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| **Safety Guidelines for Operation & Maintenance of Sewage Treatment Plant at GPPL by Contractor Agencies** |

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# **Objective**

Objective of this document is to mandate the Safety guidelines and good practices to be followed during Operation & Maintenance work at STP to achieve safe work.

# **Scope**

This Code of practice sets out the mandatory guidelines for contractor and contractual staffs engaged in the operation & maintenance activity at STP.

# **Disclaimer**

This is not an absolute guideline and contractor/s using this guideline to ensure that they periodically upgrade the knowledge and skill of their staff and ensure that best practice shared by port and other best practices gathered by contractor from other industries/sources may be adopted to create a safe working environment at their work site.

# **Responsibilities**

Environment department and Contractor shall be jointly responsible for the safety and security of his employee, visitors, assets, environment etc at the Sewage Treatment Plant.

**Contractor**: The person, entity or organisation who is executing the job for APM Terminals under a contractual agreement and will be responsible for the following:

* To follow all APM Terminal Safety Procedure, Rules and guidelines issued with the contract.
* Undertake job as per Standard Operating Procedure (SOP) and Risk Assessment (RA) agreed with APM Terminals.
* Raise any concerns with regard to their work and its safety with the APMT Manager.
* Report all injuries, near misses, unsafe acts/conditions, and occurrences to the APMT Manager immediately.
* Ensure that all sub-contractors follow the APMT Safety Procedure and agreed Site Safety Management Plan.
* To follow all statutory requirements as per the laws of the land.

# **Applicability of Licenses/Permit**

Contractor should obtain all the applicable statutory licenses and permissions for the activity being undertaken by him.

Contractor should periodically check and verify the validity of the licenses and permission obtained from the statutory authorities.

# **Safety Guidelines/Procedures**

## Safety Training for employees of the Contractor

* Contractor should ensure that
  + All employees undergo Port Safety Training before entering port area.
  + All employees are carrying valid Port Safety Pass at all times.
* Before start of any job, Contractor should train all employees. The content of the training program may include the following:
  + Use of personnel protective equipment (PPE) in general and any special PPE specific for a particular job.
  + Emergency preparedness plans specific to job site.
  + procedures relating to Port Permit to work systems
  + Safety standards and procedures for carrying out the high-risk jobs.
  + Special precaution specific for a particular site based on its hazard perception.
  + Hands on training for use of PPE and fire extinguisher.
  + First aid

## Maintaining Records

* Contractor should maintain records of:
  + Inspections by authorities
  + Inspections by Port
  + Employee database
  + Employee working hours
  + Employee Training records
  + Incident and accident
  + Health Register
  + Leave and Leave with wages Register
  + Overtime Register etc.

## Personal Protective Equipment

* All necessary personal protective equipment (PPE) as mandated in Port (Safety Helmet, High Visible Jacket, Safety Shoes) and specific to job requirement like – Respiratory protection equipment, welding visors, full body harness, safety Goggles & Gum Boot Etc. should be kept available for the use of the persons employed at the site and maintained in condition suitable for immediate use.
* PPE shall be conforming to BIS/DGMS/DIN specifications, in good condition and shall be comfortable to his employees, when used.
* Employees should be trained on the selection and use of personal protective equipment.

**SAFETY SHOES**

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* Contractor should provide work wears (with reflective strips) of appropriate size and high visibility to all the workers
* Contactor should also provide adequate Seasonal wears (rain/winter) to their workers.

   

**HIGH-VIZ JACKET**

**SAFETY SHOES**

**SAFETY HELMET**

**RESPIRATORY PROTECTION EQUIPMENT**

## Reporting of Incidents

* Contractor should report all cases of injury (including first aid) and near miss incident to the contract owner/in-charge and Port HSSE officer immediately after the incident.
* Contractor shall assist Port in investigate all the incidents.
* All incidents of fire shall be immediately informed to Port Fire station.
* Emergency phone numbers of Port Fire station, Security and Contract owner/in-charge should be shared with all the workers.
* It is Contractors responsibility to report the Incident to appropriate authorities as per applicable laws and regulations.

## Assessment of HSSE Performance

* Contractor shall be assessed for HSSE performance twice in a year by the Environment Department and HSSE Department.
* For the measurement of HSSE performance following key performance indicators should be considered
  + Proactive
    - Reporting of Unsafe acts/conditions.
    - Reporting of Near misses
    - Nos of Training
  + Reactive
    - Incident Statistics
    - Nos of Non-Compliance reports

## Safety Committee Meetings

* The contractor should attend monthly Port Safety committee meetings and encourage his workers for participation.

## Daily Tool Box Meetings

* A Toolbox meeting is an informal safety meeting that focuses on safety topics related to the specific job, such as workplace hazards and safe work practices.
* Contractor should ensure that his workers are participating in daily tool box meetings.
* A record should be maintained of what discussed and who attended the tool box meeting.

## Selection of Workers

* Contract Workers should only be engaged following an appropriate selection process, in accordance with Local & national legislation.
* Any person should not have employed in port work under the age of 18 years.
* Preferable Age limit should be in between the age of 20 to 50 years and age relaxation may be allowed in case of highly experience and skilled person.
* The criteria for selection should include the following, which are essential carrying out maintenance activity safely:
* A worker needs to be physically capable to perform the job assigned;
* Good eyesight;
* Good hearing;
* Normal reflexes;
* The ability to comprehend and communicate in the working language of the port;
* The ability to follow safety instructions.
* Age limit should be in between the age of 20 to 50 years and age relaxation may be allowed in case of highly experience and skilled person.
* Contractor Employee qualification, skill and Training
  + Staff deployed for all the job should be duly qualified and skilled for the responsibility.
  + The contractor should provide a program to train all staff on the safety procedures to be followed.

The contractor shall assure that no staff doing repair / maintenance work unless the staff has been trained and instructed in correct procedures work.

## Health and Medical Check-up of Manpower

* Contractor should ensure that all contract employees undergo pre-employment fitness examination & produce Medical Fitness Certificate as per applicable laws and regulations.
* After employment once in a year, to ascertain the health status of all the workers in respect of occupational health hazards to which they are exposed: and in cases where in the opinion of the Port Medical Officer it is necessary to do so at a shorter interval in respect of any workers;
* Solvents should not be used to wash hands and/or cloths by employees. Contractor should provide hand wash and cleaning facilities
* Contractor should maintain and promote good hygiene at the work area.

## Transportation of manpower

* Contractor should arrange safe transportation facility for their staffs up to designated work area.
* Contractor should strictly follow Port Traffic rules during transportation of staffs.
* Contractual working staff may use Port shuttle bus services for internal movement.
* Pedestrian movement is allowed only as per the Port Traffic Zones.

## Fire Safety

* Contractor shall engage only the trained and experienced person to handle Compressed Gas cylinders/inflammable liquid and substances.
* Contractor shall ensure that their manpower is trained on basic fire safety and operation of Fire extinguishers.
* Contractor should not build any temporary combustible structures near or around the work site.

## Electrical Repair & Maintenance Work of STP

* Only competent persons should be allowed to carry out any Electrical repair and maintenance work.
* Contractor shall define which people (Authorised person) can work on which type of Electrical Equipment based on the Level of competency requirement as per the Indian Electricity Rules.
* Ensure buddy system of work (No Alone Working) when carrying out Electrical repair and maintenance work.
* All the non-routine activities shall be carried out under Port Permit to Work System.
* Ensure to wear Port mandatory PPE’s (Safety Helmet, High Visible Jacket, Electrical Safety Shoes), Respiratory Protective equipment and certified Shock proof hand gloves of correct rating.
* Only Standard and sound condition tools-tackles and equipment shall be used by Contractor.
* Tools without required insulation shall not be used.
* Strictly follow LOTOTO (Lock Out Tag Out and Try Out) before any repair activity.
* All portable electrical power tools used on Site shall be protected by an approved earth leakage protection device
* No person should work on any live electrical conductor or apparatus, and no person shall assist such person on such work, unless he is authorized on his behalf.
* Ensure double earthing on all major equipment.

## Safe Procedure for Mechanical Repair & Maintenance Work of STP

* Strictly follow LOTOTO (Lock Out Tag Out and Try Out) before any repair activity.
* Ensure to isolate any type of power e.g., electrical, hydraulic etc before starting the mechanical maintenance of the machine.
* Whenever remove a guard to undertake machinery maintenance or to clear a blockage, must be turn off power and remove plug from power outlet
* Make sure replace guard when repairs are completed BEFORE reconnecting power
* During the maintenance of machine/ rotating equipment’s, it should be doubly ensured that the machine does not move / rotate unexpectedly causing injury to the person involved.
* DO NOT operate machine / equipment that has a defect electrical tag attached
* DO NOT operate machine that appears damaged in any way. Report details to workshop supervisor/ engineer
* After mechanical maintenance, machine should be tested at no load condition only as per OEM recommendations.
* Maintain order and cleanliness within the STP area always.
* Ensure All machine guards should be in place during operations
* DO NOT leave any machine running while you move away to perform another task. STOP the machine and render it safe before moving it away

## Safe Use of Tools and Tackles

* Contractor should ensure that sufficient number of good quality tools required for the work are made available to workers.
* Ensure that hand tools are fit for purpose
* Defective tools or tools having mushroom heads or tools having cracked or broken handles or improper fittings etc. should never be used.
* Wrenches and Spanners should be kept in such a condition that they will not slip.
* Tools should not be used for purpose other than for which they are designed.
* Tools and materials should not be left in elevated positions if there is possibility of their falling or being knocked off.
* Tools or equipment should not be dropped or thrown form one level to another at any time.
* Power tools should be used with all the OEM provided guards and safety systems. No changes to be made into any of safety provisions of the equipment.
* The ground wire provided to the electric tools should be checked.
* Insulation of the cables and the chords must be intact. There should not be any joint and exposed live parts of the cables, chords or on the tools.
* Sharp tools like chisel, knives etc. should be provided with casing.

## Chemical Handling at STP.

* All STP workers shall be provided with chemical resistant hand gloves, nose masks and goggles with suitable filter lenses and its usage shall be ensured.
* MSDS of the chemical should be available at the site.
* All the STP workers should be aware about the MSDS of the chemicals handling in the STP area.

## Lifting & carrying of excessive weight

No worker lifts by hand or carries overhead or over his back or shoulders any materials, articles, tools or appliances exceeding in weight the maximum limits as set out in the Gujarat Factories Rules, unless aided by any other building worker or a mechanical device;

## Working at Height

Describes any activity where there is a risk if injury from falling. This applies to situations, but is not restricted to, people performing work in an area with a potential fall distance of 6 feet or more.

* Elimination and fall prevention measures should be prioritized over fall protection/PPE
* Check all your equipment is OK and correctly fitted before you start working at height. If in doubt ask your Supervisor
* Contractor should assure that only medically fit person should perform work at height
* Personal protective equipment and required tools should be available to carry out work at height safely.
* Safety nets may be used as additional fall protection system, it should be installed as close as possible to working level.
* Contractor should assure that all the ladders and other working platform in the working area should meet the industry standards and non-standard or damaged ladders and working platform shall be disposed immediately.
* Bamboo ladders or scaffolds shall **NOT** be permitted for working at height.
* Ladder shall be used for work at height only if the use of more suitable access equipment is not justified because of the low risk, the short duration of use or existing features on site which cannot be altered.
* All precautions necessary for working with ladders (e.g. surface, ladder angle, prevention of slippage of ladder) shall be followed.

## Use of Air Compressor

* + Compressed air shall not be used by the workers for cleaning cloths.
  + Wherever compressed air is used for cleaning of equipment, air blow gun shall be used for controlled release of compressed air.
  + Compressed air should not discharge against the body of any person or towards the face of any person
  + Ensure that hoses for tools and other equipment are secured together to prevent uncontrolled whipping in the event that couplings become separated while under pressure
  + Ensure that supply lines and hoses are protected from damage, inspected regularly, and maintained in good condition.
  + Ensure that all pressure vessels are inspected and tested in accordance to Gujarat Factories Rules.

## Cleaning of STP Tanks & Chambers

* STP contractor should follow the checklist of Confined space entry prepared by GPPL Safety Department.
* Before entering in any confined space within STP area or in any Sewer Chambers or Wet well Contractor must be taken prior approval from GPPL safety department.

## Housekeeping

* It will be contractor’s responsibility to keep his working area clean.
* Contractor should assure that:
  + at all times keep his work spot, site office and surroundings clean and tidy from rubbish, scrap, surplus materials and unwanted tools and equipment.
  + No materials on any of the sites of work should be so stacked or placed as to cause danger or inconvenience to any person or the other people working in area.
  + 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.
  + Working area should always be kept clean and free of any hazard which may result into an accident.
  + Waste generated from the work place should be disposed as per port garbage management system

## Guidelines for Emergency

* Do not panic
* Switch off the equipment
* Raise the alarm by public address system (PA)
* Evacuate the area by following escape routes
* Assemble at the nearest assembly point (emergency assemble point is available near Security gate Number 1)
* Contact port emergency no – 9924 333 333
* Stay calm at assembly point until all clear declared

