permit system.

Work Permit issued only after submission of agreed Work methodology, Risk Assessment, HSSE Plan, Rescue plan and Traffic plan depending upon the nature of work.



10.1 EXCAVATION WORK PERMIT: Prior to start of any excavation work permit is to be obtained from Port Safety.

10.2 HOT WORK PERMIT: Any work which may generate sufficient heat to cause ignition is termed as hot work e.g., welding, cutting, chipping etc. Hot work permit is to be obtained for the job which will be issued and monitored on regular basis.

10.3 WORKING AT HEIGHT: Any work requiring person to climb up above 1.8 meters to carry out a task will require work permit.

10.4 FUEL LOADING/ BUNKERING PERMIT: Fuel loading from fuel tanker/bowser will require fuel loading work permit.

10.5 DIVING WORK PERMIT: Any diving operation requiring person/s to go beneath a vessel at berth for carrying out inspection/repair will require work permit.

10.6 ENTRY INTO CONFINED SPACE PERMIT: A confined space also has limited or restricted means for entry or exit and is not designed for continuous occupancy. Confined spaces include, but are not limited to, tanks, vessels, silos, storage bins, hoppers, vaults, pits, manholes, tunnels, equipment housings, ductwork, pipelines, etc.

If at any time after release of work permit it is observed that Safety guidelines are not followed for the work being carried out Port Safety will stop the work and restart work if satisfied that adequate measures are in place for personnel and material Safety.

11. SITE INSPECTION

Work site of the contractors will be inspected and if it is found that Safety measures are not in place work at the site will be stopped.

All Safety inspection will be documented and non-compliance will be brought to the notice of the contractor/s and applicable consequences management shall be applied.

Contractors will be responsible for maintaining Safety standards at their work site and implementation of corrective actions recommended in inspection report.

12. SAFETY MEETING

Contractors have to participate in the monthly contractors Safety meeting organized by Port.

Records of internal Safety meetings of contractors should always be available to port Safety on demand.

Person of the level of supervisor and above should be nominated for the Safety meeting.

Non-participation in Contractors Safety meeting is not acceptable and will lead to disciplinary action.

13. SIGNS AND BOARDS

Adequate signages and boards should be displayed at work site for caution to all.

Area posing a risk of fall hazard into trench/manhole will need barricading and board displayed in bilingual (English and Gujarati) for caution to all persons and vehicle / equipment movement.

Caution boards and signages should be of reflective/high visibility type for visibility at night. Port Emergency No (9924 333 333) should be displayed prominently at work location.

14. SAFETY PERFORMANCE

Contractors have to submit man-hours of all persons working at site to port Safety on **2nd of every month**.

Any accident/incident/near miss at site to be reported to Port Safety immediately.

Prior to start of any project work related to construction and fabrication a job risk assessment study needs to be carried out and submitted to port safety for approval. Risk assessment should cover hazards associated with job/task and control measures in place to mitigate risk.

Contractors have to undergo Safety induction training prior to start of any work at the Port. Such induction training will be organized for the contractors on regular basis and contractors have to participate in the training sessions.

15. GENERAL SAFETY

15.1 LADDER SAFETY:

A split, cracked, badly worn or loose rung is very dangerous and shall not be used.

Wooden/bamboo ladders are not allowed to use.

Wrong size ladders cause accidents. Two ladders **shall not be lashed together** to reach the distance.

The safe length of a ladder is only 15 feet. Ladders should be placed at an angle of 75º (1 horizontal to 4 vertical) and should be secured at the top to prevent slippage.

Damaged ladders should never be used for climbing.

15.2 HAND TOOL SAFETY

Most accidents are caused when:

- The wrong tool is used for the job.
- The tool has not been properly maintained.
- The correct tool is used in the wrong way
- Tools are not stored in a safe place.
- The person is not familiar with or trained in the correct use of the tool

Wrong Tools

There are many examples, for instance using a carpenter's hammer to strike another hammer; a file as a lever; a wrench as a hammer, pliers instead of a proper wrench, etc.

Defective tools

Badly maintained tools, wrenches with cracked or worn jaws, screw drivers with sharp points or broken handles, hammers with loose heads are the few examples of badly maintained tools.

Good fit of the handle is essential for all hand tools. Do not try to patch them.

Misused tools

Injury from misuse of common hand tools is very frequent.

All cutting tools should be used away from the body. If this is not possible, adequate protective clothing should be worn.

Bad Storage of tools

Tools falling from overhead have caused many accidents. Knives, chisels, and other sharp objects should not be carried in pocket or loosely laid in tool boxes or on benches.

When not in use pointed tools should be sheathed.

Do not leave tools on the ground.

15.3 PNEUMATIC TOOL

Review the manufacturer's instruction before using a tool.

Wear safety glasses or goggles, or a face shield (with safety glasses or goggles), and where necessary hearing protection.

Post warning signs where pneumatic tools are used. Set up screens or shields in areas where nearby workers may be exposed to flying fragments, chips, dust, and excessive noise.

Dangers are:

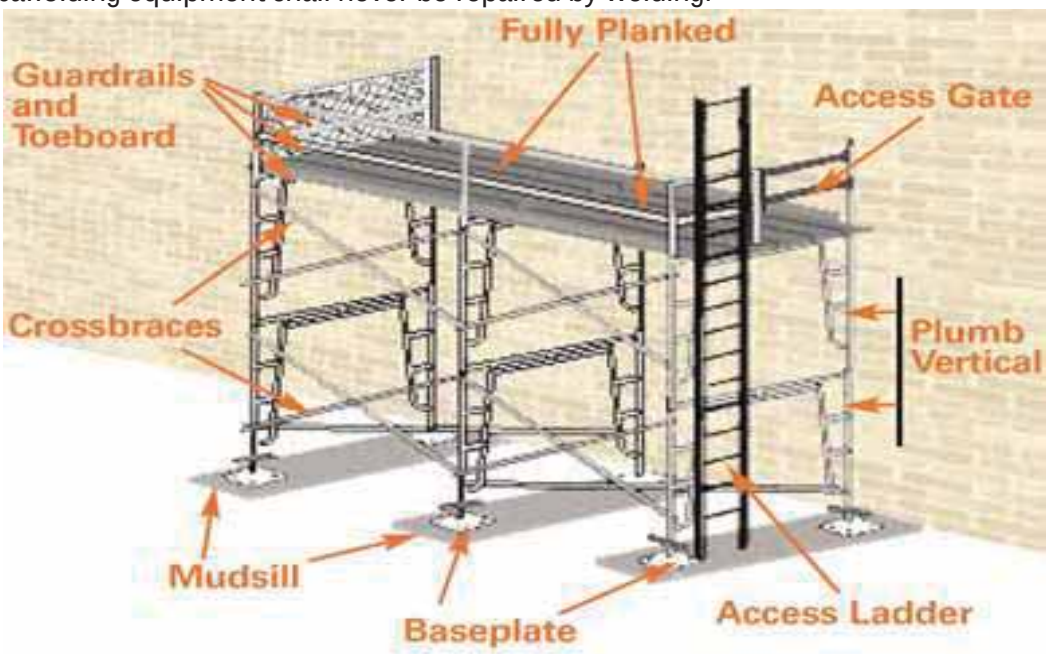
- leaving the airline where it may cause a tripping hazard.
- leaving the tool with the air supply switched on,
- disconnecting the hose from the tool and using it to clean machines or clothing
- non-safety protected air couplings (no safety Pin)

15.4 SCAFFOLDS

When scaffolding is used, the following shall apply:

- Scaffolds are designed, erected and tagged by a competent person;
- Scaffold are dimensioned and built to support safely the workloads it will receive
- Scaffolds shall be checked at predefined interval by competent person and records shall be kept at site.
- Scaffolds are secured and used on even surface
- Only use scaffolding materials which is designed for scaffolding (wood or bamboo not allowed) and ensure that these materials are inspected and maintained as per the manufacturer's recommendation.
- Scaffolds that are higher than four times the smallest width of its base are to be anchored to the building or to a strong enough structure, or should be cable-stayed
- Scaffolds have a guard-rail system and toe-board
- Mobile scaffolds can only be used on flat surfaces and with their casters locked
- Mobile scaffolds are to be wedged and anchored while in use to avoid their displacement and collapse
- Mobile scaffolds are not allowed to be moved while there are persons or materials on the work platform

- The scaffolds have their access ladder coupled to its structure
- Scaffolds have all access points leading to the platform from inside.
- Full body Safety harness with double lanyard is worn when assembling, disassembling and working on the scaffolds.
- Scaffolds should be in perfect use condition and without corrosion and a cracked or distorted structure
- Scaffolds are assembled far from electrical installations and away from where they can be reached by machines or equipment
- The use of ladders or other means on the scaffold work platform to reach higher points is strictly forbidden
- Materials should not be stored on scaffolding to a height above that of the toe boards. Care must be taken to ensure that the scaffolding is not over loaded by the storage of materials.
- Scaffolding shall be securely supported and where necessary shall be braced to ensure stability. Unless constructed as an independent scaffold it shall be rigidly connected to the structure.
- All equipment used in construction of scaffolding should be checked before use to ensure that it is free from defects / corrosion. All fittings should be lubricated.
- Use scaffold tags (red, green, and yellow) to communicate the safe use of the scaffold.
- Scaffolding equipment shall never be repaired by welding.



15.5 CRANE SAFETY

The following are safe operating requirements which apply to the use of cranes:

- Crane must be certified by the authorities for its safe working limits and fitness;
- Ensure the load does not exceed the Safe Working Load (SWL) of the equipment being used
- When operating the crane, avoid sudden movements that could cause jerking or stress-loading of the crane
- Do not allow anyone to ride on a load that is being lifted
- Centre the boom point directly over the load before making the lift. Do not pull the crane hook to either side in order to attach it to the load
- Keep loads as low to the deck (or ground) as feasible at all times
- Operate on a solid, level surface
- Do not leave loads hanging – secure at the earliest (safe) opportunity and remove the hook and line
- Only one signalman should be providing the signals, either using standard hand signals or via two-way communication. However, a stop signal is to be obeyed no matter who gives it
- If the load does not ride properly when lifted, lower it and have it readjusted
- Use tag lines whenever possible to maintain control over the load without positioning yourself near (or under!) the load
- Never move loads over people. Where necessary, have a person on the ground alert other personnel to move out of the way before the load is moved
- Ensure that all personnel stand clear when the lift is being made and when the slings are being drawn from under the load.

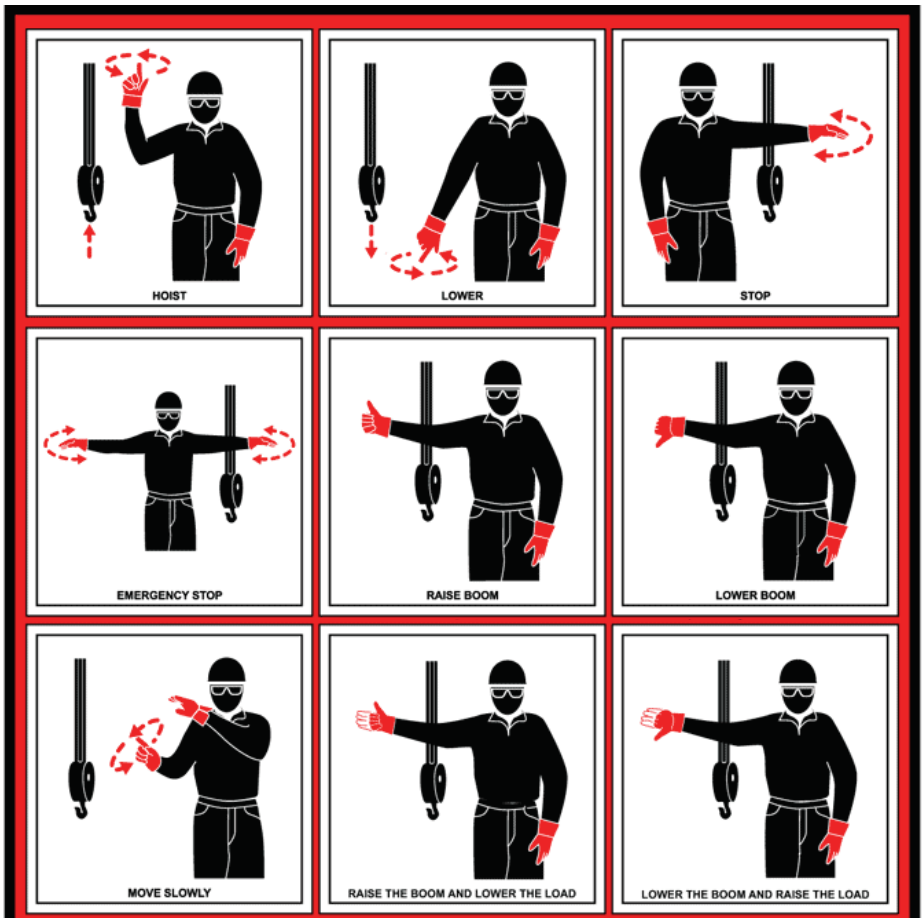
15.6 OVERHEAD LOAD SAFETY

On all jobs, only one person, generally the lead person should give signals to the crane operator. If you are assigned the job of directing the crane, follow these basic rules:

- Loads shall not be carried or lifted over personnel or vehicles, **and personnel shall never walk under a suspended load.**
- Always use standard hand signals to direct the crane operator.
- Stand clear and place yourself where the operator can plainly see you and you can see the operator.
- If you can't see the load and another person is signaling to you, be sure every-one is in the clear before you give the signal to the operator. Remember, it takes time to relay signals.
- Never permit a load to be lowered, raised, or swung over a worker's head. If the operator can see the load, it's the operator's responsibility -without exception -to see that this rule is followed

Remember if you are not visible you are in danger.

HAND SIGNAL CHART



15.7 WELDING SAFETY

Welding operations can be found in almost every type of industry. Welders must be qualified to do the work, and part of their education includes welding safety.

If you are a welder, or work near a welding operation, you may encounter any of these hazards:

- Excessive Noise
- Fire or Excessive Heat
- Electrical Shock
- Ultraviolet Radiation

All of these hazards can cause an injury. Knowing how to protect your self is important. To protect yourself from excessive noise, you must wear hearing protection if the noise level exceeds regulatory standards

Fire and excessive heat are hazards with great potential for injury and damage. If welding is done in an area where a fire hazard exists, a welding permit should be used in accordance with established procedures. A spark or a piece of hot slag could easily ignite these materials and cause a tragic fire. To protect yourself from burns from these sparks and pieces of slag, wear appropriate Personal Protective Equipment (PPE) such as aprons, gloves, leggings, and footwear.

Ultraviolet (UV) radiation can cause burns to the skin and eyes. Welding hoods and special welding goggles with UV filter lenses and side shields are designed to protect your eyes and face from UV exposure. Appropriate gloves and aprons must be used to protect exposed skin. Welding curtains may be used for the same purpose to protect others in the vicinity of the welding area.

You can protect yourself from the physical hazards of welding.

15.8 GAS CYLINDER SAFETY

All pressurized gas cylinders should be stored away from source of ignition and oxidizing materials.

Gas cylinders (LPG and acetylene) should always be used upright, fitted with regulators, pressure gauge and flashback arrestors.

Cylinders should never be dropped on ground and rolled. It should be carried on trolleys.

Never apply external heat on cylinders for removing gas it is dangerous and may lead to explosion of cylinder/s.

Flammable gas cylinders to be stored away from oxidizing materials.

Checklist for Compressed Gas Cylinder Safety

Sl	Description	Yes/No
01	Is there "no smoking" signs posted in the area?	
02	Is the storage area clearly identified, dry, and well-ventilated?	
03	Are the cylinders stored in an upright position?	
04	Are the cylinders secured with a chain or appropriate belt above the midpoint, but below the shoulder?	
05	Are the cylinders capped and valves closed when not in use ?	
06	Is the storage area at least 15' away from all flammable, combustible or incompatible substances?	
07	Are cylinders stored with the same hazard class? (Note: Inert gases are compatible with all other gases)	
08	Are cylinders stored so that full cylinders remain separate from empty cylinders?	
09	Are cylinders segregated into “FULL” or “EMPTY” groups at locations or in racks for each category?	
10	Are compressed gases handled only by properly trained persons?	
11	Are cylinders transported in Trolley?	
12	Is all pressure from regulators and hoses not currently used removed?	
13	Are cylinders which require a key to open the main valve shall have the key left in place on the cylinder valve while it is open?	
14	Are the Cylinder and Torch fitted with Flash Back arrestor on both ends ?	
15	Are only approved valves, regulators, manifolds, piping and other associated equipment used in any system that requires compressed gas?	
16	Is the LPG Cylinder is fit for use ? (Check Due for Pressure Testing date on LPG Cylinder.)	
17	Are damaged or leaking cylinders reported to HSSE immediately?	

15.9 RESTING BELOW EQUIPMENT/VEHICLES

Under no circumstances any person to be sleeping/taking rest below any vehicle or equipment.

15.10 USING JACK SAFELY

To avoid having an accident of your own follow these simple, basic rules:

- Use a jack with a rated capacity that equals or exceeds the load you're lifting.
- Always set the jack on a firm and level foundation.
- To prevent slipping, use a wooden-block softener between the head of the jack and the load.
- Set the jack perpendicular, at a right angle, to the load.
- If there is a chance the load will swing to the side, install props or guys before doing any lifting.
- Have enough help when you install or move a jack.
- When you're working on a floor of any kind, make sure the load limit of the floor isn't exceeded.
- Before working under a raised load install blocking to keep the load from accidentally falling.
- Keep jacks in good shape and well lubricated, but only lubricate at the points where lubrication is specified. Check for broken teeth and other defects. Never throw or drop jacks.
- When a jack develops any defect whatever, turn it in for repair and be sure to test it under load before putting it back in service.

Make sure you are using your jack the safe way.

16. SAND BLASTING SAFETY

Grit / shot blasting shall only be carried out by personnel wearing appropriate protective clothing,

The work site must be kept in good order, gangways, walkways etc shall be clear of hoses, pots, containers etc. at all times.

16.1 SAFETY REQUIREMENTS

Deadman switch/handle:

Deadman handle - incorporating a remote shut-off control valve is to be installed on ALL blast hoses.

Earthing - No blasting is to be carried out without proper earthling. This is to avoid static electricity.

16.2 PERSONAL SAFETY GEAR

Full sleeve cotton coveralls, long sleeve gloves, safety boots, blasting helmet with a provision of fresh air supply through dual filter system. Remote control with Deadman and one assistant at all times during operations.

For painters, safety requirements are, cotton coveralls, full sleeve gloves, barrier cream, safety shoes, safety glasses/goggles, hard hat, face covering, spray masks.

16.3 CORROSION CHECKS ON ABRASIVE BLASTING POTS/AIR RECEIVERS

Due to the water content in compressed air, corrosion is likely to occur, corrosion checks are to be carried out daily during use.

Air receivers, Compressors, and pots should be fitted with moisture separators. Water is to be drained daily.

16.4 FRESH AIR SUPPLY TO BLASTERS AND PAINTERS

The air is filtered through a multistage cartridge regulated and directed to Blasters / painters helmet. The air receiver filters and helmet is to be inspected daily during use.

DO NOT POINT YOUR GUN/DISCRAGE HOSE TOWARDS POPLE/VEHICLE OR AREA WHICH CAN CAUSE INJURY OR DAMAGE.

17. IMPORTANT TELEPHONE NUMBERS

Port Safety (For Emergency only)	**+91 9924 333 333**
Port Safety	**+91 9824188298**
Port Security	**+91 9574 109 993**
Port Control	**+91 9904 086 633**

Fire station is manned round-the-clock; they may be contacted for any assistance in emergency.

18. CONTRACTORS SAFETY PERFORMANCE MONITORING

INTRODUCTION

Port Pipavav is continually striving to improve safety and health standards throughout its operational areas and has an expectation of its contractors to do the same. When working together to improve safety and health of contract workers, both benefits that come from a comprehensive and systematic contractor safety improvement process include the following:

Improved quality and productivity occur because a comprehensive sub-contractor safety improvement process requires that workers be properly trained for their job tasks and familiar with their job requirements

Fewer incidents result in less need for regulatory action and more controllable project costs

The potential for damage to Port Pipavav' facilities and the contractor's equipment is minimized

This procedure is intended to help Port Pipavav and its contractors to improve the contractor's safety performance while preserving the independent contractor relationship.

SCOPE AND OBJECTIVES

The purpose of this procedure is to assist Port Pipavav and its contractors, who have a common need to continually improve their safety processes, to protect their personnel from workplace injury and illness, as well as from losses associated with incidents arising out of the work activities.

IMPROVING CONTRACTOR'S SAFETY PERFORMANCE

General

Port Pipavav will contribute to improving contractor's safety performance through actions that may include:

- Making a deliberate management decision to establish an effective ongoing process that uses specific safety performance criteria for selecting sub-contractors
- Including specific safety language in contracts between Port Pipavav and its contractors
- When required, conducting meetings before bid submission to address specific contractor safety requirements
- Including site-specific safety and health requirements in contractor's bid package
- Requesting safety and health information from each prospective contractor and evaluating it during the selection process
- Establishing specific training requirements for contractors
- Conducting pre-mobilization briefings that specifically address safety expectations

- Requiring formal contractor safety inductions
- Reviewing the safety and health performance of contractors, with the expectation of continuous improvement
- Maintaining copies of injury and illness statistics and other measures of safety performance for all contractors at each location
- Using safety performance information to evaluate contractors

Port Pipavav Commitment to Improving Contractor's Safety Performance

Common to all successful contractors' safety programs is Port Pipavav commitment to and continued support of their efforts. Where required, Port Pipavav will provide resources towards safety and review how the contractor's safety is being addressed

Contract Safety Language

Although standard safety language (for example, "the sub-contractor must comply with all port safety rules and requirements as per relevant laws") may be included in a contract, additional safety language may be necessary to clearly convey Port Pipavav expectations. An addendum to the standard contract may be developed and attached to the contract when more detailed safety requirements must be addressed for a particular project or work activity.

Sub-contractor Bid Package and Pre-bid Safety Meeting

Port Pipavav will inform its contractors of its safety expectations by clearly outlining its safety performance requirements in its bid package. A pre-bid safety meeting may be called to reinforce this point. Port Pipavav may request specific safety information from the sub-contractor that can be used as part of the selection process.

Site-Specific Safety and Health Requirements in the Bid Package

Safety procedures vary among companies and job sites and may have a significant impact on a contractor's proposal and subsequent work. Therefore, even though the contract language and pre-bid package include the safety requirements, it is important that before the contract is awarded, each bidder be made aware of the specific job-site safety rules that will apply. Safety and health requirements for contractors will be consistent with those of Port Pipavav for its own employees.

Selection of contractors

Port Pipavav will evaluate its contractor's safety programme by using the safety information furnished by the contractor in response to the pre-bid request. The following points may indicate the quality of a contractor's safety performance:

- Commitment by its top management as demonstrated by an ongoing safety program that supports the contractor's safety improvement process.
- The completeness of the Contractor's safety program and their appropriateness for the work site and the safety standards of Port Pipavav.

The contractor's response to pre-bid safety requests (see Appendix B), which may include the following:

Injury and illness incidence rates (see Appendixes C and D)

The contractor's safety staffing plan. The plan describes the on-site person or persons appointed by the contractor who will be responsible for safety. It also describes their expertise and authority.

A description of the safety induction to be provided by the contractor to all their employees on site.

The contractor's enforcement and disciplinary action program regarding safety violations.

The contractor's policy and programs regarding alcohol and drugs.

A list of safety equipment that will be provided by the sub-contractor.

A narrative from the contractor's viewpoint that identifies the significant hazards of the job and a listing of the steps that will be taken to eliminate or minimize the potential for accidents (e.g. Job Safety Analysis).

A description of the contractor's programs to comply with applicable regulatory requirements

A description of the contractor's employee training program.

As part of the commitment described in Section 1, Port Pipavav management will make it clear that high-quality safety programmes and high safety performance will be key elements in the selection and post-work evaluation of any contractor.

Site Training Requirements for contractors

The information submitted by a contractor in response to Port Pipavav pre-bid request (see Appendix B, Item n) will describe the specific training objectives the sub-contractor intends to accomplish before and during the project. This information should allow Port Pipavav to review for the first time the training priorities of the contractor. Subsequent discussions can then be initiated that will further define and assign responsibility for specific training that Port Pipavav or contractor may need to provide.

Pre-mobilization Safety Meeting

After the contract has been awarded, a mobilisation safety briefing will be held between the contractor and Port Pipavav. Port Pipavav representatives will discuss the specific safety requirements of the project with the contractor's representatives who will be directly responsible for the planned work. This discussion is important because the contractor's representatives who attend the meeting may not be the same individuals who prepared the bid or attended the pre-bid meeting.

Safety Induction of the contractor's Workforce

Before work is started, Port Pipavav will identify and present to the contractor's management, important safety rules required by Port Pipavav for working on the project. The contractor may use all or part of this information in the safety induction. This information is typically communicated through one or more of the following:

- Written material
- A safety handbook
- Verbal instructions.

Appendix E provides a list of items that are typically included in a sub-contractor safety induction.

Review of the contractors' Safety Performance

Port Pipavav will periodically review its job site to verify that Contractors performing work on site have effective safety programmes that address the applicable safety and health regulations and comply with the safety provisions in the contract. Conducting periodic reviews of the job site jointly with the contractors' supervisory personnel is an effective way to assess the contractors' compliance with the contract. Using an evaluation checklist like the one shown in Appendix F can assist in the review effort.

Maintaining Safety Statistics for contractor Performance

Port Pipavav awareness of the contractor’s safety performance, by means of job-site injury and illness statistics, provides two immediate benefits:

Incidence rates can be calculated in accordance with the recommendations given in Appendixes C and D. These incidence rates can be used to measure the effectiveness of the sub-contractors' accident prevention programmes.

Demonstrating that the Port Pipavav is interested in safety performance throughout the duration of the project emphasises to Contractors that satisfactory performance extends far beyond pre bid and pre-mobilisation submittals and discussions.

As a minimum, Port Pipavav will request photocopies of all job-site safety statistics and other measures of safety performance; the corresponding man-hours worked; and a copy of the accident investigation report for each on-site recordable case experienced by the contractor while carrying out the contract.

Safety Performance and Evaluation

Each completed contractor project should be reviewed not only for the quality of the work, adherence to the schedule, and cost but also for the effectiveness of the contractor's safety programme. This overall assessment may be used by Port Pipavav in its future bid lists. Contractors that have demonstrated a higher sustained level of safety performance and have achieved the safety goals established by Port Pipavav should be considered for inclusion in these lists. Contractors should be aware that they will be held accountable for good safety performance.

CONTRACTOR'S ACTION TO IMPROVE SAFETY PERFORMANCE

General

Although Port Pipavav expectations can affect the contractor's safety performance, the commitment of the contractor's management to safety is critical because each contractor is in the best position to know how to attain improved safety performance.

Compliance with Port Pipavav Safety Expectations

The recommendations given in Section 2 will help the contractor to meet Port Pipavav expectations and identify steps that can be taken to improve safety performance.

Accident Investigation and Prevention

Occupational injuries, illnesses, and incidents should be immediately reported to Port Pipavav Safety Manager; their cause should be identified; and actions should be taken to prevent their recurrence. The contractor should investigate and document accidents, injuries, illnesses, and near misses. To prevent accidents, the contractor is expected to report any workplace hazards, irrespective of their cause, to Port Pipavav Safety Manager.

Safety Inspections

Performing safety inspections of ongoing work is important to the safety programme success. Although Port Pipavav may conduct periodic surveys of the contractor's work, frequent and thorough safety inspections performed by the contractor are necessary.

Safety Training

Port Pipavav expects the contractor's personnel to be knowledgeable about their assigned duties. This includes all applicable requirements for safety, health, and fire prevention associated with the performance of their work. As evidence that its personnel have been trained to perform their assigned duties, the contractor should provide documentation of its

employee training. The documentation should include the names of those trained, the course content, the date the course was held, and the names of the instructors.

Note: It is understood that the contractor will review Port Pipavav site-specific safety, health, fire protection and emergency information

Medical Care

Prompt initial treatment of occupational injuries can often improve recovery rates and reduce the time away from the job. Contractors involved in large projects should consider first aid training for their senior staff and appointing a paramedic on site. In all cases Port Pipavav contractors will have access to ports medical and emergency care facilities

Emergency Response Plans

Proper attention by the contractor to Port Pipavav emergency response plans increases the probability that the desired response will take place. Periodic drills should be conducted to practice and improve the plans and documents to be in place for verification when required..

Incentive Programs

Motivational programs, such as awards for a contractor employee or employees who achieve specified safety goals, may improve safety performance when properly implemented. Specified goals may, for example, focus on safety suggestions, Job Safety Analysis, the development of safety slogans, or the identification of hazards.

EFFECTIVE SAFETY AND HEALTH COMMUNICATION

Ongoing safety and health discussions between Port Pipavav and the contractor are necessary if the contractor safety programme is to be effective. Special safety and health conditions may arise that might not have been discussed or identified during the pre bid and pre-mobilisation safety discussions, the subsequent safety meetings, the safety manuals, or the written safety rules and these conditions should be anticipated as the work progresses. Therefore, open communication must be maintained between Port Pipavav and the contractor, as well as the contractor's work force. No limitations should be placed on the identification and discussion of any safety and health issues. The identification and discussion of relevant safety and health issues should be emphasized throughout the performance of the contract.

APPENDICES

Appendix A- Fatal 5 – Global Operational Standards - Safety

Appendix B- Bid Package: Request for Information

Appendix C – Safety Evaluation: Injury & Illness Rates

Appendix D – Injury and Illness Performance Report

Appendix E – Safety Induction

Appendix F – Safety Programme Checklist

APPENDIX A

GOSS1- TRANSPORTATION

Transportation

GOSS1

Purpose

APM Terminals shall identify and control the risks associated with the movement, the use and maintenance of mobile equipment and pedestrians.

On-site pedestrians and mobile equipment have been involved in a significant proportion of fatal and high potential incidents.

Effective compliance with this standard shall be demonstrated by:

- Identification and management of hazards and risks.
- Minimizing interactions between pedestrians and mobile equipment through safe design.
- Use of technologies to warn / alert operators of equipment.
- Safe efficient operation of vehicles and mobile equipment.
- Establishment of traffic management plans and procedures.
- Managing operator fatigue.
- Effective communication between operators, pedestrians and those supervising mobile equipment operations.
- Establishment of safe procedures for pedestrian/equipment interaction.
- Consistent use of high visibility clothing and reflective tape/ markings on vehicles.

1.0 Systems

1.1 Sites shall undertake risk assessments to identify the exposure to pedestrians and the use of mobile equipment.

1.2 Principles of the 'hierarchy of control' shall be used when implementing risk controls to keep all pedestrians safe.

1.3 The following measures shall be adopted as a minimum to control the movement, use and maintenance of equipment and pedestrians.

a. Terminal design and layout.

b. Traffic flow.

c. Access control and no-walk zones.

d. Providing mobile equipment that is fit for purpose.

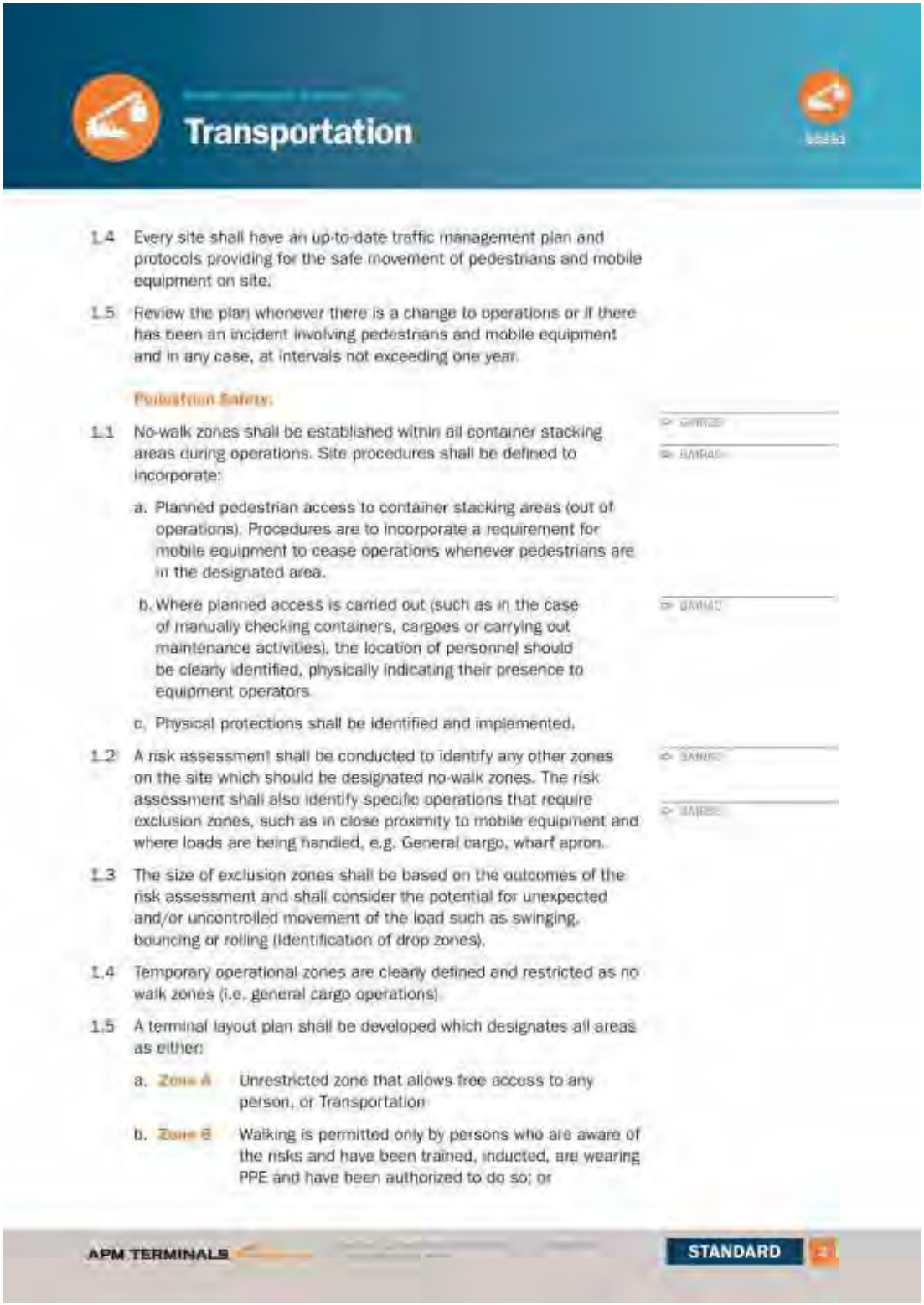
e. Maintaining mobile equipment in a safe condition.

f. Using mobile equipment in a safe manner.

g. Training and management of mobile equipment operators.

APM TERMINALS

STANDARD 1



Transportation

1.4 Every site shall have an up-to-date traffic management plan and protocols providing for the safe movement of pedestrians and mobile equipment on site.

1.5 Review the plan whenever there is a change to operations or if there has been an incident involving pedestrians and mobile equipment and in any case, at intervals not exceeding one year.

Pedestrian Safety:

1.1 No-walk zones shall be established within all container stacking areas during operations. Site procedures shall be defined to incorporate:

a. Planned pedestrian access to container stacking areas (out of operations). Procedures are to incorporate a requirement for mobile equipment to cease operations whenever pedestrians are in the designated area.

b. Where planned access is carried out (such as in the case of manually checking containers, cargoes or carrying out maintenance activities), the location of personnel should be clearly identified, physically indicating their presence to equipment operators.

c. Physical protections shall be identified and implemented.

1.2 A risk assessment shall be conducted to identify any other zones on the site which should be designated no-walk zones. The risk assessment shall also identify specific operations that require exclusion zones, such as in close proximity to mobile equipment and where loads are being handled, e.g. General cargo, wharf apron.

1.3 The size of exclusion zones shall be based on the outcomes of the risk assessment and shall consider the potential for unexpected and/or uncontrolled movement of the load such as swinging, bouncing or rolling (Identification of drop zones).

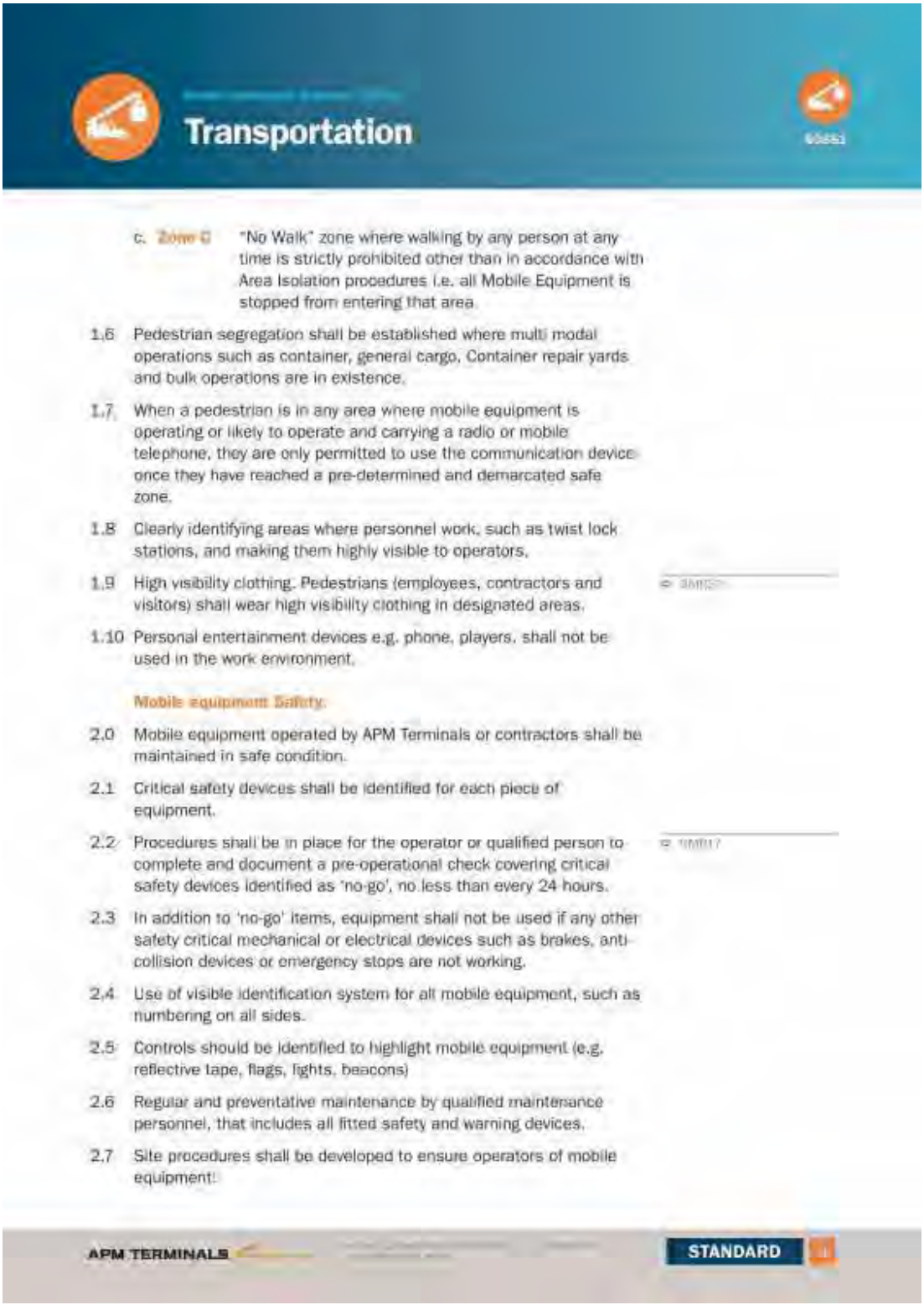
1.4 Temporary operational zones are clearly defined and restricted as no walk zones (i.e. general cargo operations).

1.5 A terminal layout plan shall be developed which designates all areas as either:

a. Zone A — Unrestricted zone that allows free access to any person, or Transportation

b. Zone B — Walking is permitted only by persons who are aware of the risks and have been trained, inducted, are wearing PPE and have been authorized to do so; or

APM TERMINALS STANDARD 2



Transportation

c. Zone C "No Walk" zone where walking by any person at any time is strictly prohibited other than in accordance with Area Isolation procedures i.e. all Mobile Equipment is stopped from entering that area.

1.6 Pedestrian segregation shall be established where multi modal operations such as container, general cargo, Container repair yards and bulk operations are in existence.

1.7 When a pedestrian is in any area where mobile equipment is operating or likely to operate and carrying a radio or mobile telephone, they are only permitted to use the communication device once they have reached a pre-determined and demarcated safe zone.

1.8 Clearly identifying areas where personnel work, such as twist lock stations, and making them highly visible to operators.

1.9 High visibility clothing. Pedestrians (employees, contractors and visitors) shall wear high visibility clothing in designated areas.

1.10 Personal entertainment devices e.g. phone, players, shall not be used in the work environment.

Mobile equipment Safety:

2.0 Mobile equipment operated by APM Terminals or contractors shall be maintained in safe condition.

2.1 Critical safety devices shall be identified for each piece of equipment.

2.2 Procedures shall be in place for the operator or qualified person to complete and document a pre-operational check covering critical safety devices identified as 'no-go', no less than every 24 hours.

2.3 In addition to 'no-go' items, equipment shall not be used if any other safety critical mechanical or electrical devices such as brakes, anti-collision devices or emergency stops are not working.

2.4 Use of visible identification system for all mobile equipment, such as numbering on all sides.

2.5 Controls should be identified to highlight mobile equipment (e.g. reflective tape, flags, lights, beacons)

2.6 Regular and preventative maintenance by qualified maintenance personnel, that includes all fitted safety and warning devices.

2.7 Site procedures shall be developed to ensure operators of mobile equipment:

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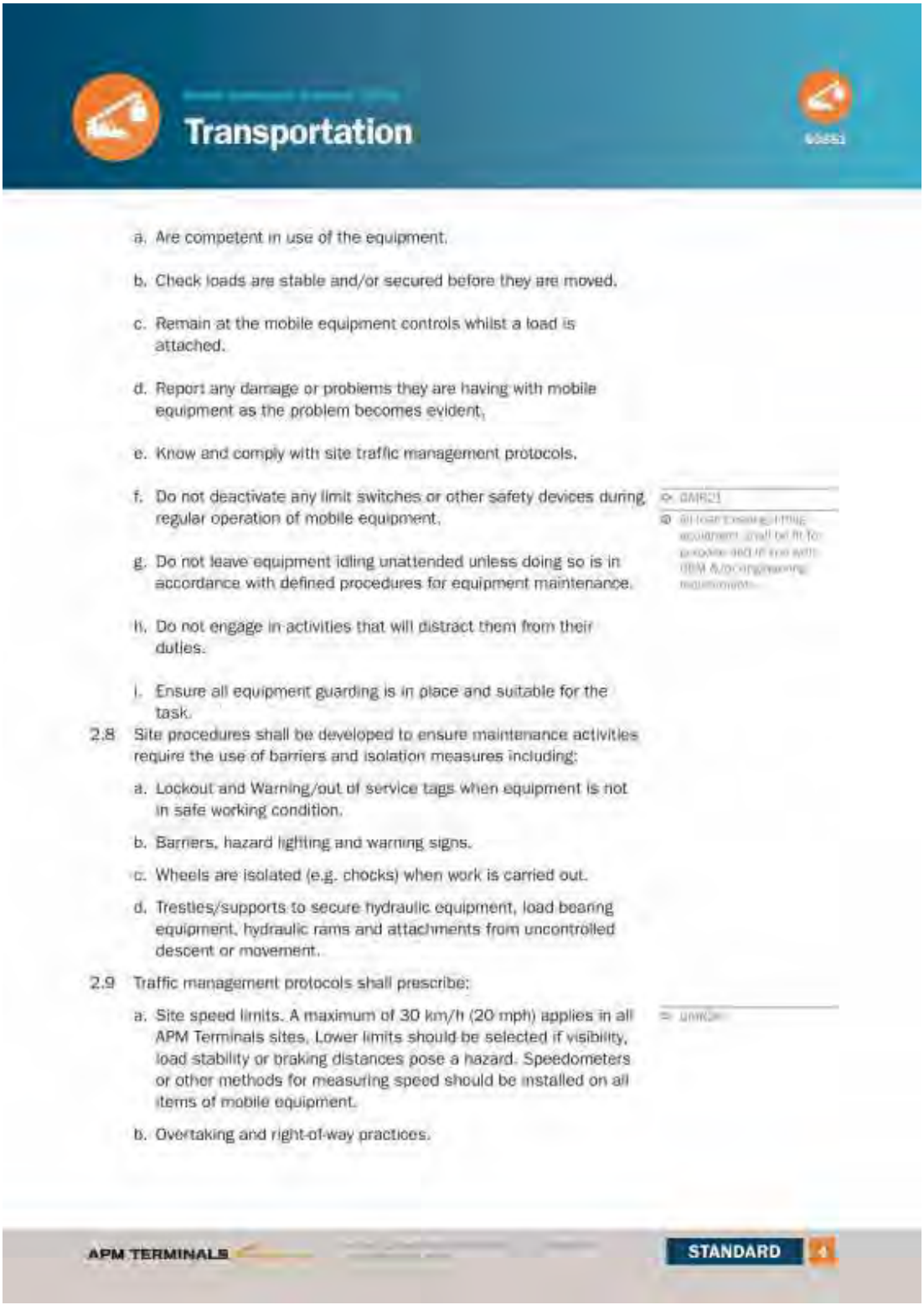
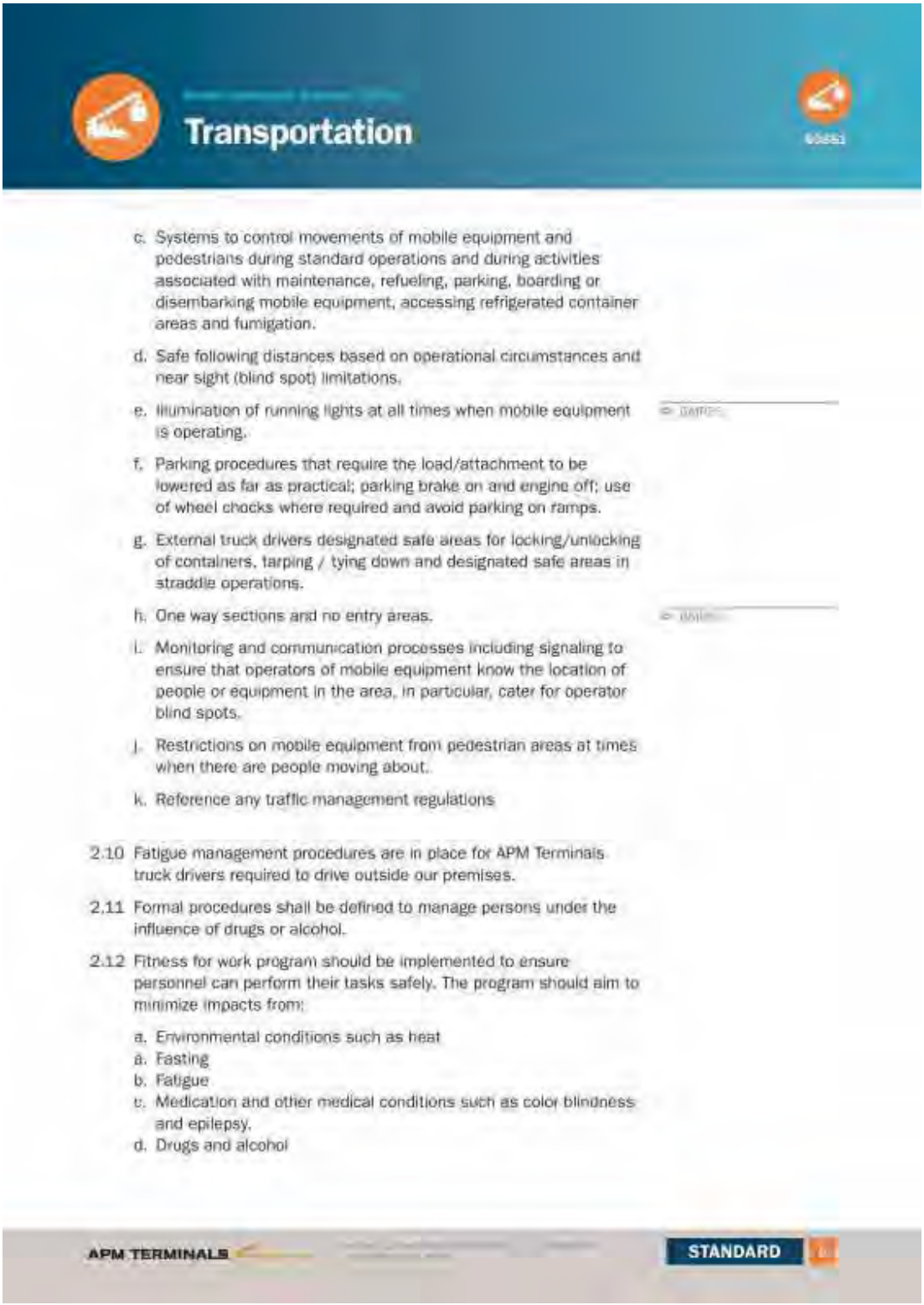
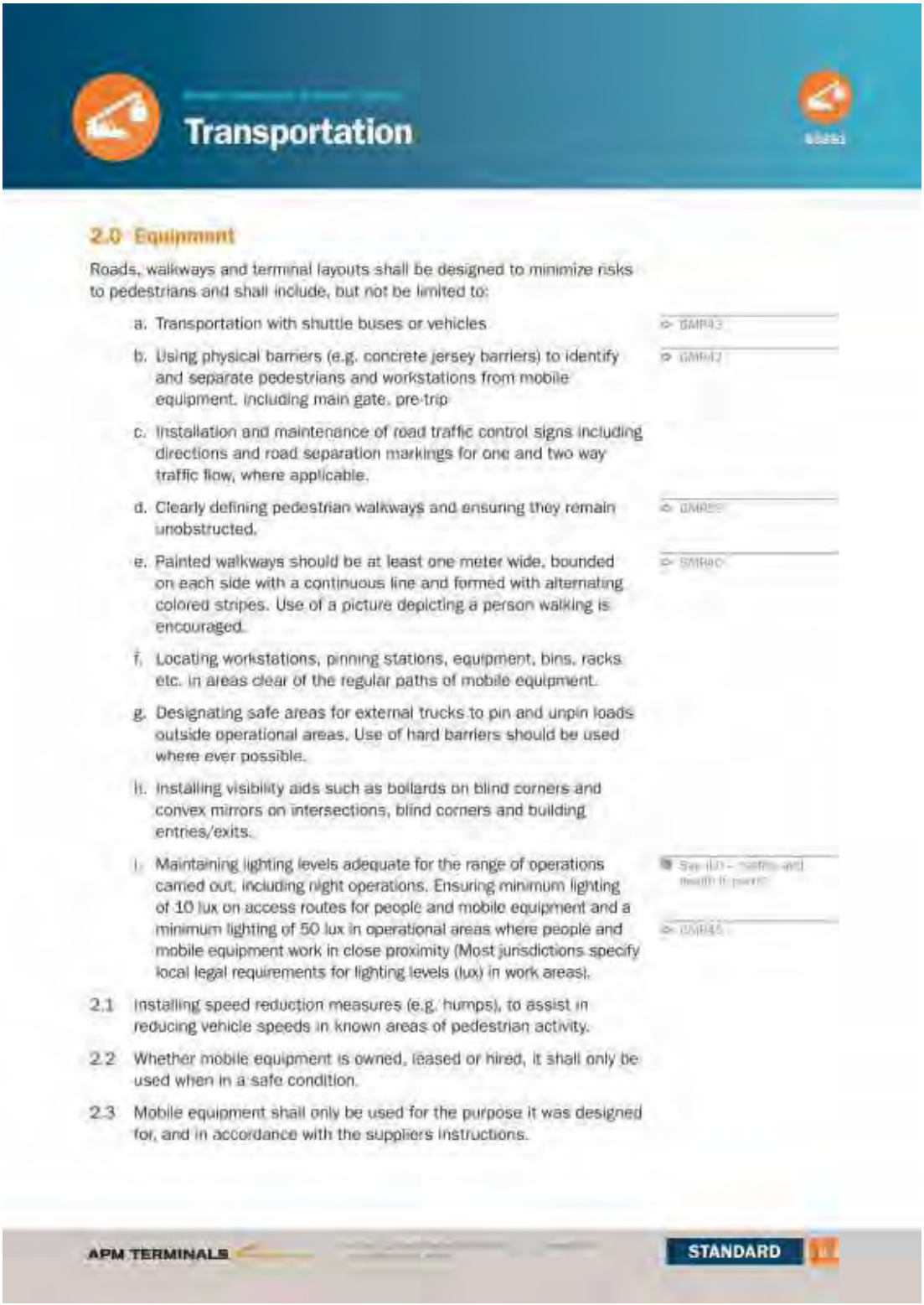

Transportation
a. Are competent in use of the equipment.
b. Check loads are stable and/or secured before they are moved.
c. Remain at the mobile equipment controls whilst a load is attached.
d. Report any damage or problems they are having with mobile equipment as the problem becomes evident.
e. Know and comply with site traffic management protocols.
f. Do not deactivate any limit switches or other safety devices during regular operation of mobile equipment.
g. Do not leave equipment idling unattended unless doing so is in accordance with defined procedures for equipment maintenance.
h. Do not engage in activities that will distract them from their duties.
i. Ensure all equipment guarding is in place and suitable for the task.
2.8 Site procedures shall be developed to ensure maintenance activities require the use of barriers and isolation measures including:
a. Lockout and Warning/out of service tags when equipment is not in safe working condition.
b. Barriers, hazard lighting and warning signs.
c. Wheels are isolated (e.g. chocks) when work is carried out.
d. Trestles/supports to secure hydraulic equipment, load bearing equipment, hydraulic rams and attachments from uncontrolled descent or movement.
2.9 Traffic management protocols shall prescribe:
a. Site speed limits. A maximum of 30 km/h (20 mph) applies in all APM Terminals sites. Lower limits should be selected if visibility, load stability or braking distances pose a hazard. Speedometers or other methods for measuring speed should be installed on all items of mobile equipment.
b. Overtaking and right-of-way practices.
APM TERMINALS
STANDARD


Transportation
c. Systems to control movements of mobile equipment and pedestrians during standard operations and during activities associated with maintenance, refueling, parking, boarding or disembarking mobile equipment, accessing refrigerated container areas and fumigation.
d. Safe following distances based on operational circumstances and near sight (blind spot) limitations.
e. Illumination of running lights at all times when mobile equipment is operating.
f. Parking procedures that require the load/attachment to be lowered as far as practical; parking brake on and engine off; use of wheel chocks where required and avoid parking on ramps.
g. External truck drivers designated safe areas for locking/unlocking of containers, tarping / tying down and designated safe areas in straddle operations.
h. One way sections and no entry areas.
i. Monitoring and communication processes including signaling to ensure that operators of mobile equipment know the location of people or equipment in the area, in particular, cater for operator blind spots.
j. Restrictions on mobile equipment from pedestrian areas at times when there are people moving about.
k. Reference any traffic management regulations
2.10 Fatigue management procedures are in place for APM Terminals truck drivers required to drive outside our premises.
2.11 Formal procedures shall be defined to manage persons under the influence of drugs or alcohol.
2.12 Fitness for work program should be implemented to ensure personnel can perform their tasks safely. The program should aim to minimize impacts from:
a. Environmental conditions such as heat
a. Fasting
b. Fatigue
c. Medication and other medical conditions such as color blindness and epilepsy.
d. Drugs and alcohol
APM TERMINALS
STANDARD



Transportation

2.0 Equipment

Roads, walkways and terminal layouts shall be designed to minimize risks to pedestrians and shall include, but not be limited to:

a. Transportation with shuttle buses or vehicles

b. Using physical barriers (e.g. concrete jersey barriers) to identify and separate pedestrians and workstations from mobile equipment, including main gate, pre-trip

c. Installation and maintenance of road traffic control signs including directions and road separation markings for one and two way traffic flow, where applicable.

d. Clearly defining pedestrian walkways and ensuring they remain unobstructed.

e. Painted walkways should be at least one meter wide, bounded on each side with a continuous line and formed with alternating colored stripes. Use of a picture depicting a person walking is encouraged.

f. Locating workstations, pinning stations, equipment, bins, racks etc. in areas clear of the regular paths of mobile equipment.

g. Designating safe areas for external trucks to pin and unpin loads outside operational areas. Use of hard barriers should be used where ever possible.

h. Installing visibility aids such as bollards on blind corners and convex mirrors on intersections, blind corners and building entries/exits.

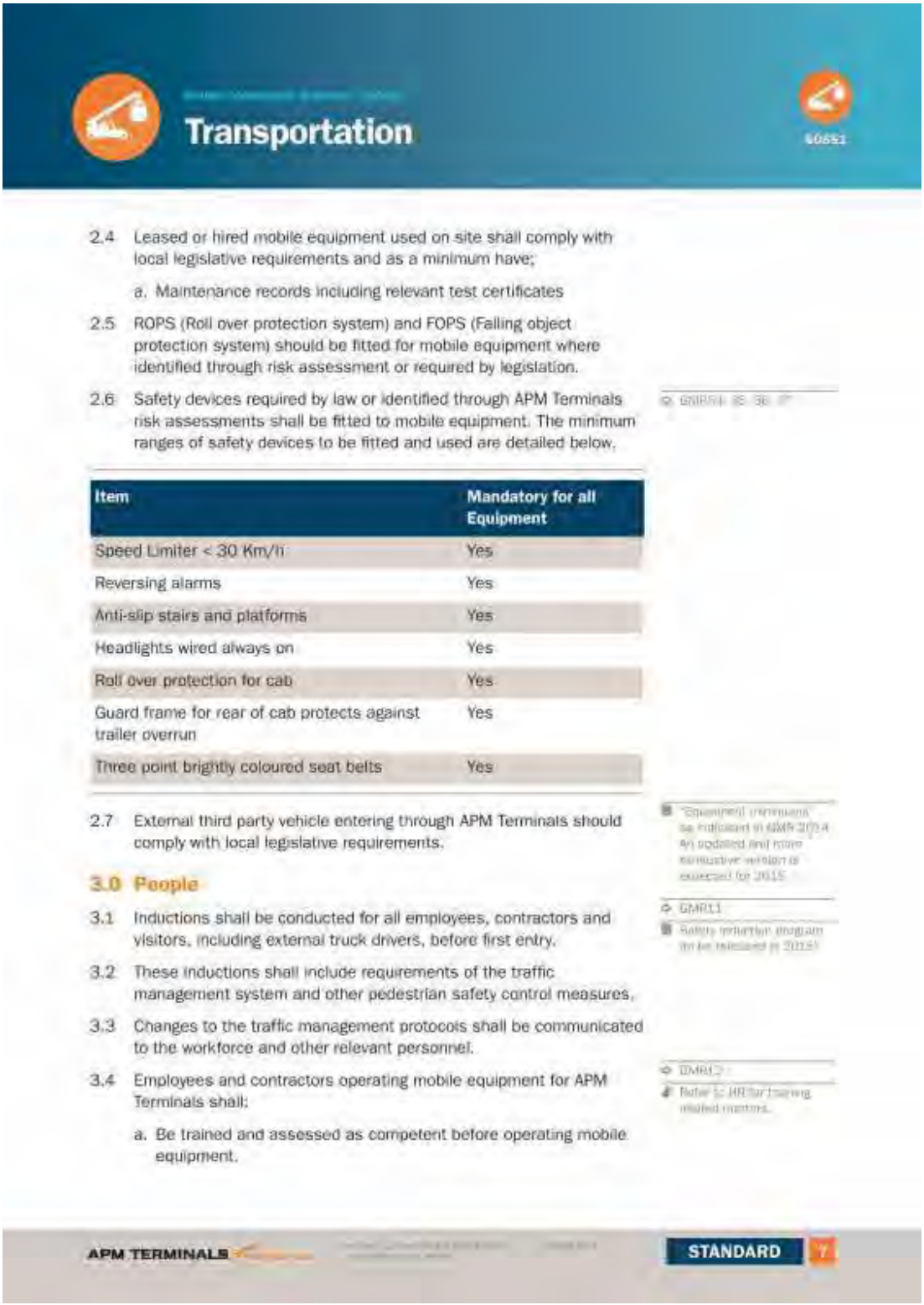
i. Maintaining lighting levels adequate for the range of operations carried out, including night operations. Ensuring minimum lighting of 10 lux on access routes for people and mobile equipment and a minimum lighting of 50 lux in operational areas where people and mobile equipment work in close proximity (Most jurisdictions specify local legal requirements for lighting levels (lux) in work areas).

2.1 Installing speed reduction measures (e.g. humps), to assist in reducing vehicle speeds in known areas of pedestrian activity.

2.2 Whether mobile equipment is owned, leased or hired, it shall only be used when in a safe condition.

2.3 Mobile equipment shall only be used for the purpose it was designed for, and in accordance with the suppliers instructions.

APM TERMINALS STANDARD


Transportation
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2.4 Leased or hired mobile equipment used on site shall comply with local legislative requirements and as a minimum have;
a. Maintenance records including relevant test certificates
2.5 ROPS (Roll over protection system) and FOPS (Falling object protection system) should be fitted for mobile equipment where identified through risk assessment or required by legislation.
2.6 Safety devices required by law or identified through APM Terminals risk assessments shall be fitted to mobile equipment. The minimum ranges of safety devices to be fitted and used are detailed below.
Item
Mandatory for all Equipment
Speed Limiter < 30 Km/h
Yes
Reversing alarms
Yes
Anti-slip stairs and platforms
Yes
Headlights wired always on
Yes
Roll over protection for cab
Yes
Guard frame for rear of cab protects against trailer overrun
Yes
Three point brightly coloured seat belts
Yes
2.7 External third party vehicle entering through APM Terminals should comply with local legislative requirements.
3.0 People
3.1 Inductions shall be conducted for all employees, contractors and visitors, including external truck drivers, before first entry.
3.2 These inductions shall include requirements of the traffic management system and other pedestrian safety control measures.
3.3 Changes to the traffic management protocols shall be communicated to the workforce and other relevant personnel.
3.4 Employees and contractors operating mobile equipment for APM Terminals shall:
a. Be trained and assessed as competent before operating mobile equipment.
APM TERMINALS
STANDARD

b. Have their competencies regularly assessed.

c. Hold a current and relevant permit, license or certificate of competency as required by local legislation.

3.5 Truck drivers, including third party truck drivers entering APM Terminals sites shall not bring other non-inducted people or passengers such as children, helpers or pets on site and shall:

a. In forklift, reach stacker, RTG and RMG container handling operations, remain in the vehicle while the truck is being loaded or unloaded.

b. In facilities where the truck drivers are required to leave their vehicles, such as straddle operations and general stevedoring, implement procedures to ensure drivers remain in designated safe areas and comply with pedestrian safety requirements for operational areas for the duration of their visit.

c. Only secure or un-secure loads in areas designated for this purpose and in a safe manner.

d. Not be permitted to enter or leave the site unless the load is adequately secured.

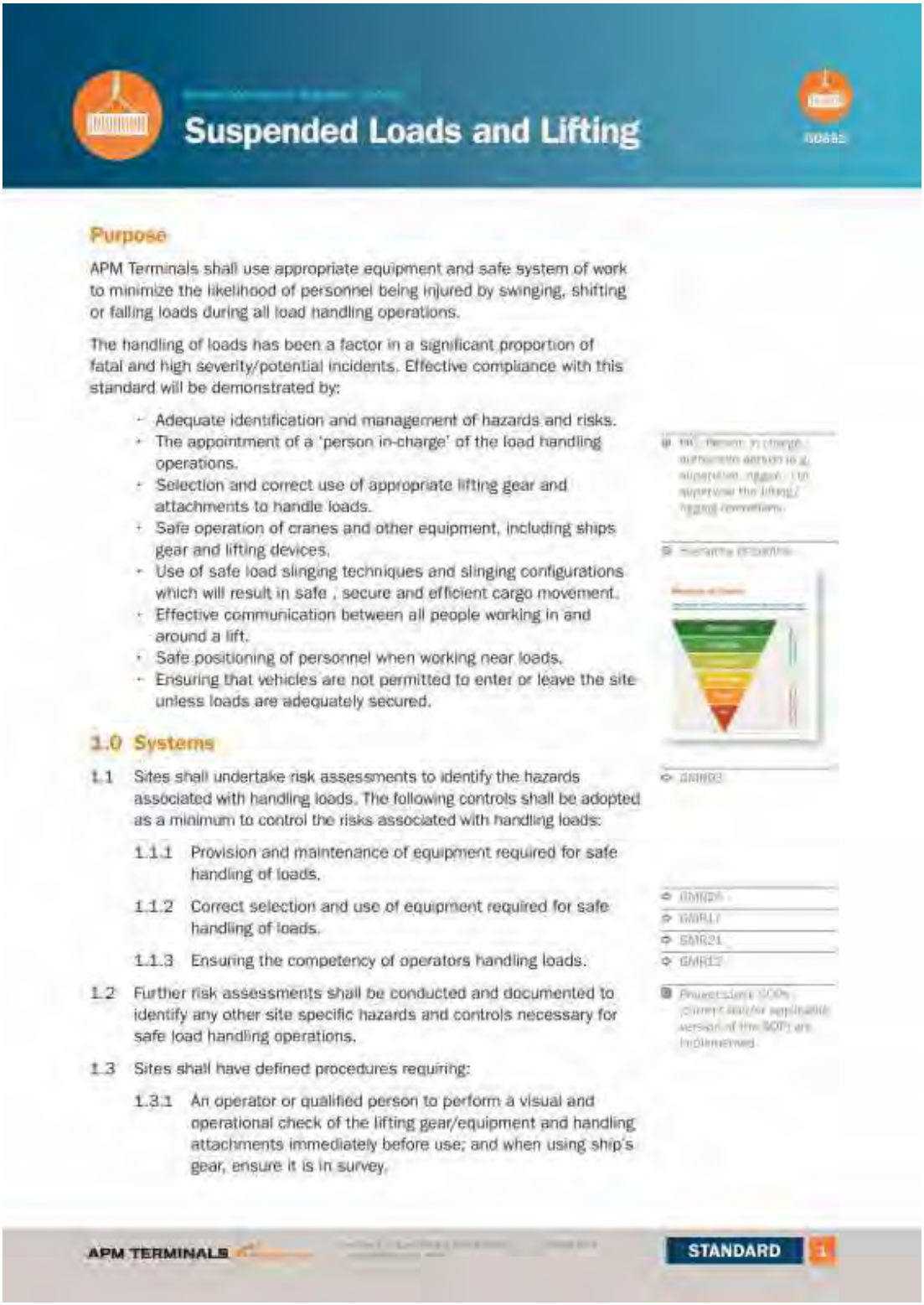
3.6 APM Terminals drivers operating transport vehicles on public roads:

a. Shall comply with local legal requirements, such as holding special licenses or permits and carrying specialised safety equipment when transporting dangerous goods.

b. Shall notify management if their license is suspended or cancelled.

c. Shall provide proof that their licenses and permits are current.

GOSS2- SUSPENDED LOAD & LIFTING



Suspended Loads and Lifting

GOSS2

Purpose

APM Terminals shall use appropriate equipment and safe system of work to minimize the likelihood of personnel being injured by swinging, shifting or falling loads during all load handling operations.

The handling of loads has been a factor in a significant proportion of fatal and high severity/potential incidents. Effective compliance with this standard will be demonstrated by:

- Adequate identification and management of hazards and risks.
- The appointment of a 'person in-charge' of the load handling operations.
- Selection and correct use of appropriate lifting gear and attachments to handle loads.
- Safe operation of cranes and other equipment, including ships gear and lifting devices.
- Use of safe load slinging techniques and slinging configurations which will result in safe , secure and efficient cargo movement.
- Effective communication between all people working in and around a lift.
- Safe positioning of personnel when working near loads.
- Ensuring that vehicles are not permitted to enter or leave the site unless loads are adequately secured.

1.0 Systems

1.1 Sites shall undertake risk assessments to identify the hazards associated with handling loads. The following controls shall be adopted as a minimum to control the risks associated with handling loads:

1.1.1 Provision and maintenance of equipment required for safe handling of loads.

1.1.2 Correct selection and use of equipment required for safe handling of loads.

1.1.3 Ensuring the competency of operators handling loads.

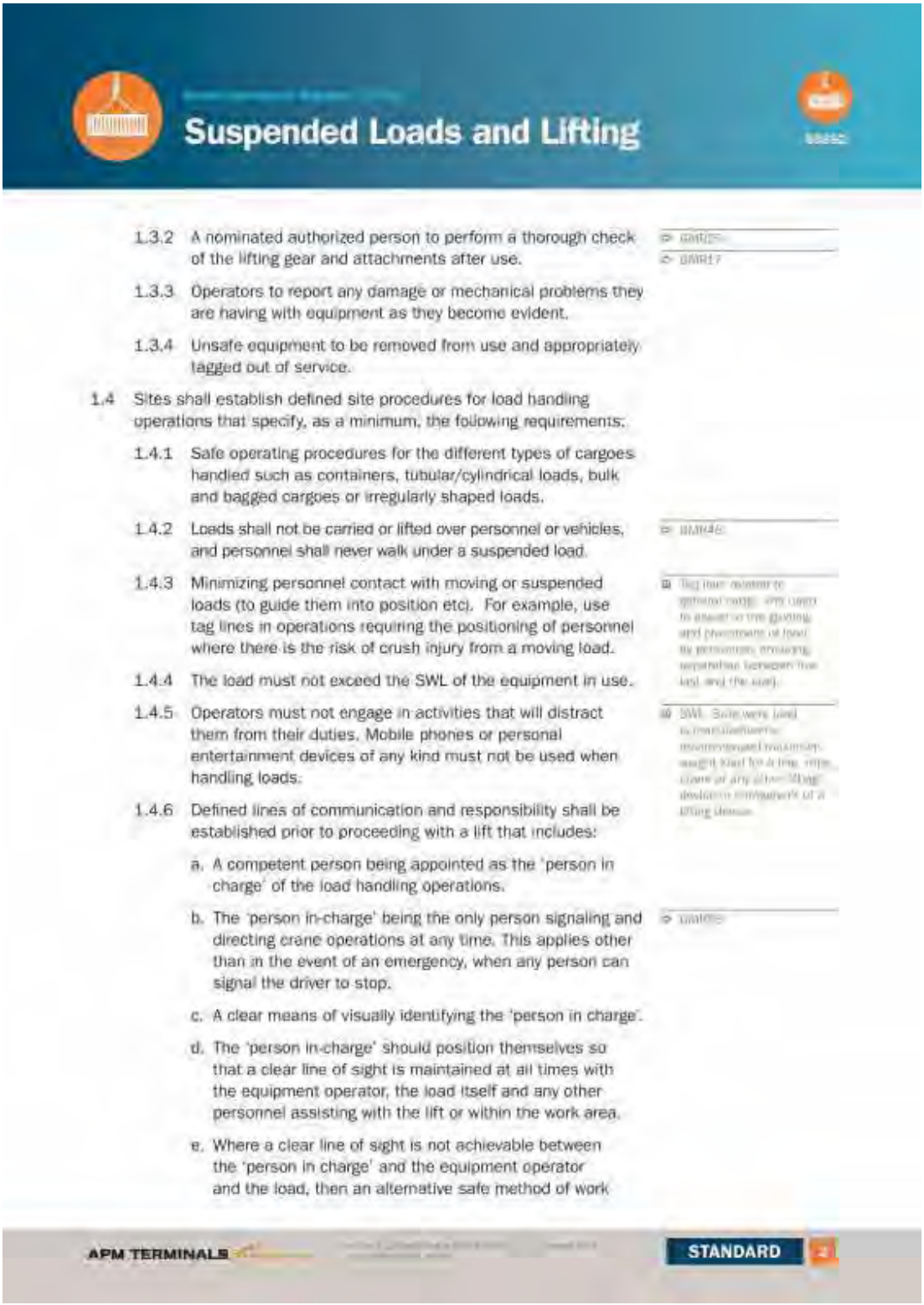
1.2 Further risk assessments shall be conducted and documented to identify any other site specific hazards and controls necessary for safe load handling operations.

1.3 Sites shall have defined procedures requiring:

1.3.1 An operator or qualified person to perform a visual and operational check of the lifting gear/equipment and handling attachments immediately before use; and when using ship's gear, ensure it is in survey.

APM TERMINALS

STANDARD 1


Suspended Loads and Lifting
1.3.2 A nominated authorized person to perform a thorough check of the lifting gear and attachments after use.
1.3.3 Operators to report any damage or mechanical problems they are having with equipment as they become evident.
1.3.4 Unsafe equipment to be removed from use and appropriately tagged out of service.
1.4 Sites shall establish defined site procedures for load handling operations that specify, as a minimum, the following requirements:
1.4.1 Safe operating procedures for the different types of cargoes handled such as containers, tubular/cylindrical loads, bulk and bagged cargoes or irregularly shaped loads.
1.4.2 Loads shall not be carried or lifted over personnel or vehicles, and personnel shall never walk under a suspended load.
1.4.3 Minimizing personnel contact with moving or suspended loads (to guide them into position etc). For example, use tag lines in operations requiring the positioning of personnel where there is the risk of crush injury from a moving load.
1.4.4 The load must not exceed the SWL of the equipment in use.
1.4.5 Operators must not engage in activities that will distract them from their duties. Mobile phones or personal entertainment devices of any kind must not be used when handling loads.
1.4.6 Defined lines of communication and responsibility shall be established prior to proceeding with a lift that includes:
a. A competent person being appointed as the 'person in charge' of the load handling operations.
b. The 'person in-charge' being the only person signaling and directing crane operations at any time. This applies other than in the event of an emergency, when any person can signal the driver to stop.
c. A clear means of visually identifying the 'person in charge'.
d. The 'person in-charge' should position themselves so that a clear line of sight is maintained at all times with the equipment operator, the load itself and any other personnel assisting with the lift or within the work area.
e. Where a clear line of sight is not achievable between the 'person in charge' and the equipment operator and the load, then an alternative safe method of work
APM TERMINALS
STANDARD

shall be provided and radios must be used. In these circumstances the equipment operators are to be instructed not to move any loads until such time as the 'person in charge' has effectively communicated that all persons have been removed from any crush zones and it is safe to move the load.

l. Should it be necessary, a defined process for handing over responsibility for issuing instructions from one person to another i.e. the 'person in-charge' to a 'new person in-charge'.

1.5 The 'person in-charge' is responsible for directing load handling operations and prior to commencing the load transfer, shall ensure:

a. That all crush zones are identified and that no person is permitted inside a crush zone during any part of the lifting or lowering operation.

b. Safe positioning of personnel working near a load (such as in a vessel hold).

c. Removal of any obstruction to the path of equipment and the safe shifting of a load.

d. The load is correctly slung, in balance, secure and any load swing is minimized before lifting from or lowering into cargo spaces i.e. crane/hook attachment is set in plumb with the center of gravity of the load to prevent swing when load is lifted.

e. In conjunction with the crane operator, the ship's heeling/listing is monitored during load handling and action is taken to minimize the risk of uncontrolled shifting of loads, equipment and cargo.

f. Crane operators are directed where their visibility is impaired or ship's gear is being used.

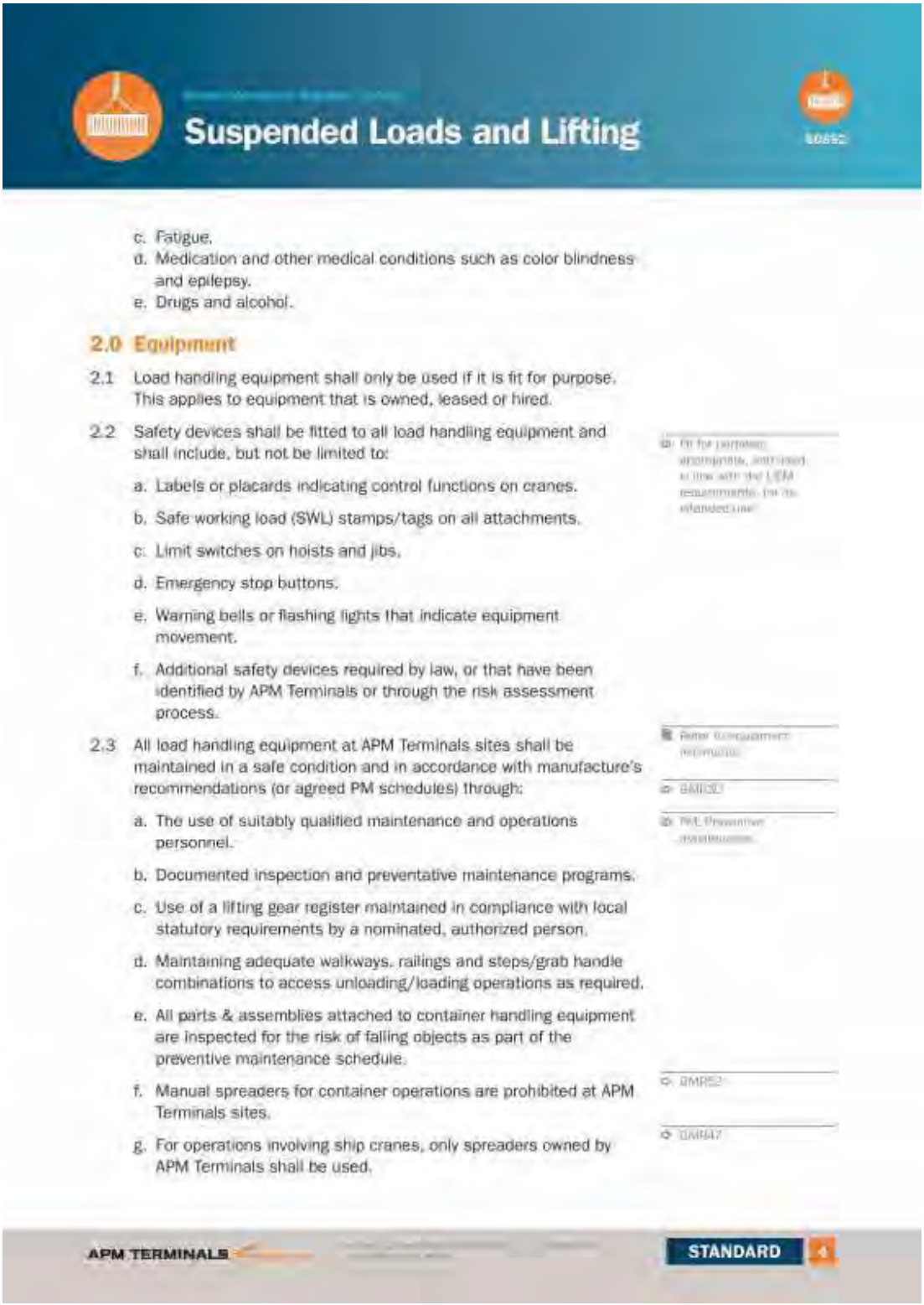
g. Any loose items must be removed before transferring the load, for example items left on hatch lids or on top of loads ready for transport.

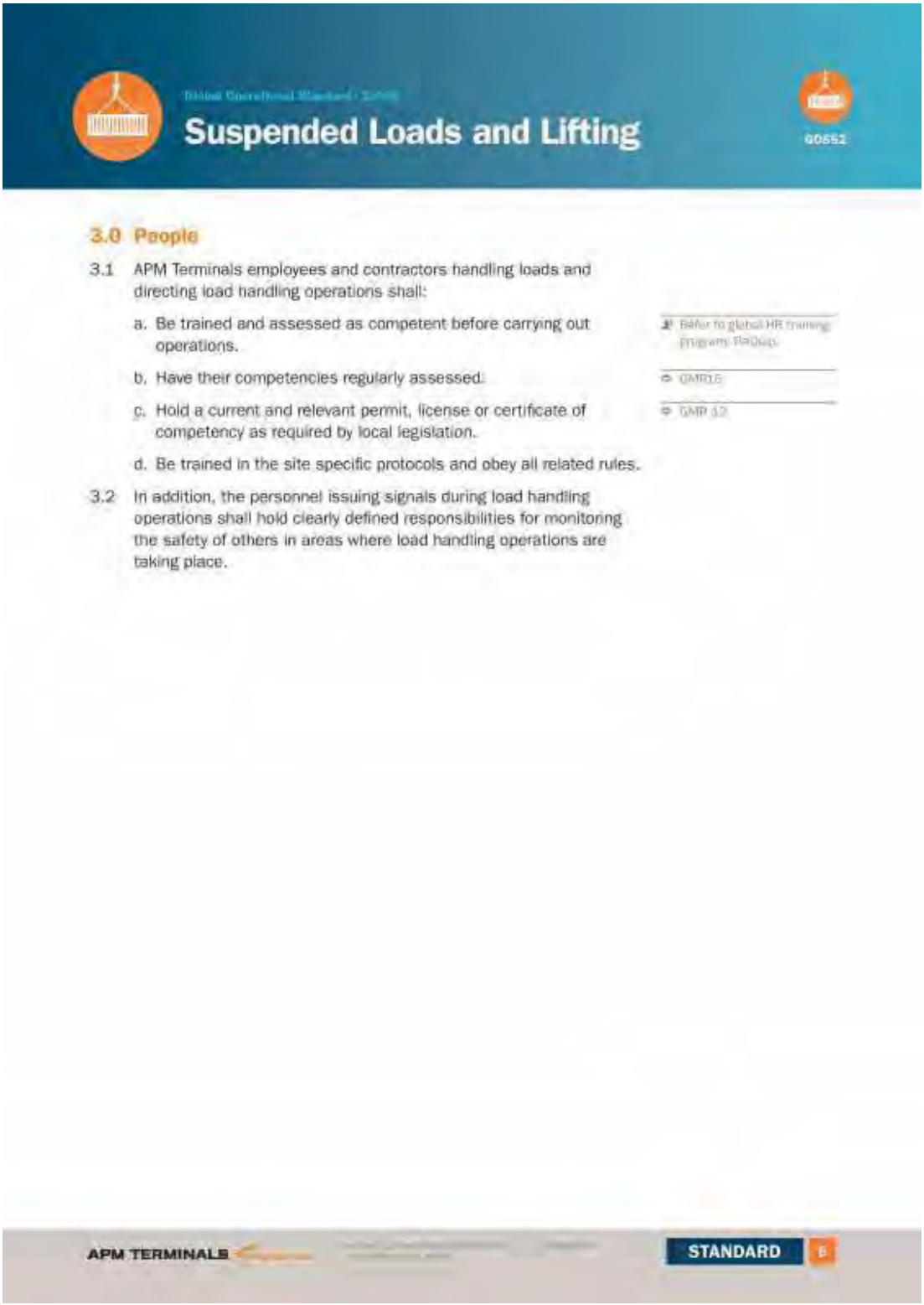
h. Use of personal protective equipment (PPE).

i. If there is any doubt about the safety of a load – DO NOT LIFT.

1.6 Fitness for work program should be implemented to ensure personnel can perform their tasks safely. The program should aim to minimize impacts from:

a. Environmental conditions such as heat.
b. Fasting.


Suspended Loads and Lifting
c. Fatigue.
d. Medication and other medical conditions such as color blindness and epilepsy.
e. Drugs and alcohol.
2.0 Equipment
2.1 Load handling equipment shall only be used if it is fit for purpose. This applies to equipment that is owned, leased or hired.
2.2 Safety devices shall be fitted to all load handling equipment and shall include, but not be limited to:
a. Labels or placards indicating control functions on cranes.
b. Safe working load (SWL) stamps/tags on all attachments.
c. Limit switches on hoists and jibs.
d. Emergency stop buttons.
e. Warning bells or flashing lights that indicate equipment movement.
f. Additional safety devices required by law, or that have been identified by APM Terminals or through the risk assessment process.
2.3 All load handling equipment at APM Terminals sites shall be maintained in a safe condition and in accordance with manufacture's recommendations (or agreed PM schedules) through:
a. The use of suitably qualified maintenance and operations personnel.
b. Documented inspection and preventative maintenance programs.
c. Use of a lifting gear register maintained in compliance with local statutory requirements by a nominated, authorized person.
d. Maintaining adequate walkways, railings and steps/grab handle combinations to access unloading/loading operations as required.
e. All parts & assemblies attached to container handling equipment are inspected for the risk of falling objects as part of the preventive maintenance schedule.
f. Manual spreaders for container operations are prohibited at APM Terminals sites.
g. For operations involving ship cranes, only spreaders owned by APM Terminals shall be used.
APM TERMINALS
STANDARD



Global Operational Standard

Suspended Loads and Lifting

GOS52

3.0 People

3.1 APM Terminals employees and contractors handling loads and directing load handling operations shall:

a. Be trained and assessed as competent before carrying out operations.

Refer to global HR training programs Portal.

b. Have their competencies regularly assessed.

GMR3.6

c. Hold a current and relevant permit, license or certificate of competency as required by local legislation.

GMR 3.2

d. Be trained in the site specific protocols and obey all related rules.

3.2 In addition, the personnel issuing signals during load handling operations shall hold clearly defined responsibilities for monitoring the safety of others in areas where load handling operations are taking place.

APM TERMINALS

STANDARD

GOSS3- WORKING AT HEIGHT

Working at Heights

Purpose

APM Terminals shall protect employees and contractors by controlling the risks associated with working at height. We shall comply with all local legislative requirements, and in some jurisdictions exceed those requirements.

Working at height has significant potential for fatal and serious incidents. Effective compliance with this standard will be demonstrated by:

- Eliminating or minimising the need for work to be done at height.
- Use of a safe system of work comprising appropriate fall prevention and protection measures.
- Identification and control of risks with different cargo presentations
- Adequate identification and management of hazards and risks.
- This standard shall be applied to any work carried within 2 meters of an unprotected edge which exposes to a fall of 2 meters or more

APM Terminals will work with stakeholders (such as shipping lines), to continue to research and identify safer practices for working at heights, in particular for working with cargo on board vessels.

1.0 Systems

1.1 Sites shall undertake risk assessments to identify hazards associated with working at height. These risk assessments need to consider both the risks to those working at height, and to persons working in the surrounding environment who may be struck by falling objects (i.e. twist locks, lashing bars, tools etc).

1.2 Eliminating work at height is the most effective way to control risk and should be considered in each risk assessment. Consideration should be given to the use of technical solutions.

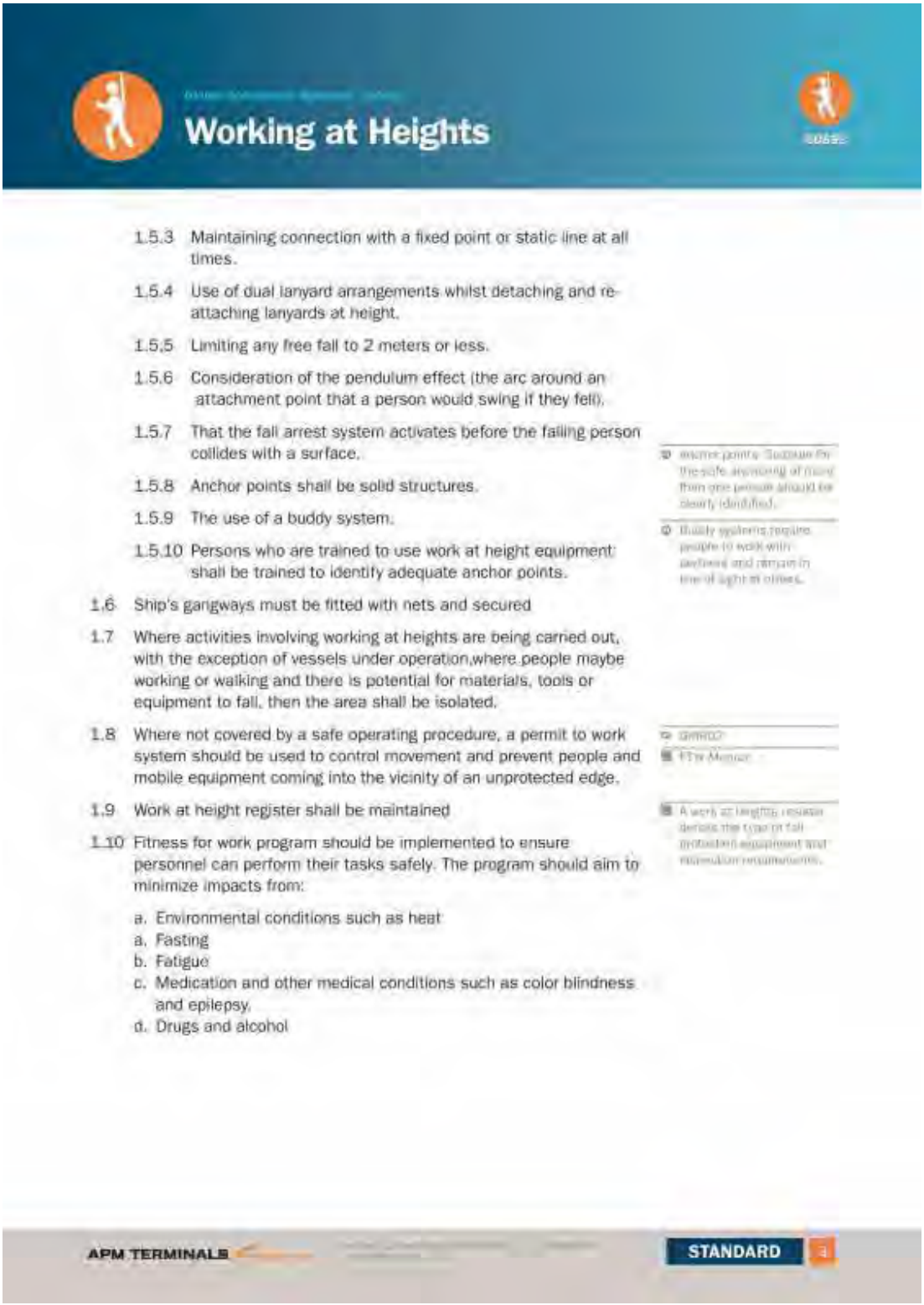
1.3 Training and assessment of personnel required to work at heights shall include, but not be limited to:

1.3.1 Identification of the hazards associated with working at height, including other hazards present whilst carrying out work at height, for example, electrical hazards or those created by rain and high winds.

1.3.2 Identification and use of fall prevention and protection methods and equipment including: pre-use inspections; selection of suitable anchor points; what to do if a suitable anchor point is not available; use of harnesses, and the fitting of self-retracting lines.

APM TERMINALS STANDARD 1


Working at Heights
1.3.3 Portable ladder safety, in particular, maintenance, tie off or person holding the ladder and 'three points of contact' during any ascent or descent.
1.3.4 Emergency response and rescue procedures, including rescue of a suspended person connected to fall arrest equipment.
1.3.5 Appropriate methods to secure tools and objects to prevent them from falling.
1.3.6 Awareness of surroundings, surfaces and maintaining the safety of others in the area.
1.4 Site procedures shall be developed to ensure selection of safe systems of work:
1.4.1 Where fall prevention measures (safety cages, elevated work platforms or scaffolding) take precedence over systems relying on fall protection (harnesses, self-retracting lanyards).
1.4.2 Where fall prevention and protection equipment is designed for the work environment and adequate for the task.
1.4.3 With a safe method of access.
1.4.4 That complies with local legislative requirements.
1.4.5 Are suitable for the physical attributes of potential users.
1.4.6 Adequate means of communication
1.4.7 Adequate level of supervision
1.5 Systems of work incorporating the use of self-retracting lines, full body harnesses, vertical and horizontal static lines and the use of anchor points shall be established and implemented when fall prevention measures cannot be used. These systems shall incorporate requirements ensuring:
1.5.1 In works of lashing and unlashing containers at the vessel's wing, where no guard-rail is available, wearing a harness with double lanyard is compulsory, and it should be attached to a structure of the vessel itself or to a container door.
1.5.2 Works on the edge of open hatches will only be performed after a ship's guard-rail is installed. If it is not possible to install the guard-rail, workers who have to go close to the edge of open hatches should carry out the activities wearing a safety harness attached to structures of the vessel or other suitable anchor point.
APM TERMINALS
STANDARD



1.5.3 Maintaining connection with a fixed point or static line at all times.

1.5.4 Use of dual lanyard arrangements whilst detaching and re-attaching lanyards at height.

1.5.5 Limiting any free fall to 2 meters or less.

1.5.6 Consideration of the pendulum effect (the arc around an attachment point that a person would swing if they fell).

1.5.7 That the fall arrest system activates before the falling person collides with a surface.

1.5.8 Anchor points shall be solid structures.

1.5.9 The use of a buddy system.

1.5.10 Persons who are trained to use work at height equipment shall be trained to identify adequate anchor points.

1.6 Ship's gangways must be fitted with nets and secured

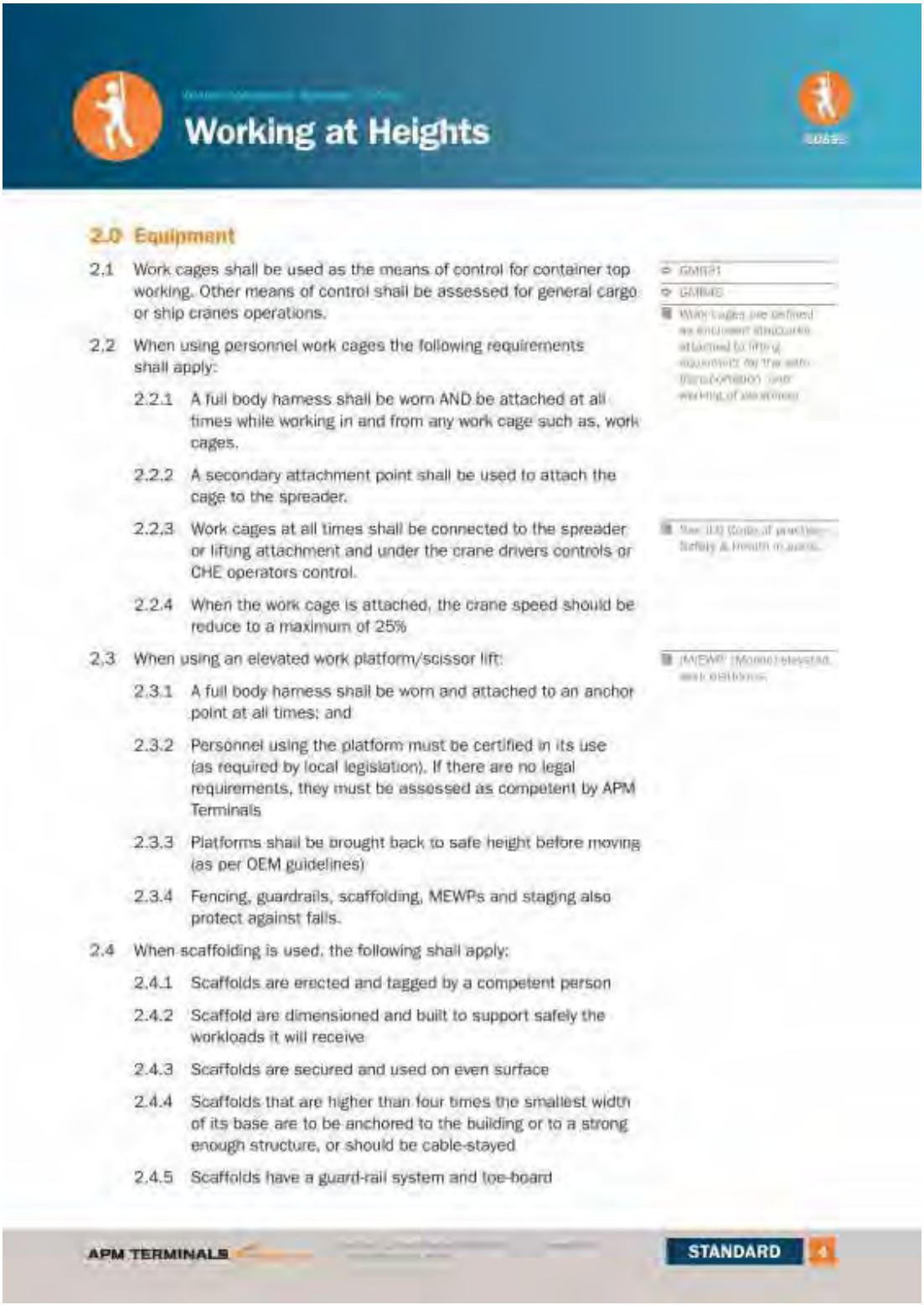
1.7 Where activities involving working at heights are being carried out, with the exception of vessels under operation,where people maybe working or walking and there is potential for materials, tools or equipment to fall, then the area shall be isolated.

1.8 Where not covered by a safe operating procedure, a permit to work system should be used to control movement and prevent people and mobile equipment coming into the vicinity of an unprotected edge.

1.9 Work at height register shall be maintained

1.10 Fitness for work program should be implemented to ensure personnel can perform their tasks safely. The program should aim to minimize impacts from:

a. Environmental conditions such as heat
a. Fasting
b. Fatigue
c. Medication and other medical conditions such as color blindness and epilepsy.
d. Drugs and alcohol



Working at Heights

2.0 Equipment

2.1 Work cages shall be used as the means of control for container top working. Other means of control shall be assessed for general cargo or ship cranes operations.

2.2 When using personnel work cages the following requirements shall apply:

- 2.2.1 A full body harness shall be worn AND be attached at all times while working in and from any work cage such as, work cages.
- 2.2.2 A secondary attachment point shall be used to attach the cage to the spreader.
- 2.2.3 Work cages at all times shall be connected to the spreader or lifting attachment and under the crane drivers controls or CHE operators control.
- 2.2.4 When the work cage is attached, the crane speed should be reduce to a maximum of 25%

2.3 When using an elevated work platform/scissor lift:

- 2.3.1 A full body harness shall be worn and attached to an anchor point at all times; and
- 2.3.2 Personnel using the platform must be certified in its use (as required by local legislation). If there are no legal requirements, they must be assessed as competent by APM Terminals
- 2.3.3 Platforms shall be brought back to safe height before moving (as per OEM guidelines)
- 2.3.4 Fencing, guardrails, scaffolding, MEWPs and staging also protect against falls.

2.4 When scaffolding is used, the following shall apply:

- 2.4.1 Scaffolds are erected and tagged by a competent person
- 2.4.2 Scaffold are dimensioned and built to support safely the workloads it will receive
- 2.4.3 Scaffolds are secured and used on even surface
- 2.4.4 Scaffolds that are higher than four times the smallest width of its base are to be anchored to the building or to a strong enough structure, or should be cable-stayed
- 2.4.5 Scaffolds have a guard-rail system and toe-board

2.4.6 Mobile scaffolds can only be used on flat surfaces and with their casters locked

2.4.7 Mobile scaffolds are to be wedged and anchored while in use to avoid their displacement and collapse

2.4.8 Mobile scaffolds are not allowed to be moved while there are persons or materials on the work platform

2.4.9 The scaffolds have their access ladder coupled to its structure

2.4.10 Scaffolds have all access points leading to the platform from inside.

2.4.11 Safety harness with double lanyard are worn when assembling, disassembling and working on the scaffolds.

2.4.12 Scaffolds should be in perfect use condition and without corrosion and a cracked or distorted structure

2.4.13 Scaffolds are assembled far from electrical installations and away from where they can be reached by machines or equipment

2.4.14 The use of ladders or other means on the scaffold work platform to reach higher points is strictly forbidden

2.5 When using a ladder the following shall apply:

2.5.1 Be on stable level ground.

2.5.2 Have non slip feet.

2.5.3 Be secured or supported by third party.

2.5.4 Must be placed at a safe angle – 75o to the horizontal.

2.5.5 Ladder extends 1 meter beyond the landing place.

2.5.6 Be included in the maintenance schedule and inspected prior to use.

2.6 When using baskets, the following shall apply:

2.6.1 Have a secondary attachment

2.6.2 Defined anchor points

2.6.3 When slinging with a multi-legged sling it must be assumed that only two of the sling legs are taking the load. Additional legs do not increase the SWL of the sling assembly

2.7 Fall overboard protection

2.7.1 Life rings with heaving line must be available and ready for use on quaysides/jetties with staff trained in their use.

2.7.2 Life vest/PFD are required and in use for all waterside exposed work areas.

2.8 Fall prevention and protection equipment shall be:

2.8.1 Maintained in accordance with manufacturer's recommendations.

2.8.2 Stored correctly to prevent damage.

2.8.3 Tested and tagged every six months (including anchor points), or more frequently if required by local legislation.

2.8.4 Visually inspected before and after use by a competent person.

2.8.5 Fall protection equipment shall be inspected and assessed to record the equipment condition and then destroyed following a fall or where there is evidence of excessive wear or mechanical malfunction.

2.8.6 Records of inspection, maintenance and testing of all fall prevention and protection equipment shall be maintained.

2.8.7 Harnesses are the only acceptable form of equipment to be worn. Body belts are prohibited.

3.0 People

3.1 Employees or contractors working on behalf of APM Terminals shall use fall prevention or protection measures when they are:

3.1.1 Working within 2 meters of an unprotected edge which exposes them to a fall of 2 meters or more; or

3.1.2 Required to work on or near fragile surfaces, where they may fall more than 2 meters through the structure.

3.2 The competency of persons required to use safety cages; elevated work platforms and harnesses shall be regularly assessed (including contractors that undertake regular work and other labor).

3.3 Persons required to supervise work at height activities shall have a basic understanding of the inherent hazards and mitigations

3.4 When engaging contractors to undertake irregular tasks (for example, construction or crane overhaul work), an APM Terminals representative shall review the evidence of their competence to work safely at heights.

GOSS4- STORED ENERGY

Stored Energy

GOSS4

Purpose

APM Terminals shall control the risks arising from the uncontrolled release of stored energy.

Inadequate isolation of energy sources has figured in a significant proportion of our high potential and fatal incidents. Effective compliance with this standard will be demonstrated by:

- Identification and recognition of sources of potential stored energy.
- Introduction and enforcement of lockout/tag out systems.
- Ensuring the correct equipment is isolated for the particular task being undertaken.
- Ensuring that all stored energy is released or decayed after isolation.
- Effective communication, training and competence of personnel.
- Ensuring complacency does not affect compliance with isolation systems.

1.0 Systems

1.1 Sites shall undertake risk assessments to identify the hazards associated with working with and around uncontrolled energy sources. Controls for minimizing risk include:

a. Providing isolation systems that are safe to use.

b. Developing isolation procedures that provide a safe system.

c. Using isolation systems in a safe manner including the use of specific PPE such as arc resistant clothing or foot wear.

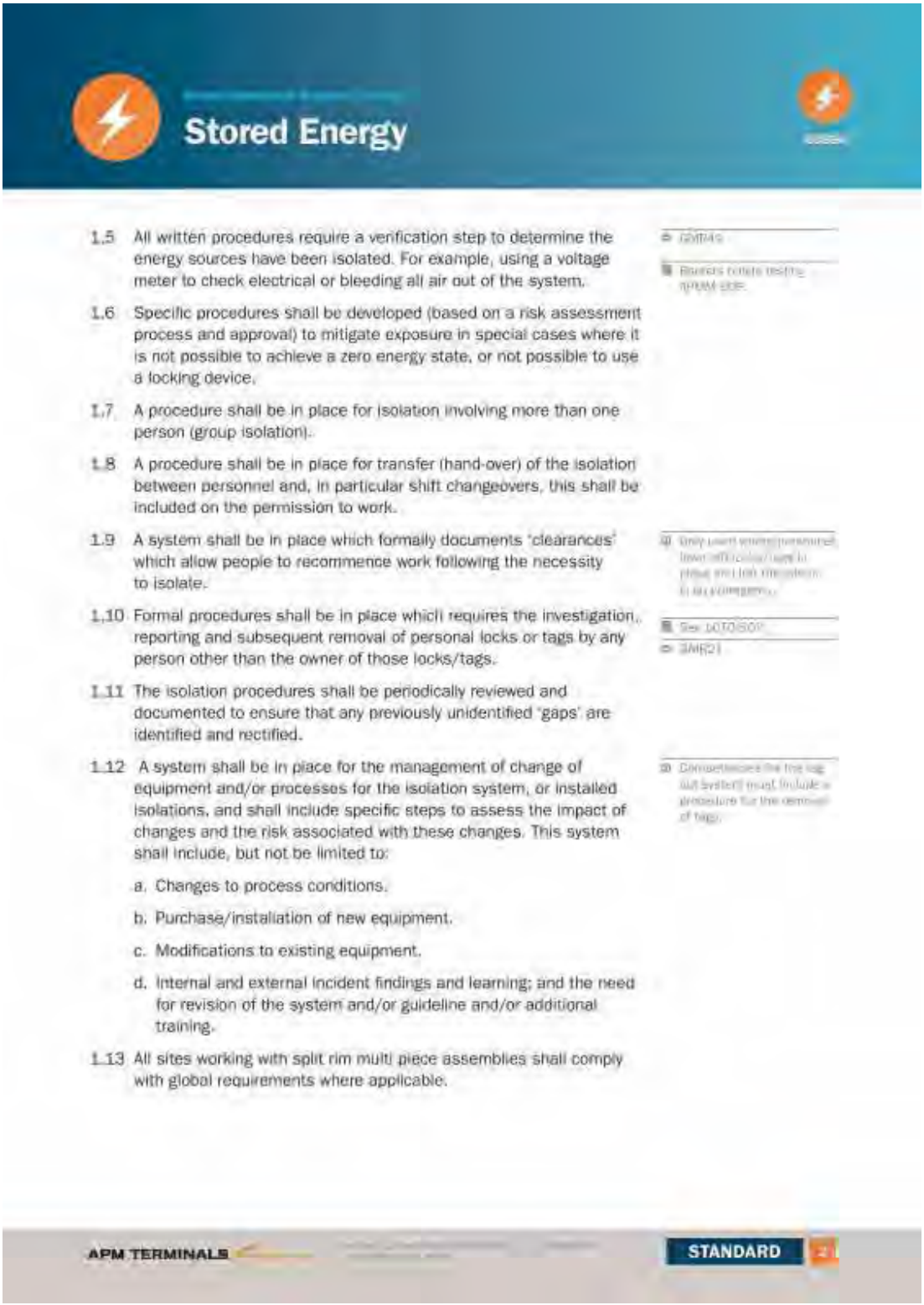
d. Training and managing operators required to use the isolation system.

1.2 The purchase, design and lease of equipment shall give due consideration to meeting the requirements of this Standard.

1.3 All sites shall have a documented isolation and lockout/tag (LOTO) out system that applies equally to all equipment, activities and all personnel on site, including contractors.

1.4 All sites shall have machine specific energy isolation procedures (LOTO) for all equipment with one or more energy sources. The only exemption is equipment or machinery that is of a single energy source controlled with a cord and plug.

APM TERMINALS STANDARD 1



Stored Energy

1.5 All written procedures require a verification step to determine the energy sources have been isolated. For example, using a voltage meter to check electrical or bleeding all air out of the system.

1.6 Specific procedures shall be developed (based on a risk assessment process and approval) to mitigate exposure in special cases where it is not possible to achieve a zero energy state, or not possible to use a locking device.

1.7 A procedure shall be in place for isolation involving more than one person (group isolation).

1.8 A procedure shall be in place for transfer (hand-over) of the isolation between personnel and, in particular shift changeovers, this shall be included on the permission to work.

1.9 A system shall be in place which formally documents 'clearances' which allow people to recommence work following the necessity to isolate.

1.10 Formal procedures shall be in place which requires the investigation, reporting and subsequent removal of personal locks or tags by any person other than the owner of those locks/tags.

1.11 The isolation procedures shall be periodically reviewed and documented to ensure that any previously unidentified 'gaps' are identified and rectified.

1.12 A system shall be in place for the management of change of equipment and/or processes for the isolation system, or installed isolations, and shall include specific steps to assess the impact of changes and the risk associated with these changes. This system shall include, but not be limited to:

a. Changes to process conditions.

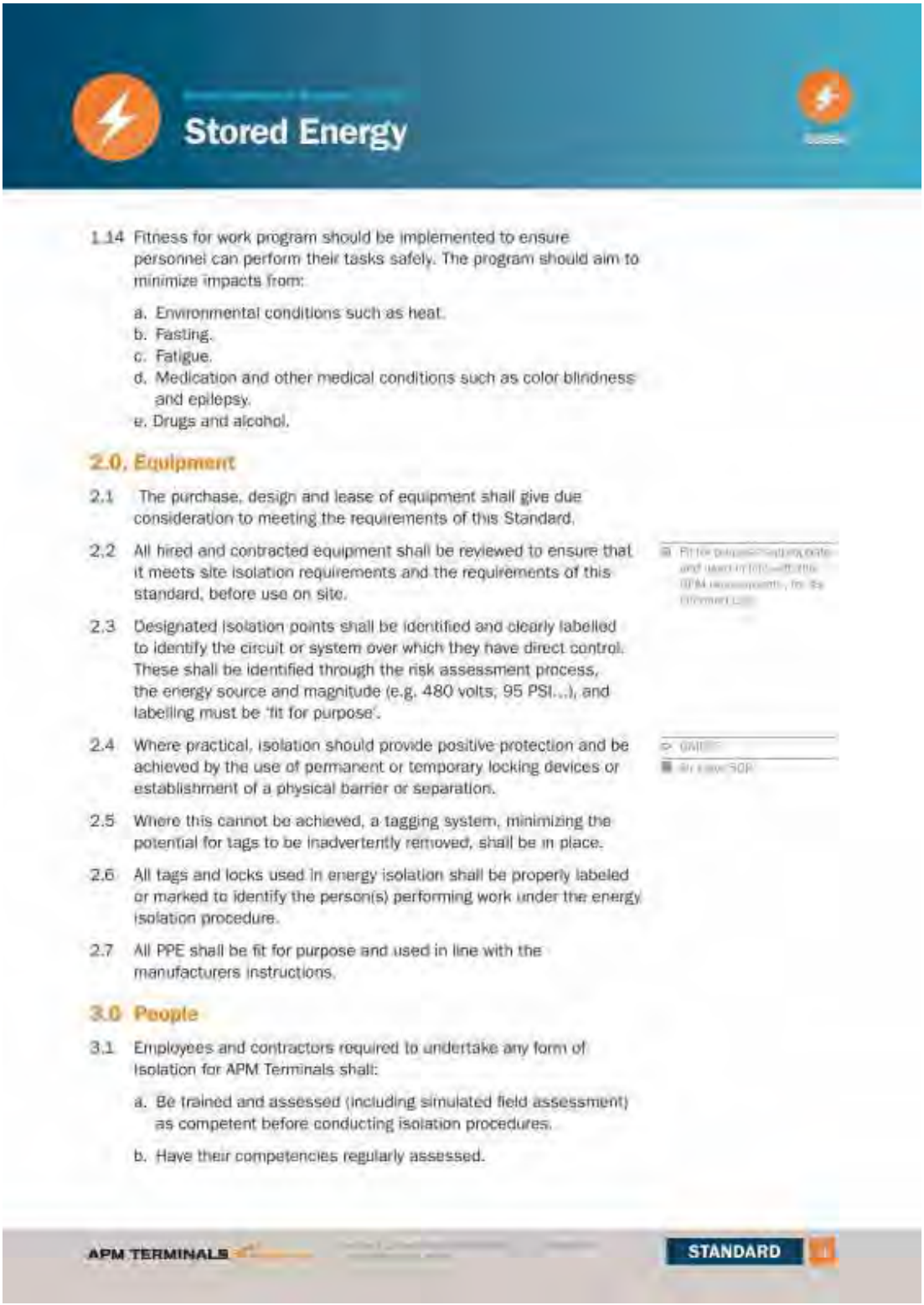
b. Purchase/installation of new equipment.

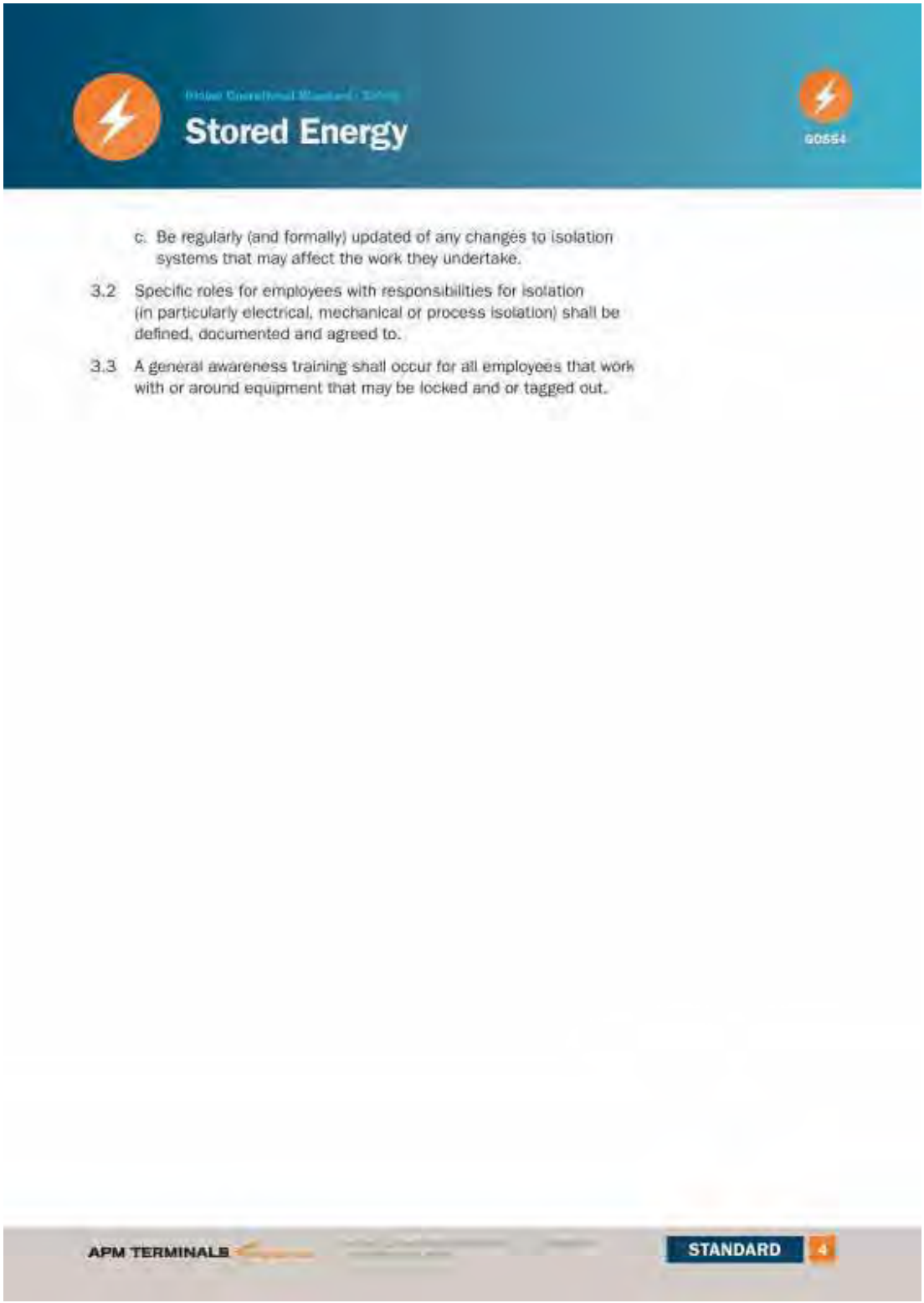
c. Modifications to existing equipment.

d. Internal and external incident findings and learning; and the need for revision of the system and/or guideline and/or additional training.

1.13 All sites working with split rim multi piece assemblies shall comply with global requirements where applicable.

APM TERMINALS STANDARD


Stored Energy
1.14 Fitness for work program should be implemented to ensure personnel can perform their tasks safely. The program should aim to minimize impacts from:
a. Environmental conditions such as heat.
b. Fasting.
c. Fatigue.
d. Medication and other medical conditions such as color blindness and epilepsy.
e. Drugs and alcohol.
2.0 Equipment
2.1 The purchase, design and lease of equipment shall give due consideration to meeting the requirements of this Standard.
2.2 All hired and contracted equipment shall be reviewed to ensure that it meets site isolation requirements and the requirements of this standard, before use on site.
2.3 Designated isolation points shall be identified and clearly labelled to identify the circuit or system over which they have direct control. These shall be identified through the risk assessment process, the energy source and magnitude (e.g. 480 volts, 95 PSI...), and labelling must be 'fit for purpose'.
2.4 Where practical, isolation should provide positive protection and be achieved by the use of permanent or temporary locking devices or establishment of a physical barrier or separation.
2.5 Where this cannot be achieved, a tagging system, minimizing the potential for tags to be inadvertently removed, shall be in place.
2.6 All tags and locks used in energy isolation shall be properly labeled or marked to identify the person(s) performing work under the energy isolation procedure.
2.7 All PPE shall be fit for purpose and used in line with the manufacturers instructions.
3.0 People
3.1 Employees and contractors required to undertake any form of isolation for APM Terminals shall:
a. Be trained and assessed (including simulated field assessment) as competent before conducting isolation procedures.
b. Have their competencies regularly assessed.
APM TERMINALS
STANDARD


Stored Energy
GOSS4
c. Be regularly (and formally) updated of any changes to isolation systems that may affect the work they undertake.
3.2 Specific roles for employees with responsibilities for isolation (in particularly electrical, mechanical or process isolation) shall be defined, documented and agreed to.
3.3 A general awareness training shall occur for all employees that work with or around equipment that may be locked and or tagged out.
APM TERMINALS
STANDARD 4

GOSS5- CONTROL OF CONTRACTORS

Control of Contractors

GOSS5

Purpose

All contractors and sub-contractors shall work in accordance with APM Terminals and site-specific requirements.

Contractors have been involved in a significant proportion of fatal and high potential incidents. Effective compliance with this standard will help prevent/reduce contractors related incidents and shall be demonstrated by:

- Selection of contractors with appropriate experience and standards.
- Contract management; for example, defining responsibilities and use of a formal contract.
- Effective and sufficient monitoring of contractor performance, behaviours and compliance with site rules.
- Effective communication between contractors and those involved in operations.
- Adequate identification and control of hazards and risks.

1.0 Systems

1.1 APM Terminals shall appoint a site representative responsible for managing each contractor or contract.

1.2 Before discussions with any potential contractors, the APM Terminals site representative shall define the scope of works and performance criteria. This shall include identification of hazards, assessment of risks and the accepted risk control measures relevant to the proposed works.

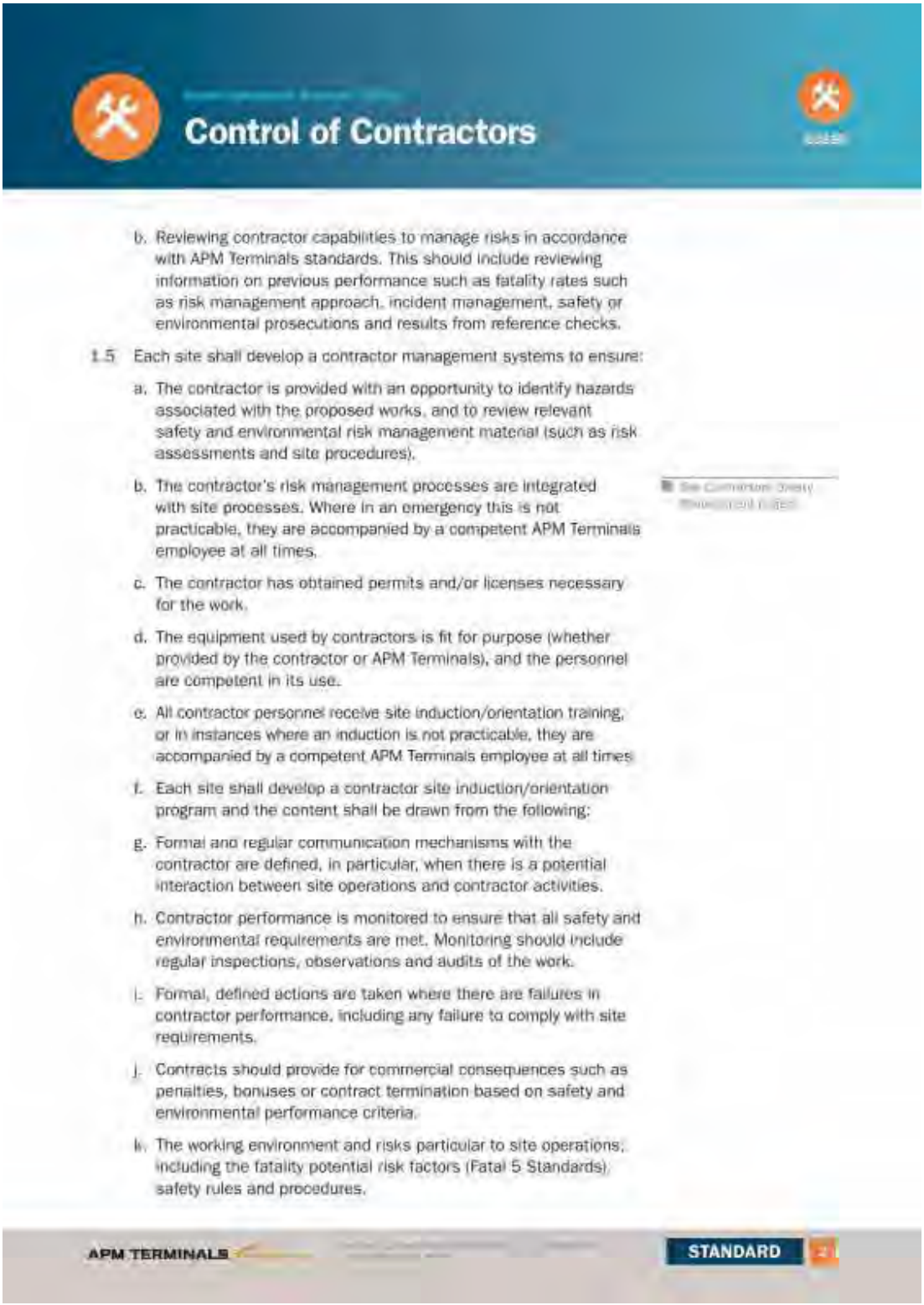
1.3 The rigor used to select and manage contractors is to be based on the potential risks from their work, the risks they may pose to the environment and the risks arising from their interaction with site operations. Special consideration is to be given to exposure of people to any of the Fatal 5.

1.4 Each site shall develop formal selection and evaluation procedures to assess the capacity of potential contractors to meet APM Terminals standards and local regulatory requirements. These procedures shall include:

a. Providing the potential contractor with information on the hazards and accepted risk control measures relevant to the work to be carried out. Where this due to an emergency this is not practicable, they are accompanied by a competent APM Terminals employee at all times.

APM TERMINALS

STANDARD 1


Control of Contractors
b. Reviewing contractor capabilities to manage risks in accordance with APM Terminals standards. This should include reviewing information on previous performance such as fatality rates such as risk management approach, incident management, safety or environmental prosecutions and results from reference checks.
1.5 Each site shall develop a contractor management systems to ensure:
a. The contractor is provided with an opportunity to identify hazards associated with the proposed works, and to review relevant safety and environmental risk management material (such as risk assessments and site procedures).
b. The contractor's risk management processes are integrated with site processes. Where in an emergency this is not practicable, they are accompanied by a competent APM Terminals employee at all times.
c. The contractor has obtained permits and/or licenses necessary for the work.
d. The equipment used by contractors is fit for purpose (whether provided by the contractor or APM Terminals), and the personnel are competent in its use.
e. All contractor personnel receive site induction/orientation training, or in instances where an induction is not practicable, they are accompanied by a competent APM Terminals employee at all times
f. Each site shall develop a contractor site induction/orientation program and the content shall be drawn from the following:
g. Formal and regular communication mechanisms with the contractor are defined, in particular, when there is a potential interaction between site operations and contractor activities.
h. Contractor performance is monitored to ensure that all safety and environmental requirements are met. Monitoring should include regular inspections, observations and audits of the work.
i. Formal, defined actions are taken where there are failures in contractor performance, including any failure to comply with site requirements.
j. Contracts should provide for commercial consequences such as penalties, bonuses or contract termination based on safety and environmental performance criteria.
k. The working environment and risks particular to site operations, including the fatality potential risk factors (Fatal 5 Standards), safety rules and procedures.
APM TERMINALS
STANDARD

l. Traffic management protocols.

m. Requirements for the use of personal protective equipment.

n. Working in isolation or alone

o. Management of hazardous substances, prevention of potential soil contamination and spill response.

p. Waste disposal.

q. Protection of waterways and other applicable environmental conditions.

r. Access requirements including security controls, restricted access areas and site requirements for physically identifying or isolating contractor work areas.

s. Communication mechanisms.

t. Reporting lines.

u. Emergency response procedures.

v. Procedures for reporting hazards and incidents.

w. Works permit procedures.

1.6 Sites shall maintain a list of approved contractors who have demonstrated an ability to conduct their activities in accordance with APM Terminals standards.

1.7 The performance of contractors on this list shall be reviewed at least annually.

1.8 Fitness for work program should be implemented to ensure personnel can perform their tasks safely. The program should aim to minimize impacts from:

a. Environmental conditions such as heat
a. Fasting
b. Fatigue
c. Medication and other medical conditions such as color blindness and epilepsy.
d. Drugs and alcohol

2.0 Equipment

2.1 Mobile equipment and tools used by contractors shall be in safe working order and be under a regular maintenance schedule (whether provided by the contractor or APM Terminals).


Control of Contractors
2.2 Mobile equipment and tools used by contractors shall be fit for purpose and comply with the relevant requirements of the APM Terminals Fatal 5 Standards.
3.0 People
3.1 APM Terminals employees with responsibilities under the Contractor Management Plan shall receive training and be deemed competent in these areas.
3.2 Contractors shall be trained and hold the appropriate licenses/ certificates for all plant and equipment they operate.
APM TERMINALS
STANDARD 4

APPENDIX B- BID PACKAGE: REQUEST FOR INFORMATION

As part of the contractor's proposal and bid, the following safety-related information may requested from the contractor by Port Pipavav:

		YES	NO
Respect for laws and regulation			
1	Are you in Compliance with required Indian and international standards?		
2	Do you have HSE certificates ISO 9001 and ISO 14001		
3	Do you have HSE certificates like OSHAS 18001		
Responsibilities of Management			
4	Do you have Corporate HSE Policy, HSE Management System		
5	Do you have HSE organization chart (with names), job description, …		
6	Do you have Site communication organization plan (safety instructions, HSE meetings, site talks…)		
7	Do you have HSE induction document		
Operational procedures			
8	Do you have HSE manual (including site operational procedures.)		
9	Do you have Permit to Work System		
10	Do you have Work at height procedure		
11	Do you have Lifting and handling procedure		
12	Do you have Document control system		
13	Do you have Nomination of Site HSE responsible		
Risk evaluation and mitigation plan			
14	Do you have General hazards identification (listing), job risks assessment and mitigation plan		
15	Do you have Specific operational risks relating to Project service and mitigation plan		
16	Do you have Housekeeping procedure		
Respect for the Environment & Sustainable Development			
17	Do you have Environmental plan (waste reduction, water/air/soil management, antipollution plan..)		
18	Do you have Waste management plan		
19	Do you have Sustainable Development plan, actions		

		YES	NO
Safeguarding of Health			
20	Do you have Health and hygiene preparedness (medical fitness, capacity certificate, hygiene plan…)		
21	Do you have Personnel protective equipment (Identification of requirement, Availability and Use)		
22	Do you have an Identification and management procedure of dangerous substances		
23	Do you have Fire prevention/protection equipments		
24	Do you have Alcohol, drugs & smoking policy		
25	Do you have Driving policy and measures		
Contractors and suppliers			
26	Subcontractor evaluation system, close-out evaluation, contract HSE requirements (example.)		
27	Contractor inspection & audit plan		
Personnel competency and training			
28	Do you have Competence identifying and training plan		
Emergency preparedness			
29	Do you have Emergency preparedness procedures, evacuation plan, firefighting, planned drills		
Incident analysis			
30	Do you have Incident/accident report system		
31	Do you have Investigation & action follow-up system		
32	Do you have Anomalies reporting system		
Audits & inspections			
33	Do you have Audits and inspections system		
HSE Indicators & Performances			
34	Do you have Follow-up action plan, HSE improvement plan, incentive plan.		
35	Do you have Goals & objectives system, targets and history (at least for the last 3 years)		
36	Do you have Lagging indicators reported: Lost Time Injury Frequency LTIF, Total Recordable Incident Rate TRIR, Severity Rate SR, high potential Near Miss Incidents NIM and others…		

Attachment to be provided:

HSE Certificates

HSE Policy and HSE Management System (Table of Content)

HSE Organisation chart with names

HSE induction document

Permit to Work system description

Waste management plan

Safety indicators for the last 3 years

APPENDIX C – SAFETY EVALUATION: INJURY & ILLNESS RATES

Port Pipavav requires a record be kept of all injuries and illness arising from the work. They include:

a. Fatalities
b. Lost Time Accidents, including the number of days lost
c. Restricted Workday Cases including the number of restricted days
c. Medical Treatment Cases
d. First Aid Cases
e. Near misses

The total number of employee-hours worked during the year or contract duration shall also be recorded and the contractor can easily compute above incidence rates by using the following formula:

$$\frac{\text{No of LTI} \quad X \quad 1000000}{\text{Man-hours worked}}$$

Port Pipavav will obtain data on incidence rates from prospective Contractors as one element of measuring reactive safety performance.

APPENDIX D – INJURY AND ILLNESS PERFORMANCE REPORT

(The following questionnaire will be used to collect actual injury and illness performance data for work being performed on Port Pipavav contracts.)

Injury and Illness Performance Report

Provide your actual injury and illness data, as developed from your injury and illness safety statistics for the time period specified below.

Contractors name: ----------

Time period for data (give dates): ---------- to ----------

Job location and identification: ----------

Total man-hours worked during period: ----------

Item	**Number**
Fatalities	----------
Lost Time Injury (LTI)	----------
Total Man-hours worked	----------
LTIF (Frequency/Rate)	----------

Formula: $\frac{\text{No of (LTI)} \times 1000000}{\text{Man-hours worked}}$

Signed: ---------- Date ----------

APPENDIX E – SAFETY INDUCTION

Each person who enters Port must undergo Safety induction. Port has established training centers inside and outside the Port to ensure adequate and smooth safety training. On successful completion of Safety training, a photo Safety pass issued with a validity date, once the validity of the Safety pass expires he/she must undergo the training again.

The following topics should be considered as part of a contractor's safety induction. The choice of topics for an induction is based on the type of work to take place and the duration of the project.

a. Emergency Response Plan: The plan contains procedures that are to be followed if a serious occupational injury or illness, a fatality, a structural failure, a fire, an environmental release, or any other emergency occurs.

b. Work authorisation system: This system is the Contractors written procedures for work permits and authorisation for such activities as hot work, entry to confined spaces, and control of hazardous energy sources.

c. Incident notification: Recordable injuries and illnesses, accidents, and damage or significant changes to process equipment need to be reported to Port Pipavav.

d. Accident investigation: Accident investigation reports need to be completed and given to Port Pipavav Safety Manager promptly, as specified in the contract. Accident investigations will be conducted on all or some of the following:

1. Fatalities (mandatory)
2. Lost Time Accidents (mandatory)
3. Restricted Workday Cases (mandatory)
4. Near misses.
5. Damage to company property or materials
6. Environmental damage

e. Contractor safety training: Port Pipavav requires the contractor to provide safety and health training for certain areas. The contractor should identify these in writing and present them to Port Pipavav before the job is started. Documentation of completed training is considered mandatory and should he available to Port Pipavav upon request. Examples of contractor training topics may include the following:

1. Hazard communication
2. Personal protective equipment
3. First aid and cardiopulmonary resuscitation (CPR)
4. Fire prevention and protection
5. Crane operations
6. Hot work and welding
7. Entry to confined spaces
8. Walk and work surfaces
9. Abrasive blasting
10. Housekeeping
11. Hazardous waste operations and emergency response plan

12. Work permits
13. Respiratory protection
14. Scaffolding requirements
15. Control of hazardous energy sources
16. Warning signs, signals, and barricades
17. Emergency evacuation and emergency medical assistance
18. Reporting and correcting hazards
19. Periodic documented safety inspections
20. Hazards of substance abuse
21. Fall protection

f. Policy on alcohol and drugs: This policy may include testing, search, and disciplinary provisions that are required by Port Pipavav and contractor.

g. Correction of safety hazards: Instructions should be communicated about corrective action for any safety hazards that may arise. Specific instructions on the need for immediate correction of imminent hazards should also be provided.

h. Effects of poor job safety: Poor safety performance on site by the contractor an result in personal injury, property damage, and delays and have an impact on the Contractors ability to secure work from Port Pipavav. Port Pipavav will ensure that contractors employees are aware of the importance of complying with the provisions of the contract and all applicable safety, health, and fire rules.

i Attendance at safety meetings: How contractor safety meetings are conducted and how often they are held should be discussed; mandatory attendance should be emphasized.

APPENDIX F – SAFETY PROGRAM CHECKLIST

APM Terminals Contractor Safety Assessment			
		Yes/No	**Remarks**
Identifying hazards and assessing the risks for Contractors			
1	An APM Terminals business unit representative is accountable for managing and supervising each contractor		
2	An APM Terminals business unit representative defines the scope of works and performance criteria before discussions with potential contractors commence		
3	An APM Terminals business unit representative identifies key hazards and risks posed by the interactions between operations and the proposed works, and also arising from only the proposed works		
4	Risk management principles have been applied to all contracted works		
5	APM Terminals business unit has a predefined process to validate the competences of contractors performing high risk activities		
Selecting Contractors and risk profiling			
6	The rigor with which contractors are selected and managed is linked to the risks associated with the contracted works		
7	Potential contractors are provided with information on hazards and location risks		
8	Contractors are assessed on their capacity to meet APM Terminals HSSE standards and regulatory requirements prior to engagement (previous history and reference checks are reviewed)		
9	A list of approved contractors is maintained		
Managing Contractors			
10	All contractor employees have successfully completed an APM Terminals safety induction		
11	Before contracted work begins, scope of work is reviewed to be still in line with original scope		
12	Contractors are required to identify hazards associated with proposed works		
13	A toolbox talk is conducted with contractors prior to start of work (in shift)		

14	Contractor risk management processes are integrated with APMT site processes		
15	A Permit to Work system is in place according to APMT standard		
16	APMT Work Permit roles have been clearly defined, trained and authorized throughout the organization		
17	Individual contractors hold relevant permits to work and/or licenses		
18	Equipment used by contractors is being maintained according to original equipment manufacturer standards (being audited by APM Terminals staff)		
19	There are formal and regular communication mechanisms between APM Terminals representatives and the contractor		
20	Contractor performance is monitored (inspections, observations, audits) with a predefined "evaluation of performance" process agreed and understood by the contractors		
21	Contractors are supervised regularly through a predefined method		
22	Failures in contractor performance are addressed through formal, defined actions		
23	Performance of contractors on the approved list is reviewed at least annually		
General			
24	Total number of contracted hours YTD		
25	Number of incident with contractors YTD		

Global Technical Function

Specifications

Project HSE Specification

APMT-GTF-SPC-01

Version 9.0
24-May-2017
23 Pages

Lifting Global Trade.
APM TERMINALS

Revision History

Revision	Date	Description
2	08-02-2008	First issue of Health and Safety during APMT Construction
4	22-11-2012	Draft Construction Safety Specification
6	25-09-2013	Issued as Construction Safety Specification
7	24-04-2015	Updated Construction Safety Specification
8.1	11-04-2017	Re-drafted, based on previous CSS (Construction Safety Specification) rev. 7
8.2	13-04-2017	Second draft after DCL review
8.3	24-04-2017	Third draft after input by AWO
8.4	28-04-2017	Further modifications after input DCL, AWO and PGB
8.5	03-05-2017	After review by KBE
8.6	08-05-2017	After discussion DCL, AWO and PGB
8.7	10-05-2017	After AWO and KBE second review
8.8	15-05-2017	After PDU and MKO review
8.9	24-05-2017	After MRE and NMI review

Revision Status

Revision	Description	Issue Date	Prepared By	Checked By	Approved By
9.0	Publication after review & input by HSE and GTF	24 May 2017	PGB005	KBE072	MRE097

Table of Contents

1 Introduction

This specification describes the detailed health, safety and environmental requirements related to the supply of products and services to an APMT project Site.

The client organisation of APMT (Employer) is committed to being a leader in health, safety and environmental management. It promotes and integrates good HSE performance as a core element in planning, design and construction to achieve its aim of 'Safety for Life'.
Please make reference to Appendix A for the APMT HSE Policy.

2 Purpose

This document is annexed to a contract or agreement, hereafter referred to as Contract.

Our vision is to prevent illness, injury, business losses and environmental harm on our premises, and at our projects.
We will engage with our employees, partners and suppliers so that everyone is enthusiastically involved in managing risk, acting as a champion for our realistic and practical vision across all countries and regions that we operate in.

APM Terminals' commitment to safety translates into:

i. License to operate;
ii. No hierarchy;
iii. No compromise;
iv. Not optional.

3 Scope

This specification is applicable for works executed on the project Site by any contracted parties such as contractors, sub-contractors, manufacturers, suppliers, etc., hereafter referred to as **Contractor**.

The specification applies to all projects contracted by APM Terminals, from the moment the Contractor is given access to Site.

4 Responsibilities

It is the responsibility of the Contractor to comply with all provisions of the Contract and this specification.
This document is owned by APMT Global Technical Function (GTF) - Asset Delivery.

5 Glossary

5.1 Definitions

Term	Description
Contractor	Construction contractor(s), sub-contractor(s), supplier(s), manufacturer(s)
Contract	A contractual agreement made between Employer and Contractor
Site	The place(s) specified in the Contract for the project
Visual Standards	Visual HSE Instruction Booklet
Safety for Life	APMT Safety slogan

5.2 Abbreviations

Term	Description
APMT	APM Terminals
HSE	Health, Safety & Environment
GTF	APMT department: Global Technical Function
FIDIC	Federation Internationale des Ingenieurs-Conceils (International Federation of Consulting Engineers)
OHSAS	Occupational Health and Safety Assessment Series (BS OHSAS 18001 = British Standard for occupational health and safety management systems)
ISO	International Standards Organisation
HSEMP	HSE Management Plan (project specific)
EIA	Environmental Impact Assessment
PPE	Personal Protective Equipment
SFR	Standard Functional Requirements
HiPo	High Potential Incident
HSI	High Severity Incident
LTI	Lost Time Injury

5.3 Referenced Documentation

Code #	Title
OHSAS 18001	British Standard for occupational health and safety management systems
ISO 14001	Environmental management system standard

6 HSE Management Systems

6.1 General Requirements

The Contractor shall have in place, dedicated health, safety and environmental management systems that ensure that appropriate standards of health, safety and environment are maintained.
The Contractor shall implement policies, procedures and an appropriate culture to meet these requirements.

The Client requires the Contractor to strive for OHSAS 18001 and ISO 14001 Certification or agreed equivalent where the Contractor is engaged in projects related to APMT.

6.2 Risk Management

The Contractor shall identify Health, Safety and Environmental risks prior to exposure.

Amongst other elements of the risk assessment, the Contractor shall apply the 'hierarchy of controls' (ref. below Figure 1 as an example, and Appendix B for further explanation) making all reasonable attempts to eliminate risk, if not to mitigate exposure to prevent injury or harm to people and/or the environment.

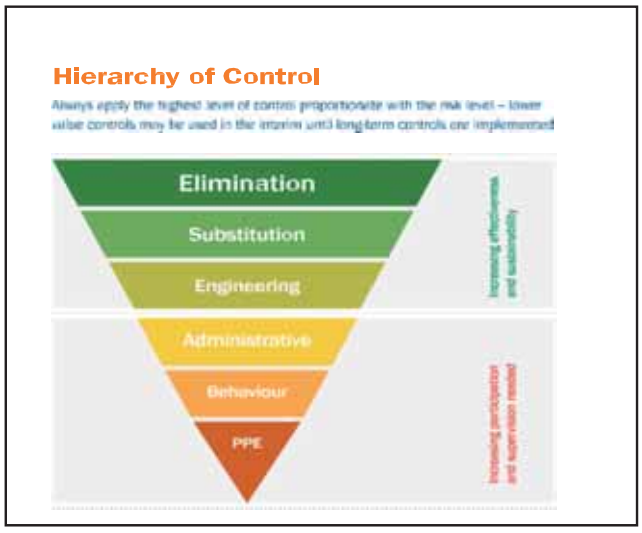


Figure 1 - Hierarchy of controls - ref. Appendix B

The Contractor shall have in place a mechanism to manage the risks that cannot be eliminated by:

a. Identifying any hazards associated with its delivery and assess the associated risk;
b. Implementing measures to eliminate or mitigate the risk;
c. Communicating the required control measures to any persons who may be exposed;
d. Continually reviewing the performance of these control measures.

6.3 HSE Management Plan

The Contractor shall within two weeks after entering into the Contract Agreement - but prior to the Commencement Date - submit a **site specific HSE Management Plan (HSEMP)** for the approval of the Employer and Engineer.

The Works shall not commence until the Engineer and Employer have accepted the HSEMP.
The Contractor shall implement the accepted HSEMP.
The HSEMP typically contains the elements provided in Appendix C.

The HSEMP shall remain a "live" document and be proactively reviewed, revised or extended by the Contractor throughout the Works as required.

The HSEMP will be project site specific, and will be linked to the risk management system as explained in par. 6.2.

The Contractor shall unconditionally make the HSEMP available to all parties or authorities requiring the information recorded therein.

6.4 Sub-Contractor and Supplier Management

The delivery of the works, services, or materials by parties as sub-contractors or suppliers to APMT or a contractor, presents a significant risk to APMT and the project.

Therefore the Contractor shall have in place robust mechanisms to manage their contractors. These shall include as a minimum:

a. Systems and processes for assessing the health and safety capability of contractors;
b. Contractual agreements that reflect and flow down (back-to-back) the Contractor's obligations to APMT;
c. Where appropriate the inclusion of performance management mechanisms within the contract between the Contractor and its contractors;
d. Methods to communicate and monitor the compliance of contractors delivery against APMT Project HSE Specification;
e. Assuring systems are in place for the regular review of health, safety and environmental performance of its contractors. This shall be considered as part of the overall performance of its contractors.

6.5 Leadership

The Contractor shall demonstrate HSE management commitment to compliance with legal and regulatory requirements and to the application of the HSEMP.

The Contractor shall conduct periodic and planned HSE leadership reviews which shall be aligned with the following management responsibilities:

- The Contractor shall define, review and communicate to the workforce how the HSEMP will enable continuous risk reduction and performance improvement and, responsible and reliable operations;
- The Contractor shall demonstrate management commitment to compliance with legal and regulatory requirements, to the application of the HSEMP, and to conformance with APM Terminals requirements;
- The Contractor shall model behaviours by personal example that reinforce continuous risk reduction and performance improvement, and conduct frequent leadership site reviews to verify that risks are identified, understood and managed.

6.6 Access to Competent Advice

The Contractor shall appoint sufficient HSE resources to provide advice and monitor implementation of the HSEMP to safeguard the safety of Contractor's Personnel, Equipment, Plant, Materials and Facilities.

The HSE team members shall be professionally qualified, allowed to liaise with the Engineer and authorised to issue HSE related instructions during the Works and on Site.

Roles and responsibilities with respect to the delivery of health, safety and environment management are clearly defined throughout the Contractor's organisation.

The HSE team members shall be proficient in English and at least one of the other languages spoken on Site.

The Contractor's senior site- and corporate management shall demonstrate their commitment to robust HSE management by their monthly participation in corresponding walkabouts, audits, toolbox talks, training and events.
Such events shall introduce specific HSE themes and address corresponding high risk topics.

6.7 HSE Monitoring and Assurance

The performance of contractors and suppliers will be monitored by a combination of the regular internal HSE activities and reporting, auditing by the Employer and Engineer, and - where appropriate/required by independent bodies - to validate and verify the reports.

This shall include but not be limited to:

- Monthly reports by contractors and suppliers;
- Audits of work activities and processes, by contractors, suppliers, the Employer and Engineer;
- Other indicators such as the speed, rigour and comprehensiveness of incident investigations and the speed of corrective actions taken following investigations.

APM Terminals and the Contractor shall implement a joint programme of HSE performance reviews to assess Contractors' effectiveness in HSE Management and in meeting the HSE requirements of the project.
These reviews shall include but not be limited to:

a. Implementation of the HSEMP;
b. Subcontractors and suppliers HSE performance;
c. HSE performance and deviations;
d. Spend on HSE activities.

The Contractor shall be responsible for the planning and scheduling of these reviews. Attendance at these reviews shall be defined and mutually agreed in the HSEMP.

7 Site Control

7.1 HSE Induction

All present on site will have to receive a HSE Induction.
Contractors, suppliers, the Employer, the Engineer, authorities, third parties and visitors shall only be allowed to enter the Site after being inducted.

The HSE Induction shall as a minimum consist of:
- Explanation of the site layout;
- Site-specific rules and HSE training;
- Emergency procedures;
- APMTs Construction Safety Focus Areas (ref. Appendix D);
- Site-specific risks and mitigation measures (ref. par. 6.2);
- Emergency procedures;
- Handing out and explanation of the Visual Standards (ref. Appendix E);
- Personal registration;
- Personal protective equipment (PPE) issuance and instruction.

The use of multimedia to present is encouraged.
The induction shall be made available in English and the other languages spoken on Site.

Records of all HSE inductions shall be retained for verification and auditing purposes.

The competence of personnel will be verified. Safety critical workers will be identified.

Drugs and alcohol testing shall be completed (subject to local legislation). Contractor personnel shall disclose any prescription or over the counter medications they are taking. This allows the Contractor to individually assess the inductee to ensure they are safe to complete tasks and will not injure themselves or others.

When all the above is completed a personal site pass will be issued.

7.2 Access Control

The Contractor shall be responsible for controlling access to and from the work area.

In the event that the site is exclusively controlled by one contractor, its own access control will be sufficient.
In the event of multiple contractors, a joint 'Contractor Coordination Office' shall implemented and managed by APMT or by one of the contractors.

The Contractor shall identify and register all Personnel, Equipment and Plant entering or leaving the Site.

It shall be verified that all individuals entering the site have passed the HSE Induction (ref. paragraph 7.1) and are in possession of the Visual Standards and their adequate PPE.

All Equipment and Plant entering the Site shall be technically inspected and original certificates verified, in accordance with the Contract.
24 hour contact information shall be cited at regular intervals on the site hoarding to allow anyone needing to gain access to relevant information.

The Contractor shall safeguard during the Works and on Site the complete and physical segregation (e.g. fully fenced off, equipment and pedestrian proof) of construction and operational areas.

Signage will be prominently displayed around the inside and outside of the Site (and at all entry points). Signage should be visible, clean and maintained sufficiently.
Relevant signs shall inform of the dangers of construction sites. This shall be done through the use of Visual standards and if applicable text in both English and local language(s).
For a typical example, refer to Appendix F.

7.3 Method statements

The Contractor is expected to prepare Method statements for all tasks to be executed under the Contract. Method statements have to be included in the HSEMP (ref. par. 6.3).

These method statements shall include but not limited to:

- Description of the activity;
- Risk assessment (ref. par. 6.2);
- Equipment to be used;
- Critical personnel and their roles;
- Specific measures to eliminate or mitigate risks.

In the event of non-routine activities, the Contractor together with the Employer shall jointly set up a project specific 'Permit to Work' system.

7.4 Equipment

All equipment, plant, materials and facilities shall be **maintained, tested, inspected and certified**, as required, prior to their use on Site and during the Works.

Only authorised, competent and dedicated personnel shall be allowed to operate and carry out such maintenance, tests, inspections and certifications.

Records of regular maintenance, tests, inspections and certifications shall be retained on Site and be made available immediately upon request.

7.5 Emergency Procedures

The Contractor shall have clearly defined and displayed emergency procedures at the gate(s), reception, and entry of each building and work station.

These procedures shall explain what should be done in the event of an accident, fire, evacuation or other emergency conditions. As a minimum it shall include:

- Emergency contact details,
- Locations of firefighting and first aid equipment,
- Evacuation routes,
- Muster points.

The Contractor shall make and maintain arrangements whereby Contractor's Personnel can be mobilised outside normal working hours to carry out any Works in case of emergencies.
The Contractor shall provide and maintain a means of emergency access to the Works or Site in agreement with the relevant emergency services or authorities.

8 Health and Safety

8.1 Input to HSEMP

Health and Safety related input shall be integrated into the contractors' site specific HSEMP (refer to paragraph 6.3).

8.2 Performance Monitoring and Reporting

The Contractor shall submit a monthly, digital safety report to the Engineer including, but not limited to, the following:

i. Number of man-hours worked;
ii. Number of fatalities;
iii. Number of high severity incidents;
iv. Number of high potential incidents;
v. Number of lost time injuries;
vi. Number of near misses.

The definitions for performance reporting will be made available at project level, based on the APMT in-house process for HSSE performance monitoring and reporting.

8.3 Incident Notification, Investigation and Reporting

In case of Fatality, High Potential Incidents (HiPo), High Severity Incident (HSI) or Lost Time Injury (LTI), the Contractor shall immediately give notice to the Employer and Engineer and comply with the statutory requirements prevailing in the country of the Site.

The Contractor shall also undertake, as a minimum requirement, the following:

a. Emergency or first aid response (as applicable);
b. Scene securing;
c. Immediate evidence gathering (photographs, equipment logs, interviews, etc.);
d. Incident statement;
e. Investigation planning;
f. Investigation (scene visit, drawings, photographs, records' check, interviews, equipment tests, etc.);
g. Analysis including root cause identification;
h. Reporting (investigation method, incident description, time sequence, immediate causes, underlying causes, root causes, recommendations);
i. Corrective actions;
j. Review and close-out meetings.

In the event that a serious incident occurs the Project Specific Reporting protocol from the HSEMP will be followed. Therefore, if a serious incident occurs having the potential to directly affect APMT, it will have to be reported to meet the timeline indicated in Table 1 below.
The categories of incidents are described in Table 2 below.

The project- or terminal Managing Director shall notify in the following ways:

Type of Incident	Initial Notification	Investigation Report and Learning Pack
Fatality	Immediate to SMT Member and to Heads of HSSE and Global Technical	Within 28 days (where possible)
High Severity	Immediate to SMT Member and to Heads of HSSE and Global Technical	Within 28 days
High Potential	Within 24 hours to SMT Member and to Heads of HSSE and Global Technical	Within 28 days

Table 1 - Incident reporting timelines

Type of Incident	Description
Fatality	A death directly resulting from a work-related injury regardless of time between the injury and death.
High Severity Incident (HSI)	Work-related Lost Time Injury which had the potential to cause a serious/extensive injuries (e.g. permanent disability/ amputations and/or requiring resuscitation), or a fatality
High Potential	Incident which had the potential to result in: • Serious/extensive injuries or a fatality. • Spill of hazardous materials with volume >10,000 l or mass >10,000 kg
Lost Time Injury (LTI)	Work-related injury which results in a person being unfit for work on the day or shift after the day of occurrence of the occupational injury. This 'day' includes rest days, weekends, leave days, public holidays or days after ceasing employment.
Near Miss	An event that had the potential to cause human injury, environmental or equipment damage, or an interruption to normal operation.

Table 2 - Type of Incidents

Contractor(s) will co-operate with APMT in the investigation of all serious incidents and all details related to incidents and investigations will be shared with APMT.

8.4 Competence

Training and competence is essential to ensuring the safe delivery of high risk tasks, therefore as a minimum the Contractor shall ensure that the following is applied:

- That every person conducting work for or on behalf of APMT has received appropriate training for the task they are designated to undertake;
- Mechanisms are in place to ensure that high risk tasks are only completed by those that are trained and competent e.g. working at height, driving and lifting operations. This shall include permit to work systems where applicable;
- Training shall be fit for purpose for high risk tasks, meaning that it shall be in an appropriate language and delivered via appropriate means for the target audience;
- Appropriate training records are available for inspection by APMT at any time.

8.5 Engagement

The Contractor shall engage with its employees on a regular basis. Engagement can take place during start of shift briefings, tool-box talks, safety meetings and safety walkabouts:

- A start of shift briefing shall be held to ensure employees are informed. Explicit use shall be made of the large warning board required at every work station. Each safety talk shall be duly documented by the Contractor;
- A monthly programme of Tool Box talks will be planned and maintained through the works ensuring relevant topics are addressed at the appropriate time;
- A monthly safety meeting is held involving all relevant parties to allow management to engage, share, learn and consult with employees about safety topics. Records should be kept of such;
- A weekly joint safety walkabout will be led by the Contractor immediately after safety meetings with the Employer and the Engineer to discuss the above safety reports and any other health and safety issues as necessary.

8.6 Health

The Contractor shall be responsible to maintain health and safety standards at Site.
The Contractor shall take a pro-active approach focussed on preventing an unhealthy and unsafe work environment.

The Contractor shall provide and maintain at each main area of the Site **first aid** and **lifesaving** appliances and equipment. All such facilities shall be for the use of the Contractor's and Employer's Personnel.

Contractors shall have adequate numbers of Personnel trained, certified and skilled in giving first aid and using lifesaving appliances and equipment. The Contractor shall assure that at all times there are sufficient numbers of first aiders present on Site.

The Contractor shall ensure that an ambulance service is available at the Site ready for immediate use and suitable for emergencies, first aid, life support and pre-hospital care.

The Contractor shall also make appropriate arrangements with nearby medical facilities or hospitals to ensure the efficient evacuation of injured Contractor's and Employer's Personnel.

8.7 Personal Protective Equipment

Contractors will identify HSE risks, eliminate these where possible, and develop a safe system of work where they cannot be eliminated.

As a last line of defence, the provision of personal protective equipment (PPE) is required. This shall be adequate to the works and provided PRIOR to work commencing.
Personnel shall be adequately trained and orientated in the use of their adequate PPE and know what to do in the event that they have a concern.

The Contractor shall provide PPE free of charge, store and maintain such PPE to an international standard, and conform to local regulations.

8.8 Transportation

The Contractor shall evaluate and manage transportation risks appropriate to the site and where applicable covering land-, sea- and air travel, to prevent injury to people and/or loss or damage to equipment, property or the environment.

The contractor shall systematically identify transport hazards, assess risk, and implement and maintain risk reduction measures identified as necessary to manage the risk.

Transport Hazards include but are not limited to road motor vehicles, bicycles, rail, ship, and aircraft travel, and community impacts.

Every effort will be made to keep pedestrians safe, inside vehicles, and off haulage roads.

Transportation specific signage will be prominently displayed around the inside and outside of the Site, at all entry points.

9 Environment

9.1 Input to HSEMP

Environmental plans and procedures shall be integrated into the Contractors' HSEMP.

The Contractor shall develop and implement management plans and procedures to meet relevant APM Terminals, legal and regulatory requirements including environmental commitments included in the project Environmental Impact Assessment (EIA).

The Contractors' plans and procedures shall avoid, minimise or mitigate those environmental impacts assessed as being relevant to their work, including:

a) Impacts as identified through APM Terminals or competent authority produced EIAs, and other technical studies,
b) Environmental aspects and impacts as identified through APM Terminals or the Contractors' HSEMP.

Environmental plans and procedures shall be integrated into the Contractors' HSEMP.

Where APM Terminals has previously completed EIA(s), they will provide the Contractor with a list of mandatory environmental commitments and requirements (stipulated in those EIAs) which the Contractor shall deliver or meet as appropriate.

Where the project work includes activities that APM Terminals considers of particular significance to environmental issues, APM Terminals shall, as considered appropriate, advise the Contractor of necessary additional specific responsibilities and requirements.

9.2 Performance Monitoring and Reporting

The Contractor shall submit a monthly, digital Environmental report to the Engineer including, but not limited to, the following (where applicable to the project scope):

i. Spills of Hydrocarbon-based Liquids and Chemicals (Number and Volume in litres);
ii. Fuel Use by type (e.g. IFO, LPG, Diesel) (metric tonnes per type);
iii. Grid Energy Consumption (i.e. Electricity and/or District Heating) (kWh/Gj);
iv. Refrigerants Used by Name (e.g. R-22, R-134a) (metric tonnes);
v. Water Use and Wastewater Discharges:
    a. Water Use by Source (Municipal Supplies, Surface- and Ground-water Abstractions, Rainwater Harvesting) (litres);
    b. Wastewater Discharges by Location (e.g. treated and discharged at site and/or to municipal sewers) (litres);
vi. Waste Generation (metric tonnes, % recycled):
    a. Non-hazardous Waste generated by stream (metric tonnes, % recycled);
    b. Hazardous Waste generated by stream (metric tonnes, % recycled).

The definitions for performance reporting will be made available at project level, based on the APMT in-house process for HSSE performance monitoring and reporting.

9.3 Incident Notification, Investigation and Reporting

In case of a hydrocarbon-based liquid or chemical spill >10 litres, release of a fuel gas or refrigerant >1kg, or a regulatory non-compliance, the Contractor shall immediately give notice to the Employer and Engineer and comply with the statutory requirements prevailing in the country of the Site.

The Contractor shall also undertake, as a minimum requirement, the following for spills between 10 and 100 litres in volume, and gas releases between 1 and 10kg in mass:

a. Emergency or first aid response (as applicable);
b. Scene securing;
c. Immediate evidence gathering (photographs, equipment logs, interviews, etc.);
d. Incident statement.

Where a hydrocarbon-based liquid or chemical spill occurs >100 litres, where a gas release >10kg occurs, or where it is identified there was the potential for such a quantity, or a regulatory non-compliance occurs, the Contractor shall additionally:

e. Plan and undertake an investigation (including scene visit, drawings, photographs, records' check, interviews, equipment tests, etc.);
f. Compliance incident analysis including identification of initiating factors and root causes;
g. Document and formally issue Incident Investigation (investigation method, incident description, time sequence, immediate causes, underlying causes, root causes, recommendations);
h. Identify, assign, track and close-out of all corrective actions in a timely manner.

In the event that a severe incident occurs a Project Specific Reporting protocol will be agreed. A severe incident is defined as a spill of >10,000 litres of hydrocarbon-based fluids or chemicals, >1,000kg release of fuel gas or refrigerant, a regulatory non-compliance with risk of higher regulatory penalty (e.g. civil penalties, criminal proceedings, loss of license to operate).

Contractor(s) will co-operate with APM Terminals in the investigation of all severe incidents and all details related to incidents and investigations will be shared with APM Terminals. The Contractor acknowledges these will be shared with APM Terminals Corporate HQ.

10 External audits

The Contractor shall appoint external, registered, competent, independent and international auditors to carry out half-yearly HSE audits of the Site and Works.

The Employer shall also be entitled, at any time, to carry out their own HSE audits of the Site and Works.

The findings of the external audits shall be unconditionally and immediately shared with all Parties on Site and cascaded to all Contractor's Personnel.

11 Cost and Payment

The Contractor shall be responsible for the procurement, operation, maintenance, removal and disposal of all HSE related equipment, plant, materials and facilities.

The Contractor shall also be responsible for the recruitment, training, management, removal and replacement of their HSE related staff.

Any cost or time impact as result of this fulfilment shall be for the account of the Contractor. All such cost shall be deemed to be included in the total Contract Price.

If requested or required the Contractor shall detail the cost of HSE provisions in a corresponding Bill of Quantities.

12 Legal and Regulatory Compliance

The Contractor shall identify and document all applicable legal and regulatory HSE requirements for the Site. The Contractor shall take all necessary means to identify compliance tasks to meet and comply with these laws and regulations.
Evidence of completion of these compliance tasks will be retained and be immediately available for review.

13 Consequences

The fulfilment of all provisions in this document specified shall not relieve the Contractor of any of his duties or responsibilities.

Violation of this Specification by the Contractor shall result in a HSE warning.
Accretion of three warnings shall lead to the immediate, unconditional and indefinite removal of the corresponding personnel from Site.

The Employer and Engineer shall have the right to order an immediate halt to any activities or circumstances that are deemed to be a risk to the environment or to the health or safety of Contractor's Personnel, visitors, adjacent communities, the Site or the Works.

The Contractor shall resume the Works only after receiving a corresponding instruction from the Engineer.

Appendix A APMT HSE Policy

Health, Safety, Environment Policy

Objectives

We do not accept that incidents and injuries are part of our business.

We will not compromise our health, safety and environmental performance for profit or production.

We hold our leaders accountable for the health, safety and environmental performance of our business.

We expect our managers and supervisors to provide effective leadership whilst recognizing that good HSE behavior is the responsibility of all those who work for us.

We focus on the prevention of incidents before they happen by proactive risk assessment and mitigation using the hierarchy of controls.

We strive for a no-blame culture but cannot accept intentional neglect or disregard for our HSE rules.

All APM Terminals companies must manage HSE in line with this Policy irrespective of whether it concerns our own employees, contractors or any other external parties working on or visiting any of our facilities.

Every APM Terminals company must:

Have a systematic approach to management of HSE risks.

Comply with local laws and regulations as well as Global APM Terminals Standards.

Set plans and targets for continuous improvement and measure, appraise and report on performance.

Report all HSE incidents and near misses.

Investigate incidents to identify learnings and prevent recurrence.

Ensure employees are competent to do their tasks, and provide adequate HSE training.

Share HSE performance and learnings with staff, suppliers, and customers and the APM Terminals community.

Ensure adequate resources are allocated to management of HSE risks.

Include HSE performance as part of employee appraisals.

Requires contractors to manage HSE in line with this Policy.

Requires joint ventures under its control to apply this policy and use its influence to promote it in its other ventures.

Morten Engelstoft
Chief Executive Officer

APM TERMINALS Lifting Global Trade

Appendix B Hierarchy of Control

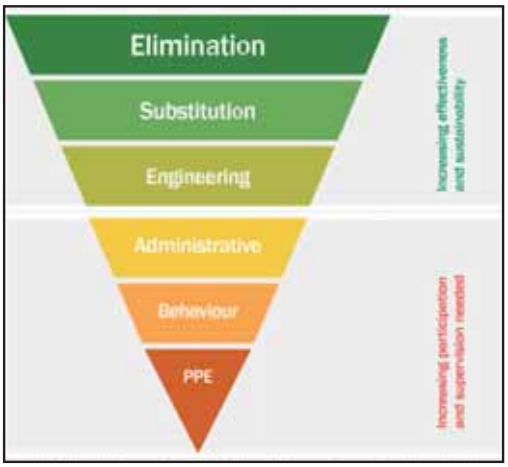
Control Effectiveness Guidelines

Consider the Controls / Barriers

Controls shall be designed in accordance with their potential for effective risk reduction and effectiveness and be approved at the appropriate level in the organization.

The **Hierarchy of Controls lists the risk reduction approaches in order of the risk reduction effectiveness**. Consideration of the Hierarchy of Controls assists to identify the most effective controls for a priority unwanted event, recognising that 'behaviour' and 'PPE' are the least effective approaches.

- **Eliminate:** the complete elimination of the hazard by design.
- **Substitute:** replacing the hazard, material or process with a less hazardous one, or significantly reducing the magnitude of the hazard or material so consequences are greatly reduced.
- **Engineer:** design in controls or redesign the equipment or work process. Placing a physical barrier on the hazard by guarding or enclosing it.
- **Administrate:** providing control such as training and procedures.
- **Behaviour:** Engagement of personnel to promote wanted and correct unwanted behaviours.
- **Protect with Personal Protective Equipment (PPE):** use of appropriate and properly fitted PPE where other controls are not practical.



Appendix C Typical content of HSE Management Plan

Health Safety and Environment Management Plan expectations:
The extent of the plan will be determined by the risk posed by these activities which shall be assessed by risk assessment.

This risk assessment shall cover the full scope of the activities to be undertaken. The size and length should be in proportion to the project risk and scope.

The control measures shall be considered for the project in question and therefore shall take into account local environment, working practices and regulations.

The following is a list of typical contents for the plan:

- Scope of the work to be completed;
- Organisation chart, key contacts and responsibilities for health, safety and welfare at project level;
- Risk assessments, method statements and safe systems of work that detail how the tasks will be completed safely. These shall be specific to the project and location risk factors;
- Relevant accreditations e.g. OHSAS 18001; ISO14001 or associated programmes;
- Resource plan to ensure competent, qualified personnel are available;
- Training matrix detailing what health, safety & environment competencies are required by employees and contractors;
- Personal protective equipment selection, maintenance and record keeping;
- Work equipment / mobile plant intended for use, maintenance programme and pre use checks;
- Monitoring, auditing, inspection, certification and reporting processes that will be implemented to ensure that the required standards are achieved;
- Emergency Response Plan;
- Incident reporting, investigation procedures and learning pack development;
- On site medical provision and its maintenance;
- Health & welfare provisions and maintenance;
- Integration of local legislation / codes of practice as well as APMT Policy and Standards;
- Separate appendix: Workplace Transport plan.

Appendix D Construction safety - Focus Areas

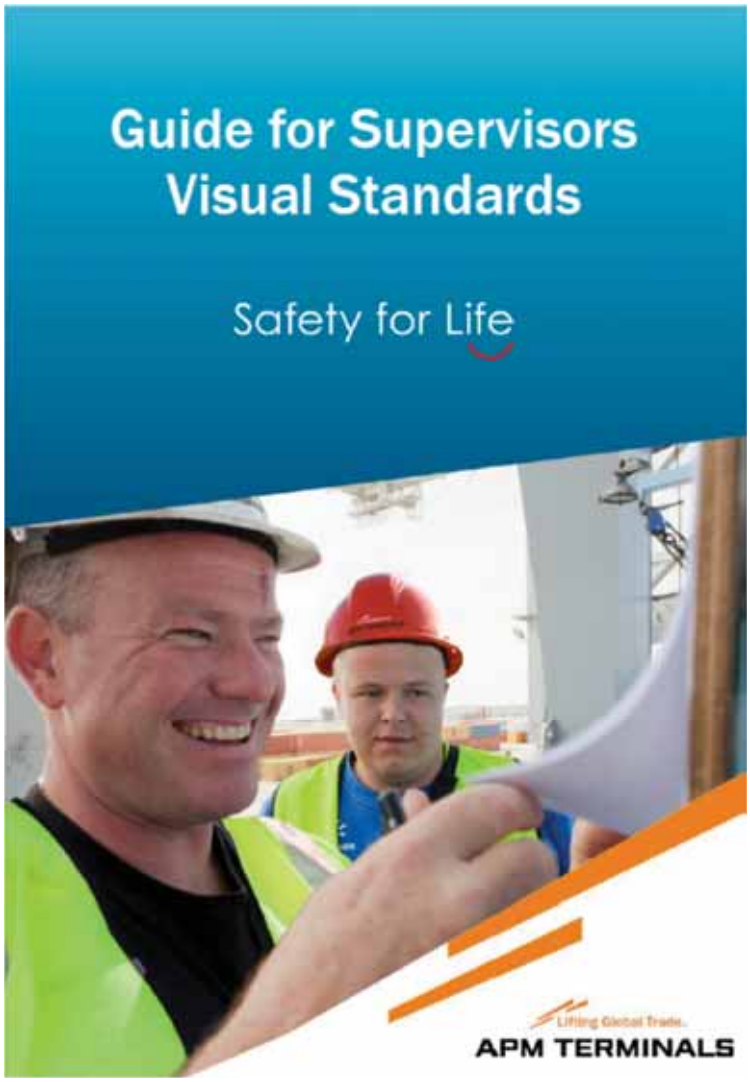
Construction Safety Focus Areas

1) Work at Height
2) Lifting Operations
3) Mobile Plant & Equipment
4) Working Near or Above Water

5) Transportation
6) Excavation
7) Confined Space Entry

8) Stored Energy

Appendix E Visual Standards



(Cover page only, re-drafting of the booklet is in progress, May 2017)

Appendix F Example of customised warning board

The A.P. Moller - Maersk Group's

Third Party Code of Conduct

Introduction

- At A.P. Moller - Maersk, being a good corporate citizen has always been an integral part of the way we do business. It is reflected in our core values that we believe in constant care, our name, our employees and that we strive to be upright yet humble in our activities, globally as well as locally. This is communicated internally and externally through "The Maersk Group Policies".

We are committed to work with our partners to promote responsible practices in general and throughout our supply chain around the world. Our aspiration is to ensure that all our partners acknowledge our values and share our commitment to conduct business in an ethical, legal and socially responsible manner; We strive to continually improve within the areas of human rights, labour standards and the environment and to work against any form of corruption.

We strongly believe that implementing a 'Code of Conduct' towards our partners and in our supply chain will create value for all parties and this is a step to establish a long term sustainable relationship with our partners, our employees and the societies where we operate.

Our Code of Conduct reflects our commitment to the UN Global Compact and our respect for universally recognised normative standards such as the United Nations Universal Declaration of Human Rights and the core labour conventions of the International Labour Organisation.

Scope of the Code of Conduct

The A.P. Moller - Maersk Code applies to the following entities whom A.P. Moller - Maersk does business with; these include suppliers, contractors, and joint venture partners, for easy reference termed "Suppliers":

1. All direct suppliers to any legal entity of the A.P. Moller - Maersk Group .
2. Selected sub-suppliers, as decided by A.P. Moller - Maersk.
3. All contractors and/or agents of any legal entity of the A.P. Moller - Maersk Group.
4. For joint ventures: all joint venture partners and selected direct suppliers and contractors of that joint venture.
5. For operations with chartered material or installations: selected direct suppliers and contractors engaged in these operations.
6. Government owned or operated utility companies.
7. Distributors who source on behalf of the A.P. Moller - Maersk Group.

Out of scope of the Code are:

1. Group internal companies, as they are subject to internal standards.
2. Government agencies.
3. Individuals, such as key opinion leaders, public figures, etc.

The A.P. Moller - Maersk Code of Conduct describes what we consider to be appropriate business conduct by suppliers. Further guidance to the Code of Conduct is provided in the document "Guidelines & Good Business Practice".

We recommend that the Supplier implements the standards of this Code of Conduct to its own business partners, including suppliers, contractors and joint venture partners. Where the Supplier acts as an agent of A.P. Moller - Maersk to supply goods and services closely related to the name of any entity of the A.P. Moller - Maersk Group, we intend to verify that the Suppliers of such goods and services meet the standards of this Code of Conduct.

Legal Compliance

In addition to this Code of Conduct we expect our Suppliers to respect all applicable laws and regulations and prevailing industry standards.

In case there are different standards set forth in this Code of Conduct compared to national laws or other applicable regulations or standards, we expect the Suppliers to work towards higher or more stringent requirements.

We expect our Suppliers to address any conflicts between this Code of Conduct and applicable laws and regulations to A.P. Moller - Maersk, in order to jointly establish the most appropriate course of action.

Code of Conduct

Responsible Business Behaviour
We expect our Suppliers to conduct business in an ethical and lawful manner and act with integrity and in compliance with all applicable laws including anti-trust laws.

Anti Corruption
We expect our Suppliers to avoid participation in or knowingly benefit from, any kind of corruption, extortion or bribery. Consequently, the Supplier may not offer, promise, authorise or give anything of value to any public official in any country, or to any business partner, in order to gain any improper business advantage of any kind. In addition, the Supplier may not solicit or accept any form of bribe from any person.

Working and Employment Conditions

Health and Safety
We expect our Suppliers to provide a safe and healthy working environment for all their employees. An employee is an individual who works part time or full time, under an open or fixed term contract of employment, that may be oral or written. This applies to any company-provided accommodation.

We expect our Suppliers to have effective health and safety management systems that ensure, among other things:

- Compliance with applicable laws and regulations.
- Compliance with customer requirements.
- Management of hazards and risks associated with its operations (risks and hazards are identified and controlled).

We expect our Suppliers to continuously work to reduce and mitigate health and safety risks in the workplace. We expect our Suppliers to educate, train and protect all employees from any harm arising from workplace activities.

Products Liability
We expect our Suppliers to exercise due diligence when designing, manufacturing, and testing products; In order to protect against product defects which could harm the life, health or safety of people, likely to be affected by the defective product, or have an adverse impact on the environment.

Respectful Treatment
We expect our Suppliers to not use, or permit the use of, corporal punishment or other forms of mental or physical coercion, sexual harassment or abuse, nor execute threats of such treatment.

Use of Company Security Forces
We expect our Suppliers to prevent its security guards from excessive or uncalled for infringement on the liberty and security of others, by providing the necessary training on when to intervene in security-related situations and how to use the minimal force necessary.

Equal Opportunity Rights
We expect our Suppliers to not engage in or support discrimination and to adopt a non-discriminating practice that strives to ensure equal treatment in recruitment, hiring, compensation, access to training, employee benefits and services, promotion, termination and retirement, irrespective of age, gender, race, colour, disability, religion or belief, language, national or social origin, trade union membership, or any other status recognised by international law.

Child Labour
The acceptable minimum age for employees is 15 years. As far as necessary and only if national law permits, children under the age of 15 are allowed to carry out light work that does not interfere with compulsory schooling. Employees under the age of 18 years are not to be involved in night work or work that is hazardous or likely to have a negative impact on the employee's physical or mental development.

Voluntary Labour
We expect our Suppliers to not use or benefit from, forced or involuntary labour as per 'Guidelines & Good Business Practice' addition to this document. All employees shall enjoy the freedom of movement during the course of their employment. Personal/employment documents or payment of compensation must not be withheld, thereby preventing such an employee from terminating his/her employment.

Freedom of Association and Collective Bargaining
We expect our Suppliers to respect the rights of its employees to associate freely, join or not join trade unions and/or workers councils, or engage in collective bargaining, in accordance with national law and international conventions.

Compensation
We expect our Suppliers to pay all employees a fair and equal compensation, in accordance with national laws and regulations, including overtime hours and all legally mandated benefits.

Working Hours
We expect our Suppliers to comply with appropriate working hour requirements as established by national law or relevant collective agreements. We expect our Suppliers to ensure that overtime is voluntary, communicated to the employee and appropriately compensated in accordance with local and international regulations and collective agreements.

Environment
We expect our Suppliers to integrate environmental considerations in its activities and strive for continuous improvement, by minimising any adverse effects of its activities on the environment.

We expect our Suppliers to comply with all relevant local and national environmental laws and regulations, as well as all requirements for environmental licences and permits.

We expect our Suppliers to strive to develop and implement environmental management systems that include measurement and monitoring in order to:

- Identify environmental impacts.
- Reduce waste, energy and emissions to air, ground and water.
- Handle chemicals in an environmentally safe way.
- Handle, store and dispose of hazardous waste in an environmentally safe manner.
- Contribute to the recycling and reuse of materials and products and implement environmentally friendly technologies.

Policy of Dealing with Severe Violations

The underlying objective of the Code is to establish a basis for a positive development of responsible procurement practices through dialogue and ongoing working relationships.

However, in cases of a severe violation of the Code, such as Supplier engaging in or benefiting from the use of child labour, corruption, severe violation of internationally recognised labour rights and/or significant damage to the environment, A.P. Moller - Maersk will contact the Supplier within 24 hours of the discovery of the incident and will subject to prevailing contractual provisions request to terminate the practice and set up a dialogue around prevention of the same in the future.

A.P. Moller - Maersk will endeavour to terminate the business relationship with Suppliers who repeatedly and knowingly violate the code and refuse to collaborate with A.P. Moller - Maersk in implementing improvement plans. In certain cases, e.g. in cases of bribery, termination may be with immediate effect.

Requirements for Suppliers with an Existing Long-Term Business Relationship

In addition to the Code, Suppliers with an existing long-term business relationship with A.P. Moller - Maersk are expected to have management systems in place to ensure compliance to this Code of Conduct and to pro-actively extend these principles within their own supply chain. Inspiration can be found in the international guidelines and standards such as "Social Accountability 8000" (SA8000), Section 9, and in ISO 14001 for environmental compliance.

Implementation

A.P. Moller - Maersk will give preference to Suppliers based on quality and price and who share our commitment to conduct business in an ethical, environmental and socially responsible manner. We will request the Supplier to work with us in an open and transparent manner to assess whether the Supplier respects the Code. The process of such an assessment may consist of an initial collection of Code related information by A.P. Moller - Maersk in a dialogue with the Supplier. This will be followed by information provided by the Supplier through answering a more detailed self-assessment questionnaire or an on-site audit and a subsequent improvement programme.

We expect our Suppliers to maintain documentation necessary to demonstrate their performance, in comparison to the guidelines set in the Code and/or recognised guidelines, standards or management systems for social responsibility; such as ISO 26000 for CSR Guidance, SA8000 for social responsibility, OHSAS 18001 for occupational health, ISO 14001 for environment, or other relevant standards or systems, as well as compliance with applicable laws and regulations.

We expect our Suppliers to continually improve within the areas of human rights, labour standards and the environment and to work against any forms of corruption. This needs to be done by setting performance objectives, executing implementation plans and taking necessary corrective actions for deficiencies identified by internal or external assessments, inspections and management reviews.

Guidelines & Good Business Practice

This document is an integral part of the A.P. Moller - Maersk Third Party Code of Conduct. Its purpose is to support Suppliers in successfully implementing the principles set forth in the Code by providing specific guidelines that we want the Suppliers to follow.

We value Suppliers who share our commitment towards creating profitable and sustainable business practices.

Therefore, when working with us, we expect our Suppliers to respect the principles defined in the Code. Furthermore, we encourage all our Suppliers to work towards embedding the principles defined in the Code, into the workplace and supply chain, to the benefit of their workers and the environment.

Guidelines for Successful Implementation

The Responsible Procurement Programme
The programme is established to promote continuous improvements in Maersk's supply chain and not to terminate valued supplier relations. Some Suppliers may be in a better position to follow good business practices in the areas of human rights, labour, environment and anti-corruption. What is important to us is that our Suppliers show commitment towards embedding the main principles of the Code into their own operations and across their supply chain.

Over a longer period of time, this practice will enable us to rate Suppliers in every procurement category.

Responsible Business Behaviour
[Code extract] We expect our Suppliers to conduct business in an ethical and lawful manner and act with integrity and in compliance with all applicable anti-trust laws.

Good Business Practice:

1. The Supplier has established and enforces a written policy against illegally influencing and/or bribing public officials or business partners.

2. The Supplier promotes employee awareness of and compliance with, the company policy against bribery, through appropriate dissemination of the policy, conducting training programmes and taking disciplinary procedures.

3. The Supplier is transparent about commercial, financial or other significant links to government and public officials.

4. The Supplier has established a policy or statement of commitment, to ensure that the principles of fair competition are respected by all parties concerned.

5. If required by law, the Supplier has a valid basic registration/licence to operate and comply with the terms stated therein.

6. The Supplier has not in the past 12 months been subject to any regulatory action relating to non-compliance in the areas of the Code of Conduct, including, but not limited to, anti-fraud, anti-corruption, anti-trust law, tax, social conditions, immigration, health & safety or the environment, but if so it has taken all necessary precautions to prevent reoccurrence.

7. The Supplier has not experienced any business interruption (strike, lock-out, temporary closure or similar) resulting from non-compliance in the areas of the Code of Conduct, including, but not limited to, anti-fraud, anti-corruption, anti-trust law, tax, immigration, health & safety or the environment, but if so it has taken all necessary precautions to prevent reoccurrence.

Working and Employment Conditions

Health and Safety

[Code extract] We expect our Suppliers to provide a safe and healthy working environment for all their employees. An employee is an individual who works part time or full time, under an open or fixed term contract of employment that may be oral or written. This applies to any company-provided accommodation.

Good Business Practice:

1. The Supplier ensures that his employees are offered a safe and healthy working environment, including, but not limited to, protection from fire, accidents and processes, substances and techniques, which are unhealthy, toxic or harmful.

2. The Supplier has established and enforces a written health and safety policy and relevant procedures in a language that the employee understands and in accordance with industry, national and international standards and customer requirements.

3. The Supplier has appointed a senior management representative(s) with the responsibility for health and safety in the workplace.

4. The Supplier ensures that his employees are given access to adequate and relevant health and safety information.

5. The Supplier ensures that his employees are provided with protective equipment and training, necessary to safely perform functions in their position.

6. Company-provided accommodation conforms to the same requirements, including the general health and safety provisions listed above.

7. The Supplier documents accidents and adjusts its processes to effectively prevent recurring problems.

8. The Supplier is expected to work towards using OHSAS 18000 or similar framework for its health and safety work.

9. The supplier ensures compliance with applicable laws and regulations pertaining to fire protection. This also includes compliance with inspections by the fire authorities and required corrective actions from such inspections must be documented and completed within the stipulated time.

10. The supplier ensures a business continuity plan (BCP) including risk assessments of threats e.g. disease, earthquakes, floods and fires.

11. The Supplier fosters continuous improvement of its health and safety performance by establishing health and safety objectives and promoting best practice.

Respectful Treatment

[Code extract] We expect our Suppliers to not use, or permit the use of, corporal punishment or other forms of mental or physical coercion, sexual harassment or abuse, nor execute threats of such treatment.

Good Business Practice:

1. The Supplier protects employees from acts of physical, verbal, sexual or psychological coercion, harassment, abuse or threats in the workplace, whether committed by managers or fellow employees, including when they are determining and implementing disciplinary measures.

2. The Supplier has a procedure for receiving reports of workplace violence, harassment, threats and all other types of workplace misconduct.

3. The Supplier expediently investigates all complaints of workplace misconduct and takes appropriate preventive, corrective and disciplinary action. No reprisal or retaliatory action is taken against any employee who raises a concern relating to workplace misconduct.

4. The Supplier pays compensation at regular times and does not take deductions from wages for disciplinary measures and deductions which are not authorised by national law without the free consent of the employee. All wage deductions shall be recorded.

Equal Opportunity Rights

[Code extract] We expect our Suppliers to not engage in or support discrimination and to adopt a non-discriminating practice that strives to ensure equal treatment in recruitment, hiring, compensation, access to training, employee benefits and services, promotion, termination and retirement, irrespective of gender, race, colour, disability, religion or belief, language, national or social origin, trade union membership, or any other status recognised by international law.

Good Business Practice:

1. The Supplier has established and enforces a written policy in a language that the employee understands, ensuring that all employment-related decisions are based only on relevant and objective criteria.

2. The Supplier does not ask applicants or employees questions relating to their marital status, intent to have children, or number of dependents with an intent to discriminate.

Child Labour

[Code extract] The acceptable minimum age for employees is 15 years

Good Business Practice:

1. The Supplier has established and enforces a clear policy regarding the minimum age of employment, which complies with national laws.

2. Only if national law permits, children under the age of 15 are allowed to carry out light work that does not interfere with compulsory schooling.

3. The Supplier requests candidates to provide copies of birth certificates or other official forms of identification, to verify their age prior to employment.

4. The Supplier has and enforces a clear written policy or guidelines defining what tasks at the Supplier are prohibited as hazardous or harmful to the health, safety or morals of employees under the age of 18.

5. If the Supplier becomes aware that he is employing children of school age; the ways to remedy this could include:

   a. The Supplier offers to enrol the child in a remediation/education programme in consultation with the child and his/her parents, rather than the child being summarily terminated from employment.

   b. The Supplier offers to hire the parents, guardians, elder siblings or other adult members of the extended family of any child, found to be working for the Supplier, while concurrently providing practical and reasonable financial support.

Voluntary Labour

[Code extract] We expect our Suppliers to not use or benefit from forced or involuntary labour in any form. All employees shall enjoy the freedom of movement during the course of their employment.

Good Business Practice:

1. The Supplier has a written contract (or letter) of employment with each employee.

2. The Supplier ensures that employment terms are fair, transparent and understood by the employee prior to employment.

3. The Supplier (or its recruiting agencies) does not charge employees recruiting or hiring fees that require the employee to be indebted to the Supplier (or recruiting agency), nor to work for the Supplier (or recruiting agency) to pay off the debt.

4. The Supplier does not use prison labour, unless the prisoner has been convicted by a court of law, and labours voluntarily under the supervision and control of a public authority.

5. The Supplier ensures that all employees are allowed to leave the Supplier's premises at the end of their shifts or rotation, as relevant, if at all feasible.

6. The Supplier does not require employees to lodge money deposits with the Supplier, nor does the Supplier instruct its personnel to retain employees' travel documents or identity cards.

Freedom of Association and Collective Bargaining
[Code extract] We expect our Suppliers to respect the rights of its employees to associate freely, join or not join trade unions and/or workers councils, or engage in collective bargaining, in accordance with national law and international conventions.

Good Business Practice:

1. The Supplier respects its employees right to associate freely, form or join organisations of their choosing and to bargain collectively in accordance with international standards, local laws and regulations, in full freedom and without fear of reprisal, intimidation or harassment.

2. The Supplier also recognises its employees right to refrain from collective representation.

3. The Supplier is committed to constructive engagement and collective bargaining in good faith, with freely chosen employee representatives of a legally recognised union.

4. The Supplier does not discriminate or take adverse actions against employees, in retaliation for exercising employee rights, or participating in union activities.

5. The Supplier has established a clear written policy in a language that the employee understands, recognising the freedom of association rights of its employees.

Compensation
[Code extract] We expect our Suppliers to pay all employees a fair and equal compensation in accordance with national laws and regulations, including overtime hours and all legally mandated benefits.

Good Business Practice:

1. The Supplier ensures that wages are paid out in accordance with applicable law, on a regular basis and in a timely manner.

2. Overtime hours are not required, in order for employees to earn a living wage sufficient to meet basic needs.

3. Prior to employment, the Supplier informs employees of its policy on remuneration, including overtime compensation.

4. The Supplier shall ensure that wage and benefits composition are detailed clearly and regularly, for employees and that wages and benefits are rendered in full compliance with all applicable laws and directly to the employees, in a manner convenient to the employees.

5. Piece-rate payment systems are monitored to ensure that the total salary paid meets agreed terms and living wage requirements.

Working Hours
[Code extract] We expect our Suppliers to comply with applicable working hour requirements as established by national law or relevant collective agreements. We expect our Suppliers to ensure that overtime is voluntary, communicated to the employee and appropriately compensated in accordance with local and international regulations and collective agreements.

Good Business Practice:

1. The Supplier ensures by policy and practice that the maximum working hours in a week shall not - on a regular basis - exceed 48 hours, with a maximum of 60 hours per week, including overtime, unless it is permitted according to applicable laws and regulations, and relevant collective agreements.

2. Overtime hours overall must be reasonable, follow applicable regulations and be used on an exceptional basis rather than as a normal working practice.

3. Overtime must be planned in a way that it ensures safe and humane working conditions. Overtime hours must be appropriately compensated.

4. Employees are entitled to at least one day off per week and are given reasonable breaks while working and sufficient rest periods between shifts. For off-shore workers, leave and rest periods shall follow applicable regulations and relevant collective agreements.

Environment

[Code extract] We expect our Suppliers to integrate environmental considerations in its activities and strive for continuous improvement by minimising any adverse effects of its activities on the environment.

We expect our Suppliers to comply with all relevant local and national environmental laws and regulations, as well as all requirements for environmental licences and permits.

Good Business Practice:

1. The Supplier takes steps in the application of a precautionary approach:

    a. The Supplier has established and enforces a policy or practice for its operations and products, which confirms commitment to care for the environment and a guideline on the consistent application of the approach throughout the workplace.

    b. The Supplier's policy and practice comply with any applicable local and international laws and regulations prohibiting or restricting specific substances.

2. The Supplier takes steps to promote environmental responsibility:

    a. The Supplier ensures legal compliance with all relevant environmental legislative requirements through training and awareness, operational control and monitoring significant environmental impacts.

    b. The Supplier maintains appropriate environmental records to demonstrate compliance with all requirements for environmental licences and permits, including, but not limited to, data from the monitoring of significant environmental impacts.

    c. The Supplier works with its own suppliers to improve environmental performance, extending responsibility up the product chain and down the supply chain.

3. The Supplier shall have in place a process for:

    a. Hazardous Substance Management and Restrictions

    To ensure safe handling, movement, storage, recycling, reuse, and disposal, the Supplier must identify and manage substances that pose a hazard if released to the environment and comply with applicable labelling laws and regulations for recycling and disposal. The Supplier must post Material Safety Data Sheets for any hazardous or toxic substances used in the workplace and train employees who will come into contact with such substances in the workplace.

    b. Wastewater and Solid Waste Emissions

    Wastewater and solid waste generated from operations, industrial processes, and sanitation facilities must be monitored, controlled, and treated as required by applicable laws and regulations before discharge or disposal.

    c. Air Emissions

    Air emissions of volatile organic chemicals, aerosols, corrosives, particulates, ozone depleting chemicals and combustion by-products generated from operations must be characterised, monitored, controlled and treated as required by applicable laws and regulations before discharge.

    d. Environmental Permits and Reporting

    The Supplier must obtain, maintain and keep current, all required environmental permits (e.g. discharge monitoring) and registrations and follow the operational and reporting requirements of such permits.

    e. Pollution Prevention and Resource Reduction

    The Supplier must endeavour to reduce or eliminate waste of all types, including water and energy, by implementing appropriate conservation measures in its facilities, in its maintenance and production processes, and by recycling, re-using, or substituting materials.

Transparency & collaboration

[Code extract] A.P. Moller - Maersk will give preference to Suppliers who excel in quality and price and share our commitment to conduct business in an ethical, environmental and socially responsible manner. We will therefore request the Supplier to work with us in an open and transparent way, to assess whether the Supplier effectively complies with the Code of Conduct. The process of such assessment may consist of an initial collection of Code related information by A.P. Moller - Maersk, in a dialogue with the Supplier, followed by information provided by the Supplier through answering a more detailed self-assessment questionnaire or an on-site audit and a subsequent improvement programme.

Good Business Practice:

1. The Supplier has developed sustainability targets and indicators (economic, environmental and social).

2. The Supplier maintains appropriate records including, but not limited to:

    a. Name and ages of all employees.

    b. Timesheets.

    c. Payroll records, including wage slips and overtime wage records.

    d. Health and safety records, including material safety data sheets, accident records and relevant certificates and permits.

    e. Environmental records, including data from the monitoring of significant environmental impacts and relevant permits.

    f. Records of any significant instances of non-compliance encountered in relation to the areas of the Code of Conduct, including, but not limited to, anti-fraud, anti-corruption, anti-trust law, tax, social conditions, immigration, health & safety or the environment.

3. The Supplier has appointed a senior management representative(s) with the responsibility for and authority to ensure compliance with the Code.

4. The Supplier ensures that adequate and relevant training is provided to all employees in a language that the employee understands.

5. The Supplier participates in announced, as well as unannounced on-site audits and provides unhindered access to all Supplier facilities, records, company-provided accommodation, if any, as well as employees for confidential interviews.

6. Where instances of non-compliance with the requirements of the Code of Conduct are identified, the Supplier shall promptly take corrective action to remedy the deficiencies as well as taking expedient measures to prevent similar problems from recurring in the future.

The Supplier is willing to engage in a constructive dialogue with A.P. Moller - Maersk for it to support the development and implementation of a corrective action plan, with appropriate time scales for implementation and improvements to be achieved. In the event of repeated or serious breaches of the requirements of the Code of Conduct, A.P. Moller - Maersk will endeavour to terminate the business relationship with the Supplier and possibly cancel any production or delivery in progress.

References

Further information on the subjects of the
A.P. Moller - Maersk Third Party Code of Conduct
can be obtained from:

OECD Convention on Combatting Bribery of Foreign Public Officials
in International Business Transactions
http://www.imf.org/external/np/gov/2001/eng/091801.htm

United Nations Convention Against Corruption
http://www.unodc.org/unodc/en/treaties/CAC/index.html

The Universal Declaration of Human Rights
http://www.un.org/en/documents/udhr

The International Labour Organisation (ILO)
http://www.ilo.org/global/lang--en/index.htm

The International Programme on the Elimination of
Child Labour (IPEC)
http://www.ilo.org/ipec/lang--en/index.htm

UN Global Compact
http://www.unglobalcompact.org

Social Accountability International (SAI)
http://www.sa-intl.org

OHSAS 18000 International Occupational Health and
Safety Management System
http://www.ohsas-18001-occupational-health-and-safety.com

ISO14000 SERIES Environmental Management Systems
http://www.iso14000-iso14001-environmental-management.com

ISO 26000 Social Responsibility
http://www.iso.org/iso/socialresponsibility.pdf

The Danish Institute for Human Rights
http://humanrightsbusiness.org/?f=compliance_assessment

The Ethical Trading Initiative
http://www.ethicaltrade.org/eti-base-code

Business for Social Responsibility
http://www.bsr.org

Standard – Consequence Management

Revision history

Revision:	Date:	Comments:	Approval:
1	15 Apr 2014	Initial Release	W.G. de Gier

1. Purpose

The purpose of this Standard is to standardize consequence management for rule breakers and their supervisors.

2. Scope

This Standard applies to all APM Terminals employees and contractors.

3. Requirements

The Terminal Managing Director/MD shall:

- Nominate a Consequence Management Process Owner.
- Communicate the Consequence Management process to all personnel and contractors.
- Validate the effectiveness of the Consequence Management process regularly.

The Consequence Management Process Owner shall:

- Execute the Consequence Management process for all HSSE incidents that have potential severity 3 and higher on the risk assessment matrix [Ref.1].
- Execute the Consequence Management process after the incident investigation is completed (where applicable) and the root causes are established [Ref.2].
- Always involve representatives from the HR and HSSE function.
- Apply consequences in line with local regulatory requirements and labor agreements.
- Keep confidential (but auditable) Consequence Management records, including a clear description on how the conclusions were reached.
- Inform the rule breaker and his/her supervisor of the outcome.
- Run the Consequence Management questionnaire (http://tiny.cc/55zdex) for each case.

The Consequence Management structure is based on a three-tiered approach:

Rule Breaker	Employee	Contract Worker	Supervisor of Rule Breaker
First HSSE violation	Verbal warning and coaching by supervisor	Verbal warning and coaching by supervisor*	Training or verbal warning and coaching of supervisor
Second HSSE violation	Written warning and coaching by supervisor	Written warning and coaching by supervisor*	Written warning and coaching of the supervisor
Third HSSE violation	Termination (subject to local law and labor agreements)	Removal from site and engagement with contractor company	Temporary suspension of supervisory role and consultation with HR.

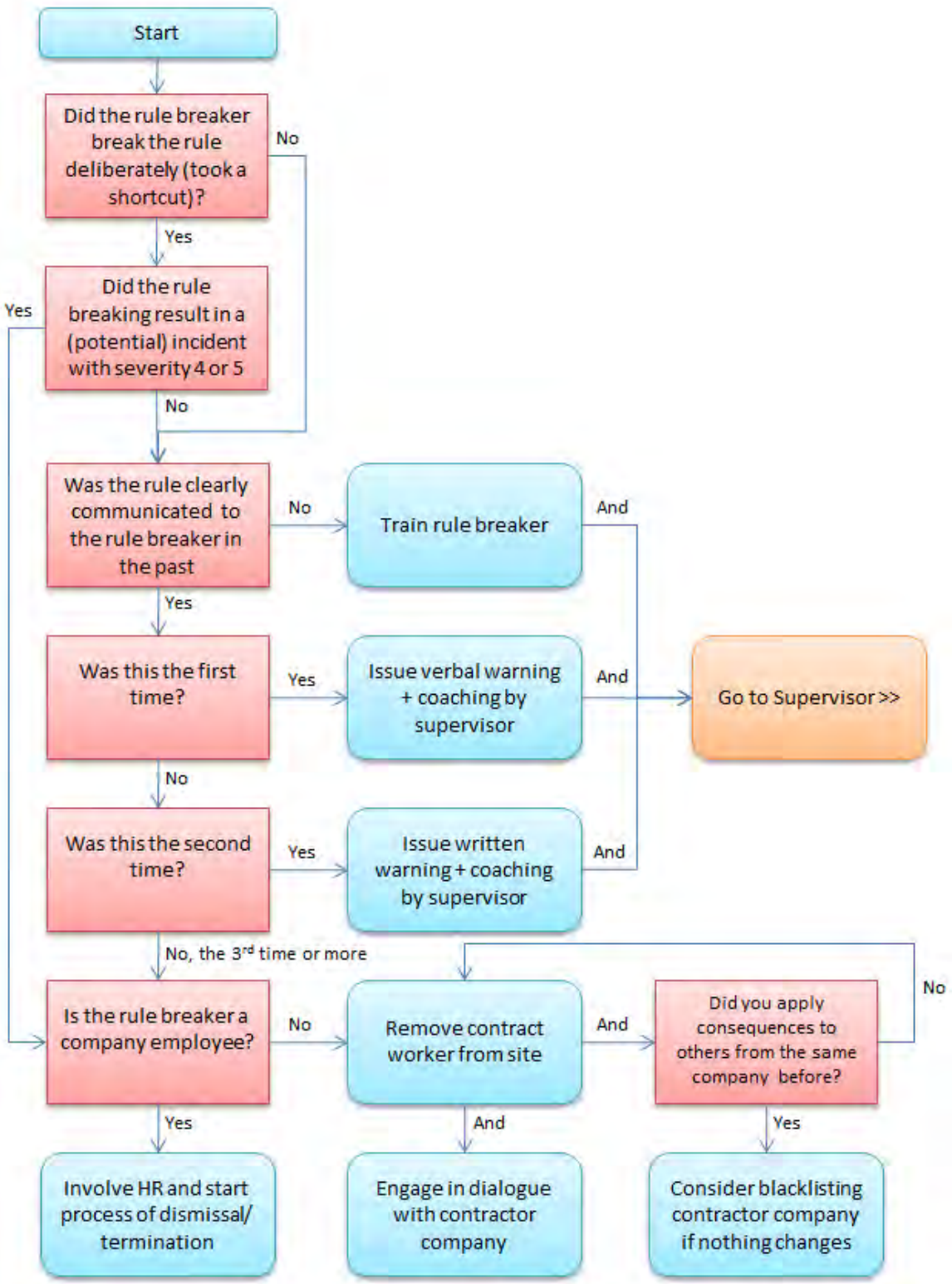
** Unless severity 4 or 5 incident*

4. References

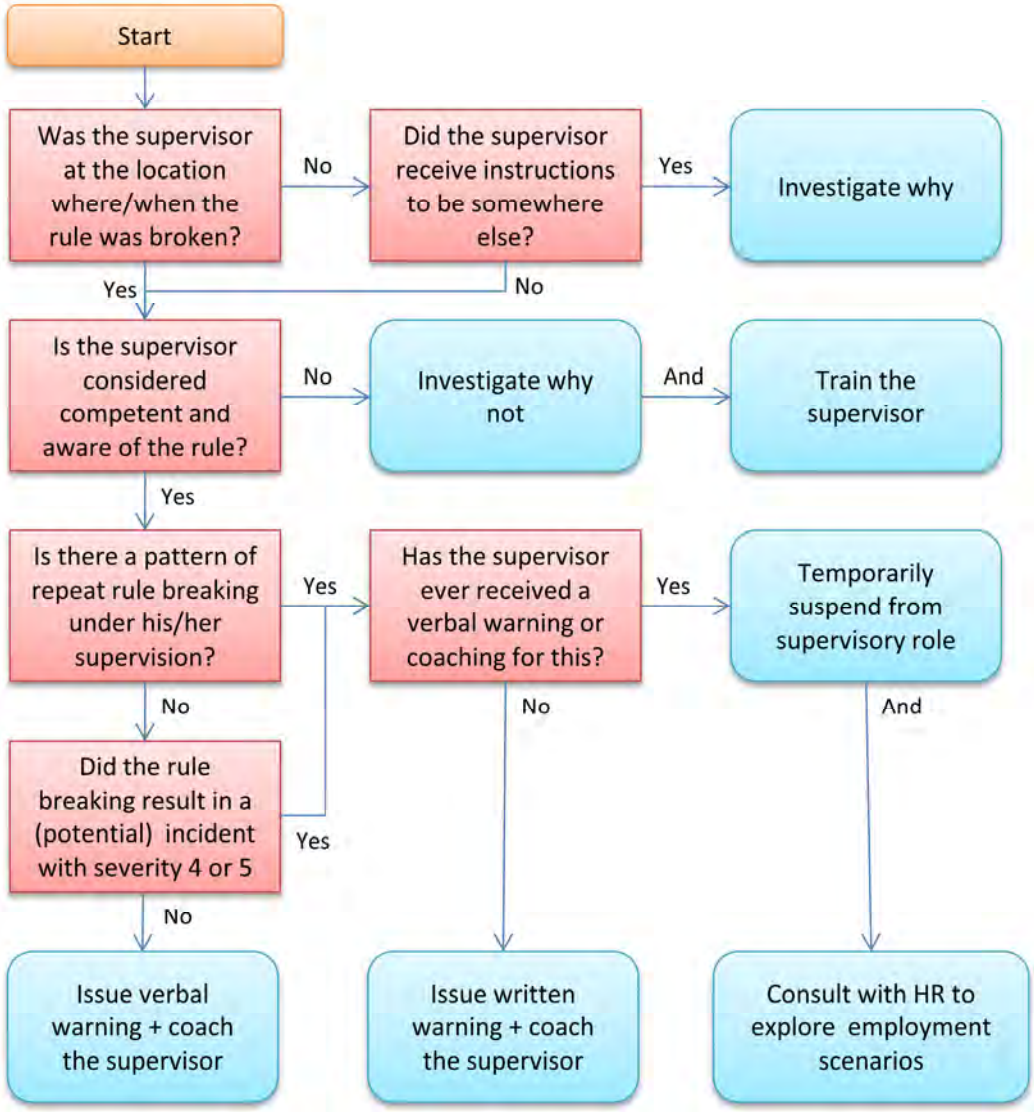
(1) APMT-APAC-HSSE-03 “Risk Assessment Matrix”.

(2) APMT-APAC- HSSE-07 “Incident Reporting, Investigation and Learning”.

Appendix A: Consequence Management for Rule Breakers



Appendix B: Consequence Management for Supervisors of Rule Breakers



APM TERMINALS Lifting Global Trade.

Owner	APMT PIPAVAV	APPROVER	HEAD HR
Date	01-August-2017	Version	01

CONTRACT LABOUR COMPLIANCES ADMINISTRATION POLICY

OBJECTIVE:

The objective of this policy for Contractors is to adhere the procedures laid down by the appropriate Government for running an organization.

SCOPE:

This policy will be applicable to all APMT Pipavav site contractors.

Contract Labour Compliances Management Process Steps

S.No	Activities	Responsibilities
1	Procurement/ Project department will issue the LOI/Work Order to the respective contractors and forward a copy to HR department before commencement of work and instruct to contractor for approaching in HR to accomplish applicable statutory compliances.	Procurement / Project/HR
2	The contractor will submit all applicable compliance related documents as per SOP.	Contracting Agency/HR
3	HR department will confirm submission of compliances documents in gate pass form and forward to Security for issuing the gate pass.	Contracting Agency/ Concern Department/HR / HSSE
4	Security will issue entry pass to contracting agency's workmen as per gate pass form details and afterwards contractor deploy manpower at site.	Contracting Agency/ HSSE
5	All bills / invoices pertaining to Contracting agencies payment, will be routed through HR for verification for statutory compliances. After verification, HR will forward the bills / invoices to Accounts with compliance checklist for process of payment. Port Finance shall not be released contracting agencies payment without HR clearance. In case of any non-compliance, bill / invoices will be held back till the compliance is affected or hold suitable amount from bill.	Contracting Agency/ Concern Department /HR /Port Finance

Owner	APMT PIPAVAV	APPROVER	HEAD HR
Date	01-August-2017	Version	01

PROCEDURE:

Sr.	Activities	Responsibility
1	**Pre Commencement formalities:-** After getting SO/WO from Procurement / Project departments, Contractor will submit following documents to HR department before commencement of their work at site. ➢ Copy of SO/WO/LOI etc. as given by the company. ➢ Copy of EPF code allotment letter. ➢ Copy of Workmen's compensation Insurance Policy/WC Insurance Receipt. ➢ Details of contractor – As per **Annexure – 1**. ➢ Indemnity Bond on Non-judicial stamp paper of Rs. 100/- duly notarized as per **Annexure – 2**. ➢ Legal documents showing the Incorporation/formation of the Company ➢ Company's PAN copy ➢ For obtaining Labour License under State Rules Contractor will submit Application in Form–IV [u/s 21(1)] as per **Annexure – 3**. ➢ **Form – V** issued by the HR department as per **Annexure – 4**. ➢ List of contract Employees (Form No. 13) ➢ Contract workman's PAN, Aadhaar and Bank Account details. ➢ Professional Tax Registration copy from local panchayat. Any changes in the particulars of the above documents shall be informed immediately along with documentary proof for the same.	Procurement/ Project/ Contracting Agency/ HR/ CLM Helpdesk
2	**Post Commencement formalities** **Contract Labour (R&A) Act, 1970** ➢ On depositing the requisite fees to Labour Office, a copy of the Treasury Challan will be submitted to HR CLM Helpdesk within three days. ➢ On receipt of labour license, Contractor shall submit a copy of the same to HR CLM Helpdesk.	Contracting Agency Site In-charge/ HR CLM Helpdesk
3	Contracting agency shall maintain following documents at site as per the **Contract Labour (R&A) Act, 1970:** **FORMS/REGISTERS** ➢ Form No.4 Application of license ➢ Form No. 5 Labour License ➢ Form No.13 Register of workmen employed by contractor ➢ Form No.16 Muster Roll ➢ Form No.17 Register of wages ➢ Form No.19 Wages Slip ➢ Form No.20 Register of deduction of damages or loss ➢ Form No.21 Register of Fines ➢ Form No.22 Register of Advances ➢ Form No.23 Register of overtime ➢ Form No.24 Half year return	Contracting Agency / HR CLM Helpdesk

4	**Employee's Compensation Act, 1923:** Contractor shall obtain unnamed Policy in favour of respective company covering all the workmen deployed at site and shall renew it in time. The copy of the same is to be submitted to the HR CLM Helpdesk before commencement of work. **Wages Payment:** Contractor shall get attendance registers/records in prescribed format verified by department site-in-charge and submit to HR CLM Helpdesk on or before **2nd** of every month. HR CLM helpdesk will prepare wages register and forward to HR for verification on or before 3rd of every month. HR CLM Helpdesk will handover verified monthly wages register to Contractor and ensure wages payment to their workmen through their bank account on or before **7th** of the every month. Contractor submit bank transfer letter copy with seal and signature of bank official to HR CLM Helpdesk. For any possibility in delay on wages payment by any contractor, HR CLM Helpdesk will inform to HR before due date. **Wages Slip:** HR CLM Helpdesk will prepare Wage slip and handover to Contractors for distributing to their workers on or before 10th of every month. **Employees Provident Funds & Misc. Provisions Act, 1952:** To remit PF Contribution (Employee and employer) in bank of proceeding month on or before 15th of every month and submit the copy of paid PF Challan & ECR to HR Department between 16-18th of every month. **Professional Tax:** Contractor shall deposit Professional Tax to local Panchayat of work place and submit a copy to HR department. **Employment Exchanges Act, 1959:** HR CLM Helpdesk will prepare quarterly return of Employment Exchange and give to contractor for submitting to concern authority before due date. Also contractor will submit a copy of return to HR CLM Helpdesk. **Form No. – XXIV**: HR CLM Helpdesk Consultant will prepare Form – XXIV and give to contractor for submitting to labour office before due date. Subsequently contractor will submit a copy of return to HR CLM Helpdesk. **Over Time:** An employee can work overtime maximum to the extent of 8 hours during the day. The total number of hours of work in a week, including overtime, shall not exceed sixty**.** The total number of hours of overtime shall not exceed fifty for any one quarter. "Quarter" means a period of three consecutive months beginning on the 1st of January, the 1st of April the 1st of July or the 1st of October. **Daily Working Hours:** 08 Hours with 30 minutes meals break and two tea breaks intervals of 15 min each in their duty. **Weekly Off:** Once in a week. **Minimum Wages Act, 1948:** Contractor will pay wages which is not less than Minimum rates of wages fixed by the State Govt. time-to-time.	Contracting Agency / HR CLM Helpdesk

	Payment of Wages Act, 1936: Contractor shall make only authorized deduction(s) from the wages of the workmen as per the provision laid down under the said act. Contractor shall immediately resolve dispute(s) relating to wage payment before due date and submit report thereof to HR Department. **Labour Welfare Act:** Contractor shall send Half Yearly Return and deposit WELFARE FUND to the competent Authority in the month of July/January for the Half Year ending as on June and December respectively. **Paid Leave/ Leave Encashment:** As per the Gujarat Shops & Establishment Act. **The Payment of Bonus Act, 1965:** HR CLM Helpdesk Consultant will prepare form C & D. The contractor shall make the payment of bonus to all eligible employees as per Bonus Act, 1965. Also submit Form C Register of Bonus along with Form D for Return to Labour Office on or before due date with a copy to HR CLM Helpdesk. **Inspection by the Govt. Officials:** Contractor shall attend inspection conducted by the Government authorities to verify the records and shall send immediate compliance report to the Authorities for the irregularities pointed out by the inspecting Authority under intimation to HR department. If a contractor fails to comply with any applicable provisions of above labour laws, HR may take appropriate action against such contractor and the contractor will be solely responsible/liable for dispute if any, which arises due to non-compliance.	
5	**Deviation Order:** In case there is any deviation order subsequent to the work order issued, the Contractor shall provide a copy of the same to HR department immediately.	Contracting Agency/ Procurement/ Project/HR
6	**Work Completion Formalities**: Contractor shall submit intimation regarding commencement/completion of work in Form **VI-A & B** to the competent authority under intimation to the HR department (format attached as **Annexure – 5**). **Reports by the User Department.** All Departments under which contractors are deployed shall summit report to HR department as per **Annexure 7 and 8**. **Contract Closure Formalities Procedure** • A check list as per **Annexure 9** shall be submitted by the contractor to HR department in order to facilitate HR to advise Accounts for final settlement of bill. • A deed of undertaking shall be submitted by the contractor to department initiating contract with copy to HR as per **Annexure 10** • Notice of the completion of contract shall be forwarded by the contractor to Licensing authority with copy to HR in form **6A**.	Concern Department/ Contracting Agency/ HR

7	**Precautions** ➢ Contractor shall not engage workmen below age of 18 Years. ➢ Contractor shall take maximum precautions to avoid any dispute or IR problem. However, if takes place, the contractor is solely responsible to resolve the same and furnish details/report to HR Department immediately. ➢ Contractor shall take all safety precautions to avoid accident. ➢ Contractor shall keep close vigil on the activities of their workmen including their discipline and conduct during stay at various labour camps located outside the premise. Contractor shall be solely responsible for conduct of their workmen while at work or in transit at labour camps. ➢ Contractor shall obtain all background information / **Police verification** about the workman while deploying at site and will give an undertaking in this regard to HSSE department that workmen employed by them do not have any doubtful background history. All responsibility in this regard during or after completion of work lies with the contractor. ➢ Contractor shall keep liquid fund ready to meet the requirements in case of any accident, IR problem or payment dispute. ➢ Contractor shall immediately cancel entry Permit of the workmen who are long absentee without any intimation or have left the site at their own or after taking full and final payment. **Discipline** ➢ Contractor shall observe discipline/procedures/rules set by the company and shall explain to their workmen, such as safety procedure related to work/assignment, safety, security & traffic rules etc. ➢ Contractor shall ensure proper use of company provided amenities. ➢ Contractor shall take utmost care of discipline laid down by the company while working in the APM Terminals, Pipavav premise.	
8	**Accident Handling Procedure:** In case of any accident, contractor shall inform immediately to the HR and HSSE Department. A detailed Accident handling procedure and Accident reporting form is attached as per **Annexure – 6.** For handling the accident case/s, the following actions are proposed to be taken: **1.** As soon as the accident occurs or information of an accident is received, information regarding the same will be communicated immediately to HR/HSSE/Site In-charge. Representatives of contractor will rush to the accident site and put the injured person in ambulance and send him to the nearest Govt. or Private Hospital considering the emergency. (**Action: Contractor representative / Site In-charge / HR / HSSE).**	

2. It is to be insured that the injured person should be accompanied with representative of Contractor and 2 to 3 nos. of willing co-workers right from the place of accident till hospitalization and remain there for further orders.
(**Action: Contractor representative / Site In-charge / HSSE).**

3. It is to be ensured that suitable treatment is provided to the workman and entire expenses of treatment, medicine and other miscellaneous expenses will be borne by the contractors. The contractor will keep informed the condition of the patient or any further development to HSSE & HR Department. In case of Death (on the spot or at Hospital) only a qualified doctor can make declaration of death.
(Action: Contractor)

5. If the injured person dies on the way or in hospital, the contractor has to take full responsibility for cremation or sending the dead body to the native place of deceased accompanied by his friends/ relatives/ contractor representatives as the case may be. In such cases transfer certificate from the Police and Death certificate from hospital (Medical Officer) must be obtained. Dead body shall not be brought back to site under any circumstances. The information regarding shifting of the body and details of the workers accompanied with the body shall be forwarded to APMT, Pipavav – HSSE & HR department.
(Action: Contractor)

6. Appropriate immediate financial assistance is to be extended along with Co-workers/family members for cremation.
(Action: Contractor)

7. In case of the fatal accident, due attention is to be paid by contractor to obtain following reports immediately to complete the statutory formalities for payment of compensation. They should also submit a copy of the same to HR Department for follow up action:

a. Police FIR report/Panchanama
b. Post Mortem Report.
c. Copy of Insurance Policy.
d. Death Certificate.
e. Details of next of kin/legal heirs.
f. A copy of relevant page of Muster Roll/Wage Register.
g. Age proof – School Leaving Certificate/Gram Panchayat Record.
h. Passport size Photographs of legal heirs attested by local authority to avoid duplicity of claimant.
i. Bank Accounts details of the Legal Heirs.

(Action: Contractor / Site In-charge / HR)

	8. On receipt of the above, HR department will ensure statutory compliance and follow up with the contractor (in case of fatal accident) a. Depositing Compensation. b. Disbursement of Compensation. c. All other help, if required. **(Action: Contractor / HR Department)** **9.** It is also to be ensured that the contractor has made arrangements for accommodation, food, and transport and provide all other assistance etc. to legal heirs / next of kin along with family members of the deceased who have come from their native place to collect the amount of compensation. **(Action: Contractor)**	

Annexure – 1

DETAILS OF THE CONTRACTOR

1. Name and address of the Contractor / Sub-contractor

a. Registered / Head Office: _____

_____

b. Local Office (If any): _____

_____

2. Name, Phone, E-mail of the contact person at APMT, Pipavav site:

Name: _____

Phone/Mobile No.: _____

Fax No.: _____

E-mail Address: _____

3. Nature of Work: _____

4. Area / Plant (s) where the work is going on:

_____

5. Date and SO/WO No.: _____

7. Period of Contract: **From**_____ **to**_____

8. Date of Commencement of Work:

_____

9. Provident Fund Code No. (Region under which contractor is covered):

_____

10. Details of Workmen Compensation Policy:

a. Name of the Insurance Company:

_____

b. Date of Issue: _____

c. Period: From_____ to_____

d. No. of workmen covered: _____

(Specify as per category e.g. highly skilled, Skilled, Semi-skilled, Un-skilled)

11. Maximum Nos. of Workmen proposed to be engaged on any day:

i. Male: _____

ii. Female: _____

Date :

Place :

Seal & Signature of the

Authorized representative

ANNEXURE 2

(To be executed and notarized on Non-Judicial Stamp Paper of Rs. 100/-)

Indemnity Bond

THIS DEED OF INDEMNITY BOND IS MADE ON THE _____ day of _____ 2010 between M/s. _____ (herein after called "the Contractor / Sub contractor" of the per part) and the APM Terminals, Pipavav, PO: Ucchaiya, Via: Rajula, District: Amreli, Gujarat (India) hereinafter called "the Company" of the other part).

That the Company awarded works of _____ vide Work Order (WO) / Letter of Intent (LOI) / Letter of Commitment (LOC) No. _____ dated _____ and the contractor has signed the terms and conditions laid down under the same. This document shall be deemed to be part and parcel of the above referred WO / LOI / LOC which may be issued during currency or after expiry of the above referred WO / LOI / LOC. As per the terms and conditions relating to the compliance of various Labour Laws for the contracting period in the above referred WO / LOI / LOC or which may be issued subsequent to the WO / LOI / LOC (hereinafter collectively called "the said contracts"), the contractor has agreed to comply the provisions of all the Labour Laws applicable from time to time to him and / or his sub-contractors including PRWs / gang workers engaged by the consent of the company. The Contractor moved by the sentiments of justice and humanity as well as by desires to secure the permanent peace and tranquillity in and amongst the labour community agrees and undertake to following:

1. The Contractor hereby expressly undertake to be bound by all provisions of the Contract Labour (Regulations & Abolitions) Act, 1970 and the Contract Labour (Regulations & Abolitions) Gujarat Rules, 1971, framed there under, Interstate Migrant Workmen Act, Minimum Wages Act, Payment of Wages Act, Workmen Compensation Act, Building and other Construction Workers Act, Industrial Disputes Act, Provident Fund & Miscellaneous Provisions Act and Schemes / rules there under and all other Labour Laws applicable from time to time to me and / or all the subcontractors engaged to carry out the awarded work on company's site. I also hereby agree and undertake to maintain different registers, forms and other necessary records required to be maintained under the provisions of various labour laws and it rules applicable from time to time.

2. The Contractor further undertake to comply with the stipulations relating to various labour laws as per the agreed conditions of the said contractor as applicable currently or amended from time to time in terms with the mandatory requirements imposed by the statutory bodies functioning under the relevant labour legislations.

3. The Contractor further undertake to furnish the details as and when required in the prescribed format in case of any accidents which may results into loss of man-days / man-hour including fatal accidents.

4. The Contractor has read and understood the Guide Lines relating to Labour Laws compliance applicable to Contract Labour issued by the Company and I hereby expressly undertake to comply with the requirements under aforesaid guide lines from the commencement to the completion of contract work.

5. The Contractor further undertake (including my sub-contractors / PRWs) to indemnify the Company for all the time from all the litigations / disputes / claims accrued out of the said contracts. I also undertake to abide by all the statute/rules /regulations of any statutory body.

6. The Contractor FURTHER DECLARE THAT AS PER THE Articles of Associations of the Company / firm / Partnership Deed, I am authorized to furnish this undertaking and the CONTRACTOR shall be bound by the stipulations herewith contained and so will be the Sub-contractor(s) / PRWs. IN WITNESS HERE OF the contractor signed and delivered this Indemnity Bond on the day, month and year first above written.

(Seal, Signature & Designation of the Signatory)

Place: _____

Date: _____

Witness:

1. _____

2. _____

Accepted By:

Date:_____

_____

(Signature of Engineer-in-charge

/Designated representative)

Witness:

1. _____

2. _____

Annexure 3 (On Contractor's Letter head)

Date:_____

To,
M/s. APM Terminals, Pipavav
PO: Ucchaiya, Via: Rajula
District: Amreli (Gujarat)
Pin: 365560

Sub: Request for Form – V under Contact Labour (Regulation & Abolition Act 1970)

Dear Sir,

We have been awarded the job of _____ at your site vide LOI / LOC / W. O. No. _____ dated _____, a copy of which is enclosed herewith.

We propose to commence our work from _____, as per the provision of the above Act, we are required to obtain a Labour License from Licensing Officer. We request you to issue us Form – V to obtain the Labour License. The details about our Company / Firm and aforesaid contract are given in the enclosed sheet.

We undertake to comply with all the provisions of the aforesaid Act as well as other Labour Laws, which are under operation from time to time. We also execute and enclose herewith an Indemnity Bond indemnifying the APM Terminals, Pipavav as a Principal Employer against any act or omission on or our part complying with various Labour Laws.

Thanking You,

Yours Faithfully,

(Seal & Signature of Contractor)

Name:

Designation:

Encl: 1.Details of the Contractor, 2. Copy of the Workmen Compensation Policy, 3. Copy of PF Code Allotment Letter, 4. Copy of LOI / LOC / W. O.

Annexure 4 (On Company Letter head)

FORM - V

[See Rule 21(2)]

Under Contract Labour (regulation & abolition) Act, 1970

FORM OF CERTIFICATE BY EMPLOYER

Certified that we have engaged the applicant M/s. _____ (SO No._____ dated_____2013) having head Office at _____ as a Contractor in our establishment for providing _____ for APM Terminals, Pipavav.

We undertake to be bound by all the provisions of the Contract Labour (Regulations and Abolition) Act-1970 and the provisions of Contract Labour (Regulations and Abolition) Gujarat Rules-1972, in so far as the provisions are applicable to us in respect of the employment of Contract Labour by the applicant in our establishment.

For APM Terminals,

Authorised Signatory

Name & Address of Establishment:

APM Terminals, Pipavav
PO: Ucchaiya, Via: Rajula
District: Amreli (Gujarat)
Pin: 365560

Place: Pipavav Dated:

Registration No.:_____, Dated: _____

Annexure 5

[FORM VI-A]

{See rule 25 (2) (viii) of Contact Labour (Regulation & Abolition Act 1970)

Coupled with Gujarat Rules 1972}

NOTICE OF COMMENCEMENT/COMPLETION OF CONTRACT WORK

I/We, Shri / M/s. (Name and Address of the Contractor) hereby intimate that the contract work (name of work) in the establishment of (Name and Address of Principal employer) for which Labour Licence No_____, dated_____ has been issued to me / us by the Licensing Officer (Name of the Headquarter), has been commenced / completed with effect from (date) / on (date).

Signature of the Contractor (s).

To,
The Asst. Labour Commissioner,
Amreli

FORM VI-B

[See rule 81 (3)]

Notice of completion of Contract Labour

1. **Name & Address of the Principal Employer**

2. **Registration Number**

3. **Date of Registration Certificate**

We hereby intimate that the contract work (name of work) given to (name and address of the contractor) having Licence No .....dated.....has been commenced/completed with effect from (date)/on (date).

Date: ***(Authorized Signatory)***

Annexure 6

Preliminary Report of Accident

(To be submitted within 24 hrs from the occurrence of the accident)

1. a. Name of Contractor: _____

   b. Name of Sub-contractor (If applicable): _____

2. Exact place of accident: _____

3. Details of Injured person

   a. Name: _____

   b. Present address:

   _____

   _____

   c. Permanent address:

   _____

   _____

   d. Sex: _____

   e. Age / Birth date*: _____

   f. Wage last drawn (as per Wage Register)*: _____

   g. Attendance Roll No.: _____

   * Submit a photocopy of relevant document.

4. Date and Time of accident:

   Date: _____ Time _____ (Hrs) _____ (Minutes)

5. Hours at which he started work on day of accident: _____

6. a. Brief Cause of nature of accident / dangerous occurrence:

_____
_____

   b. If caused by Machinery,

   i. Give name of the machine and part causing the accident:

_____

ii. State whether if was moved be mechanical power at the time of accident:

_____

c. Sate exactly what injured person was doing at time of accident:

_____

i. Nature and extent of injuries (e.g. fatal, loss of limbs/fracture–part of body etc.)

_____

7. If accident is not fatal, state whether injured person is likely to be disabled for 48 hrs. or more:

_____

8. In case of accident being temporary/disablement:

a) Date by which compensation will be paid: _____

b) Details of Medical treatment provided: _____

9. In case of accident being fatal/ total disablement:

a. Whether contractor has informed next of kin/relative: _____

i. Name of Person: _____

ii. Address/Contact Nos. (If any) _____

b. Details of medical treatment provided: _____

c. Details of immediate monetary help/facility provided: _____

d. Date and Time of the notice of accident submitted to:

i. * WC Commissioner:

ii. * Nearest Police Station:

(* Please submit copy of above communication).

e. Date by which compensation will be deposited to the WC Commissioner,

_____

Date: Seal & Signature of the Contractor)

Enclosure: Copy of Attendance Register / Wage Register, Copy of Age Proof, Copy of the communication to WC Commissioner/Police Authority.

Annexure 7

COMMENCEMENT OF CONTRACT WORK

We hereby intimate that M/s..... has started the contract work on _____at APMT, Pipavav site:-

1. Name of work: _____

2. Contract Period: From _____ to _____

3. No of workmen under contractor: _____

Authorised Signatory

Name:

Designation:

Date:

Annexure 8

COMPLETION CERTIFICATE

Herewith we declare that M/s. ..... has executed the following project in accordance with the contract to our entire satisfaction.

1. Name of Project: _____
2. Contact Person: _____
3. Location: _____
4. Description of works: _____
5. Role contractor (Main / JV / Sub: _____
6. Technical specs (Equipment, sol etc): _____

   _____
7. Quantities: _____
8. Contract Amount: _____
9. Final Invoiced amount: _____
10. Date of commencement: _____
11. Date of completion: _____
12. Degree of compliance: _____
13. Quality of execution: _____
14. Safety performance: _____

For APM Terminals Pipavav

Authorised Signatory
Date:

Annexure 9

(To be submitted by the Contractor)

DATE _____

Work Order (Photo copy)	
- Work Order No.	
- Work Order Date	From _____to_____
Duration of Contract	
Deed of undertaking (Original) (On non judicial stamp paper of Rs.100/- duly notarized)	
- License No.	
- License Date	
Half year return	
Closer Notice (Form VI-A)	
Attendance / Wage register (LEO Inspection)	
Leave Wages	
PF Details (If any)	
- PF No.	
- PF Compliance Report (Up to last month)	
Compliance / Clearance of	
- Advocate notice (If any)	
- Court Notice (If any)	
- Non payment (If any)	
Accident (If any)	
- Fetal (If any)	
- Non fatal (if any)	

Seal & Sign of the Contractor

Annexure 10

(To be submitted by contractor)

(To be executed and notarized on Non – Judicial Stamp Papers of Rs. 100/-)

This DEED OF UNDERTAKING IS MADE on the ..... by M/s..... in favour of APM Terminals, Pipavav, PO: Ucchaiya, Via: Rajula, District: Amreli - 365560(Gujarat). Present to the award of work through LOI/LOC/WO No. ..... dated ..... by M/s. APM Terminals, Pipavav, the contractor has completed the said work / assignment. During the course of work / assignment the contractor has taken care to ensure a compliance of status however with a view to indemnity M/s. APM Terminals, Pipavav, against any future claim having raised of the workmen deployed by him or his sub-contractors or any other Agency, undertakes the following:-

1. I (including my sub-contractors) herewith expressly undertake that I had completed with all the labour laws applicable to my establishment during the tenure of the work period i.e. from _____ to _____.

2. I (including my sub-contractors) had paid all the legal dues to my workers employed for the execution of the work awarded to me vide above referred LOI/LOC/WO. I had submitted required returns / documents to be submitted to the various authorities under all laws applicable to my establishment from time to time. I further undertake that not a single litigation of case is pending against my establishment under the following labour laws applicable to my establishment.

- Industrial Dispute Act 1947.
- Payment of Wages Act. 1936.
- Minimum Wages Act 1948.
- Employees Provident Fund & Misc. Provision Act 1952.
- Workmen Compensation Act 1923.
- The contract Labour (R&A) Act 1970.
- Equal remuneration Act.
- Standing Order applicable to establishment or any other legal status /rules / regulation of any statutory body.
- Building and other construction workers (RE&SC) Act.
- Building and other construction workers Welfare Act.

3. I have served due notices of closer of my establishment to my workers and also to the different authorities under different laws and I have not received any claim / complaint regarding my dues / payment from any party. However, I further expressly agree and undertake that in case any dues if at all becomes due to my workers or any other party in future because of any award / decision of any Indian court / by virtue of any enactment / modification of Act / rules / parliamentary activism at later state (after signing this deed of the undertaking for further period of three years) will be settled by me (Company) at my cost and risk.

4. I further declare that as per Articles of Association of the company, I am authorised to furnish undertaking and the CONTRACT shall be bound by the stipulation herewith combined and is will the Sub-contractor(s)

IN WITNESS HERE OF the contractor singed and delivered this indemnity Bond on the date of ..... 2010.

Place: (Seal & signature of contractor)

Date:

Witness:

1.....

Name:

Address:

2.....

Name:

Address:

(To be submitted by contractor on his company letter head)

Date:

To
The HR Department
APM Terminals, Pipavav

Sub: Work Completion Certificate
Through: User Department

Dear Sir,

We have been awarded work order No..... dated..... to execute the work..... (nature of work) at ..... Site (Location)

Above assigned work is completed on..... In this connection we would like to confirm we have paid wages and all other due benefits to our workers and nothing is pending. We would also like to confirm that we have deposited due PF amount to the PF authorities and nothing is pending on this account. To confirm all liabilities and indemnify GPPL, we are also enclosing herewith DEED OF UNDERTAKING on non-judicial stamp paper of Rs. 100/- to indemnify the interest of your organisation. As we have completed the work, we require to submit completion certificate in enclosed format to the Government authorities (i.e. Asst. Labour Commissioner) for releasing of security deposit against Labour Licence. You are requested to issue required certificate to enable us to get refund of security deposit.

Thanking you.

Yours sincerely,

(Authorised Signatory)

Encl: Copy of PF Challan, Clearance Certificate from PF Enforcement Officer

APM TERMINALS Lifting Global Trade.

Contractor's Employee Personal Data Format for Obtaining Gate Pass

Sr. No.:

Affix recent passport size coloured photograph

Name of Employee: _____

Father's Name: _____

Date of Birth: ☐☐ ☐☐ ☐☐☐☐

Date **Month** **Year**

Blood Group:_____ Identification Mark:_____

Designation:_____

Emergency Contact: Mr./Mrs./Ms.:_____

Contact No.:_____ Address:_____

_____

Applicant Address	Present	Permanent
House No/Street/Landmark		
Village/Area		
Post Office		
Pin Code		
District		
State		
Police Station		

Details of Contractors (To be filled in by the Contractor)

Name of Contracting Agency:_____

Name of Sub Contractor (If applicable):_____

Address:_____

Contact Person Name & his Mobile No.:_____

Signature/Thumb Impression of Workmen **Seal and Signature of Contractor's Site In-charge**

Concern Department

Name:_____ Signature & Date:_____

HR Department

Submitted all compliances documents on:

Name:_____ Signature:_____

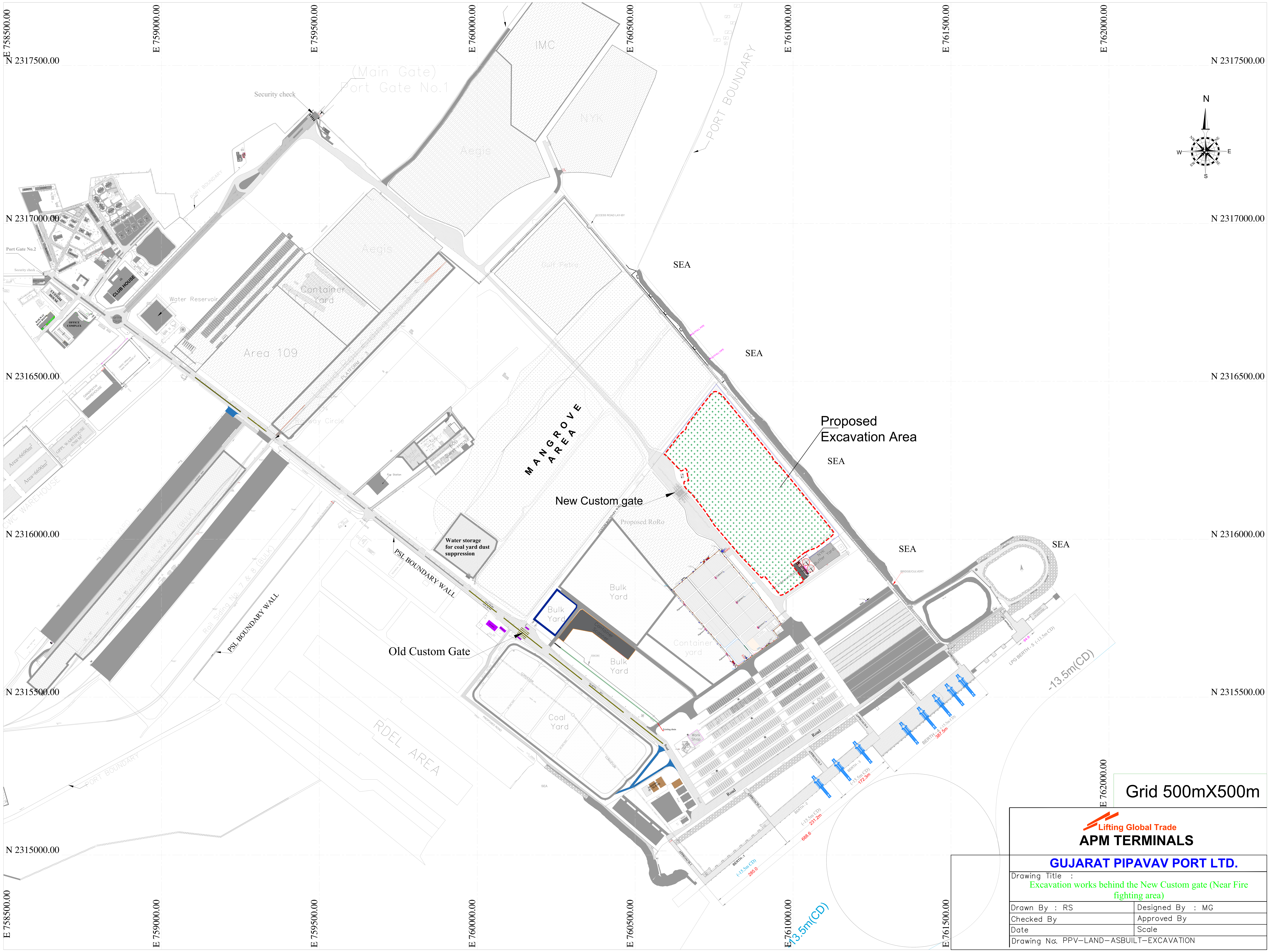
HSSE Department

Undergone required Safety Induction on:

Name of Trainer:_____ Signature & Date:_____

Recommendation by Security Department

Name & Signature of Security In-charge Date:



(Main Gate)
Port Gate No.1
Security check
IMC
NYK
Aegis
PORT BOUNDARY
Port Gate No.2
CLUB HOUSE
Water Reservoir
Container Yard
Area 109
SEA
Proposed
Excavation Area
MANGROVE AREA
New Custom gate
Proposed RoRo
Water storage for coal yard dust suppression
PSL BOUNDARY WALL
Bulk Yard
Container yard
Old Custom Gate
Coal Yard
RDEL AREA
-13.5m(CD)
N
E
W
S
N 2317500.00
N 2317000.00
N 2316500.00
N 2316000.00
N 2315500.00
N 2315000.00
E 758500.00
E 759000.00
E 759500.00
E 760000.00
E 760500.00
E 761000.00
E 761500.00
E 762000.00
Grid 500mX500m
Lifting Global Trade
APM TERMINALS
GUJARAT PIPAVAV PORT LTD.
Drawing Title :
Excavation works behind the New Custom gate (Near Fire fighting area)
Drawn By : RS
Designed By : MG
Checked By
Approved By
Date
Scale
Drawing No. PPV-LAND-ASBUILT-EXCAVATION