




Branch of Haji Abdullah Alireza & Co. Ltd. (GENTEC)

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HEALTH AND SAFETY PROCEDURE

Issued by	Approved By
..... SAFAD MAHIN GEORGIOS ANTONOPOULOS

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Health, Safety & Fire Prevention Management Plan

A. Policy:

GENTEC utmost concern is the safety of the employees and visitors at the work place and the management is keen to provide the necessary training and protective equipment. GENTEC has taken the responsibility to protect the employees from any safety hazard, eliminate any work-related injury and safeguard their safety throughout their activities, see attached Appendix A for the Safety Policy Statement.

B. Objectives:

To manage and carry out all activities associated with the project safety until completion with the following main safety objectives:

- ZERO Injuries and ZERO Fires
- ZERO Reported cases of ill health
- ZERO Property Damage
- 100% compliance with the Environmental system requirements

These objectives are achieved through:


- (a) Establishing a high level of awareness and discipline.
- (b) Identifying areas of high risk and carry out risk assessments.
- (c) Ensuring that personnel are fully instructed with respect to the requirements of the method statements, permit to work certificates to which their work is subjected.
- (d) Promoting a positive approach to health, safety and environment.
- (e) Monitoring the effectiveness of the management of Health, Safety and environment conducting regular scheduled audits / inspections and tracking of incidents.

C. Scope:

This procedure covers all GENTEC activities relating to the complete implementation of the Company's occupational health, safety and environmental requirements, including contractual agreements with the Company's Clients.

D. Responsibilities:

It is the overall responsibility of the General Manager, with the assistance of various Managers/ Section / Dept Heads, in coordination with the Company's Safety staff, to consistently implement this Procedure. They are also responsible for the enforcement of the CLIENT's Safety Policy and Procedures requirements, and for the full compliance with the Company's requirements with regard to the Occupational Health, Safety and Environment. The summary of responsibilities is as follows:


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D.1. Section / Dept Heads / Project Manager / Construction Manager

- Administer the Safety Policy and Loss Prevention Program of the project.
- Monitor the implementation of the Safety Policy.
- Make sure that all the employees receive adequate safety training and orientation.
- Establish a reporting system in case of accidents.
- Define the responsibility for every important personnel.
- Recommend and develop essential ideas for safety improvement.
- Ensure good house-keeping.
- Ensures work as per standards with preventive or minimum risk.
- Give proper instruction to workers regarding safe working practices.

D.2. Safety Officer

- Implement the Loss Prevention Program of the project.
 - Co-ordinate with Section / Dept Heads, Project Manager, Site Engineer and Supervisors / Foremen in matters relating to health and safety.
 - Conduct daily safety inspection and motivates work force to work safely.
 - Check the availability of First Aid Kit, medicines, and Fire Fighting Equipment's.
 - Ensure proper and good housekeeping.
 - Ensure that work permit procedures are followed in restricted areas.
 - Familiarize with Clients work permit procedure.
 - Conduct toolbox meeting with all employees with their supervisor regularly for about 15-20 minutes discussing the topic that relates and involved their work safety precaution.
 - Attend Safety Management Meeting to discuss the safety matters and recommends all necessary precaution to prevent or minimize the risk or hazards present at the worksites.
 - Keep records of all minutes of safety meetings.
 - Report any unsafe conditions to the Foremen, Supervisor or Manager, Section / Dept Heads.
 - Check the provision of all the warning signs, barricade, and warning tapes at the construction site.
 - Conduct investigation of incident, analyze the causes, and recommends appropriate preventive measures. Develop and recommend for improvement of Safety awareness procedure.
 - Maintain records of all injury and property damages.
 - Ensure that critical lift plan and work permit shall be secured, and crane operators are competent, qualified and authorized in possession of their certificates and license are valid to do task.
- Safety Inspection and HSE Performance Reports shall be submitted to the Management as applicable and/ or monthly and a recapitulation summary on annual basis.

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D.3. Supervisors / Foremen

- Shall be responsible for implementing the Loss prevention program of the project and safety policy to his direct personnel.
- Attend toolbox meeting/ talks and to discuss safety topics and problem encountered on site.
- Must know and observe the Company / Client's safety rules and regulations.
- Ensure that the HSE requirements are being implemented on their respective areas of concern.
- Report and investigate all incidents with a view to taking such measures as will prevent recurrences.
- Ensure that the working areas are conformed on the good safety practices.
- Ensure that the workers under supervision must follow and observe the safety procedure and requirements.

D.4. Employees


- Must be well oriented and familiarize themselves on the implemented safety rules and regulations of the company and client.
- Make proper use of all safeguards and safety furnished for self-protection and that of co-workers.
- Report to Supervisor/ Foreman any work hazard that may be discovered in designated workplace.
- Must conform to instruction given by Supervisor / Foremen and Safety Officer; share their responsibility for health and safety.
- Report all incident/accident happened or involved on work area.
- Use the right tools for the job and keep it in good conditions. Keep your tools securely stored after use.

E. Loss Prevention Program:

- The primary objective of this program is to protect the life, health, environment and safety of all personnel as well as to eliminate the possibility of damage to property and equipment while on process of constructing the project to its successful completion.
- GENTEC's goal is not only to maintain its organization's high level of safety consciousness and safety achievements but also to continue improving its accident prevention. Persons other than those identified may perform functional duties and responsibilities designated in this document. Designation of responsibility for implementation, execution, etc. merely implies responsibility for assuring that work is performed in accordance with established procedures.

F. Preventive Measures

- The primary responsibility of an employee is to execute the work under safe working conditions with loss preventive measures.
- Every employee will familiarize himself with GENTEC safety rules in consonance with Client Safety regulations and shall follow the same while performing the work.
- Before commencing the work, the Safety Officer will ensure safe working conditions by periodic inspection of work spot, equipment, material conditions, etc. and will arrange to rectify unsafe working conditions.
- The proper usage of all protective gears is essential and mandatory as Safety requirement.

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- First-aid kit will be made available at the office and all employees will be made aware of the location and contents of the kit. Safety Officer shall check and maintained the availability.
- The work spot will be equipped with Portable Fire Extinguishers depending upon the nature of the job.
- Hazard signals, safety rules precautions will be displayed at critical and strategic places.
- Good house-keeping will be maintained at the work spot.
- Adequate illumination will be provided in dark places.

G. Compliance with the Project Safety Regulations

- GENTEC will comply with all applicable Saudi Arabian Government Laws / safety standards and codes including all Safety Procedures and Programs established by the CLIENT.
- It will be the GENTEC's responsibility to ensure that all works to be performed at all workplaces is conducted in a safe manner without any risk and injury to persons and damage to equipment or property.
- GENTEC will extend all the necessary assistance to the CLIENT or its Representatives at all times.

G.1 Safety Inspections


- GENTEC's Safety Officer will carry out regular HSE inspections at the various sites, as well as at the relevant Company premises (e.g., workshops, industrial / residential buildings). During the inspection works, he will prepare a **Safety Inspection Report** that conforms to the safety requirements per this Procedure. Any nonconformity (i.e., found during the inspection will be recorded in the **HSE Inspection Report**. On this Report, the concerned Dept Head / Foreman needs to acknowledge the nonconformity found and to indicate the required corrective action.

The Safety Officer is to carry out a follow-up on the agreed corrective action, as indicated on the **HSE Inspection Report**, within the agreed time frame, in order to verify the effectiveness of the corrective action taken by the concerned Dept Head / Foreman / Supervisor.

- GENTEC Safety Officer will assist the CLIENT Safety Representative during his conduct of regular safety inspection and ensure that any safety violations observed will be given immediate corrective action. During this exercise, the **Inspections Forms provided by the CLIENT** will be used in recording / reporting the inspection findings. However, GENTEC Safety Officer shall obtain copies of the Inspection Reports following the completion their joint inspection activities for record purposes.

G.2 Safety Induction / Orientation

- New site employee will be given Safety Orientation Seminar, which will be conducted by the GENTEC Safety Officer.
- Site workers (skilled and non-skilled) must attend Employee Orientation Session that may be conducted either by the CLIENT or by the GENTEC Safety Dept prior to commencement of any site project work.
- The record of the attendance, signed by each individual employee of such training session, will be maintained.
- The safety session will include the following topics but not limited to:
 - a) Safety Rules and Regulations.
 - b) Project safety programs and standards in accordance with the CLIENT's safety standards.
 - c) Personal Documents: Company I.D., Iqama, License, etc.
 - d) Use of Personal Protective Equipment
 - e) Work Permits System
 - f) Procedures in reporting incident, including unsafe acts / conditions.

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- g) Proper handling of cylinders; oxyacetylene, argon, LPG etc.
- h) Fire Prevention and Protection and the basic use of Fire Extinguishers.
- i) Housekeeping
- j) First Aid available services
- k) Procedures in the Emergency Evacuation
- l) Sign Tags/ Sign Boards
- m) Excavation Safety
- n) Material Storage and Handling
- o) Electrical Safety
- p) Rigging and Crane Safety

G.3 Toolbox Safety Meeting

- Toolbox Safety Meeting/ Talks will be conducted by Safety Officer with the presence of the respective Dept Head / Foreman / Supervisor.
- The purpose of this talk is to provide employees with information and instructions related to accident prevention and procedure to be followed, during the course of their work activities at the particular workplace.
- This meeting will be conducted regularly or as frequently as the situation requires, and all employees are required to attend the meeting.
- HSE Meeting/ talk's topics will be related to the work being performed.
- The records of the HSE Toolbox meeting/ talk will be maintained.


G.4 Project Safety Committee

- Project site (as applicable to project organization and size) will have safety committee, which shall be composed of:
 - a) Project Manager- Chairman
 - b) Safety Manager / Officer - Secretary
 - c) Construction Foremen/Supervisors - Member
- The committee shall hold a meeting at least once in a month. Minutes of meetings will be maintained.
- The functions of project safety committee shall:
 - a) Review of all incidents report
 - b) Study and suggest on specific incident with a view to prevent recurrence. Recommendation for preventive action to eliminate the likelihood.
 - c) Initiate corrective actions for unsafe actions / unsafe conditions.
 - d) Investigate and suggest corrective measures in case of any major incident.
 - e) Review of periodical safety inspection reports prepared by the Safety Officer.
 - f) Assist the Project Management in formulating solution to major safety problem and recommend for improvements of the Safety measures.

G.5 Safety Performance Report

Safety Inspection and HSE Performance Reports shall be submitted to the Management on a monthly basis and a recapitulation summary on quarterly and annual basis.

- The reports shall be prepared by the Safety Officer or his designated personnel.
- The responsibility for the preparation of the reports can be assigned by the Project Manager to other projects personnel.
- The monthly report shall be part of the Project Monthly Status Report submitted by projects to Projects

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Control and MIS Department.

- The summarized Quarterly and Annual Reports shall be prepared by Projects Control & MIS Department and to be submitted to the Management within the following month of the New Year.

H. Personal Protective Equipment

GENTEC will provide the following personal protective clothing and equipment to its personnel (as applicable):

- Head protection - Safety helmets / hard hats, it must have chin strap for retention while working in heights.
- Eye and Face protection - Safety glasses, Face shield & Goggles protective shield for welding.
- Hand protection - Hand and welding gloves
- Foot protection - Safety Shoes / Boots
- Body protection - Working clothes; Cover-all with long Sleeves, trouser and apron for welding
- Respiratory protection - Face mask, respiratory or cartridge mask and breathing apparatus
- Protection from falling - Fall Arrest System: Safety belts/Full body harness / lifeline
- Hearing protection - Earmuffs or Earplugs if noise in working areas is above 85 dba.

I. Procedures

One of the most important Safety Factors is the definition and publishing of written basic methods and procedures for the safe execution of various tasks.

- The early and clear knowledge by all employees of "how and with what I do my job" regardless of how minor and insignificant this job might seem, has many and obvious advantages.
- Minimizes the chances of accident that could be caused by ignorance of the work execution procedure or of the operation and use of the relevant tools and equipment.
- Gives the worker self-confidence since he knows what to do and how to avoid the hazards connected to the execution of the work
- Improves the Quality through knowledge
- Increases the productivity by minimizing accidents, namely loss of labor hours, and by executing a known task.

Responsible for ensuring that the work procedures are observed by the workers, are the supervisors/ foremen of each discipline. They should be authorized to interrupt every activity executed not in accordance with these procedures. The Safety Officer monitors but does not interfere with the worker actions however, if unsafe act is observed, he indicates such to the supervisor for immediate remedial action.

I.1. General Safety Procedure

- Possession or use of any alcohol mind altering drugs, or other controlled/ prohibited substance can be a ground for immediate dismissal. Gambling, fighting, horseplay, carrying firearms or other deadly weapon on the job or in areas under company control will be a cause for dismissal. Photography and mobile telephone is prohibited at the job site.
- All Personal Protective Equipments shall conform to the client's safety manuals standards. Special Protective Equipments shall be used for extra necessary protection of Respiratory, Ear, Eye, Hand and Foot.
- All indents, injuries, hazardous practices, or conditions shall be reported to the supervisor

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immediately for corrective action and medical attention.

- d) First aid medicines and facility will be maintained and available at site to treat Personnel injuries.
- e) Jewelry (rings, bracelets, neck chains, etc.) should NOT be worn during work.
- f) Good Housekeeping and Fire Prevention regulation will be maintained and observed at all times.
- g) All equipment and power tools with moving parts will only be operated with guard's protection in place.
- h) Riding or transporting personnel is not allowed using any construction equipment and open bed pick up or trailer trucks.
- i) Use equipment's and tools intended for their use. Defective equipment's, power and hand tools will not be used. No makeshift of tools allowed.
- j) Cranes, forklift, and others will be operated according to safety operating manuals and instructions and only Certified Operators will operate the same.
- k) All Safe Work Practices and Safe Working Load will be followed while hoisting and lifting loads.
- l) Read or listen carefully the instruction. If you do not understand them, ask your supervisor before commencing work.
- m) Adhere to all safety signs, posters or hazard information posted or issued on the job for further notices or warning.
- n) Explosives, flammable materials, electrical equipment, heating devices, compressed air and pressure vessels shall be handled according to safety rules or detailed at Safety Instructions Manual.
- o) Do not operate or move machinery / closing or opening valves or switching electrical switches unless you are authorized, and it is safe to do so.
- p) Never work vehicles or equipment supported only by jacks or hoists without protective blocking and a safety stand if work involved beneath as stated.
- q) No breakdown heavy machineries and equipment's shall be done for repair inside the worksites. Shall be done repair only at the workshop.
- r) Do not disconnect air hose of compressors until it has been fully bleed or depressurized. Only authorized person shall do the task.
- s) Keep loose materials off stairs, walkways, ramps, platforms, etc. Watch your way before taking your steps. Be aware to any stumbling hazards or slipping, tripping and falling hazards.
- t) Have safe access to work areas. The safe way is the right way.
- u) Do not block walkways, traffic lanes, fire exit or fire hydrants.
- v) Access to Fire Extinguishers will be free and visible, used extinguishers will be replaced and returned immediately by/ to Safety Department.
- w) When entering other work areas, observe and familiarize yourself with hazards and required safety rules. Be aware of work going on around. Keep clear of overhead job, suspended loads, and traffic areas.
- x) Place barricades and signs to warn off excavation, traffic, overhead hazards. Always be aware of the risk if barricades and signboard around the area.
- y) All appliances, equipment and materials used for temporary electrical installation shall be constructed, protected, worked and maintained by concerned department to take precautionary measures.
- z) All electrical sources of equipment's shall be carried out by or under immediate supervision of a qualified craftsman. Whenever possible, equipment shall be de-energized. There are special precautions which must be taken for on live equipment, so as to prevent accident.
- aa) Any existing electrical system and running system shall be properly maintained. Any repair/ replacement for damage lines/connections shall be done to authorized or concerned department for

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appropriate action, so as to prevent danger around live utilities.

- bb) If a cable is accidentally hit or damaged shall be immediately reported to the area Supervisor or Safety supervisor.
- cc) "WORK PERMIT SYSTEM" must be obtained before commencing all work tasks to identify potential risk/ hazards and ensure that relevant Dept had approved the work request/ permit that meets all necessary requirements.
- dd) Tags, labels and remarks should be installed or posted in the immediate vicinity to warn personnel before commissioning or testing.
- ee) Remove nails from lumber and bend it over or de-nailed the woods piles.
- ff) All MUST attend Toolbox Meeting to aware and familiarized the potential hazards of every task to impose preventive/corrective action and precautionary measures.


I.2. Specific Safety Procedures

I.2.1 Welding and Cutting Equipment

- Risk assessment should be completed for hot works with significant risks and Permit to Work Certificate (PTWC) must be obtained.
- All equipment used shall be of an approved standard and in good working condition.
- Remove all flammable material from the work area or provide guards such as fireproof blankets, shields, etc. should be used to confine the heat, sparks and slag's, and protect the immovable fire hazards.
- Adequate and appropriate firefighting equipment such as portable fire extinguishers, fire hydrant hose shall be maintained in a state of readiness for instant use depending upon the nature and quantity of the combustible exposed.
- Damage cable shall not be used on site
- Proper copper grounding rods with appropriate cable clamps must be provided in welding machine.
- Blank-off all 220 volts outlets in all arc-welding machines.
- Used stubs welding electrodes should be collected in a metal container or bucket and should not be thrown on the floor.
- A fire watch shall be maintained during the work.
- Spark shall not be permitted to fall on gas cylinders, flammable materials, or operating equipment.
- Combustible materials or drums which have contained flammable liquids shall not be used to support work to be welded or burned.
- Hoses and cables must be so properly located as to avoid tripping hazards or be exposed to damage.
- Requirements per Personal Protective Equipment on section H shall be provided to personnel.
- Adequate ventilation shall be maintained in confined spaces. "Oxygen must never be used for this purpose"
- During re-fueling the welding machine must be stopped.
- Erect welding curtains or Fire Blanket around work area as a flash and spark barrier. Arc welding flash can injure unprotected eyes.

I.2.1a Oxygen, Acetylene and Compress Gas Cylinder

- Cylinder shall be transported, stored and used securely fixed in the upright position. They must never be rolled on their side, dropped, or manhandled with the gauges fitted. When not in use they shall be stored with "Valve caps on" in a specifically designated area.
- When lifted by crane, specially designed bottle holders with lifting eyes should be used. Where a trolley is to be used for slinging, its base should be strong enough to take weight of the cylinders. The use of sling on the cylinder is strictly prohibited.

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- Gas hose and connection points must be frequently checked of leaks with a soapy water solution.
- Cylinders should be stored in a safe, dry and well-ventilated place with protective enclosure or sun shelters.
- Flammable substances such as oil and volatile liquids or corrosive substance should not be stored in the same area.
- Maximum permissible pressure for acetylene shall not exceed 15 psig and oxygen shall not exceed 50 psig.
- Flashback flame arrestor should be used for hoses and torches, and when they are used they shall prevent ignition of gas sources upstream from the torch.
- Valves, gauges, and regulators shall be kept free of oil and grease.
- A spark lighter or stationary frame should be used to light a torch, never use matches.
- An oxyacetylene valve wrench shall be available for each pair of cylinders.
- Oxyacetylene torches, hoses, and regulators must be removed from confined spaces such as vessels, drum, or excavation, when not in use to prevent accumulation of flammable gasses.
- Using this equipment, refer to the requirement of Personal Protective Equipment on section H.
- Oxygen cylinders and flammable gas cylinders shall be stored separately and securely chained.
- "NO SMOKING" sign in English and Arabic shall be posted in a provided 5 feet high fire proof partition.


I.2.1b Electrical Arc

- Ground return clamps shall be attached to the work piece.
- Cable runs shall be as short as possible, and joints made with approved connectors. Connections to the generator shall be of the plate and bolt type.
- Each generator shall be equipped with an appropriate type of fire extinguisher.
- Electrodes shall be removed from holders when not in use.
- Where necessary, screens shall be used to protect persons nearby from the arc. Provide barricade around the area.
- Provide GFCI's for handheld power tools that are plugged into the welding machine auxiliary outlet.
- Electrode connector insulation shall be free of cracks or damage, and all connections made tight. Do not splice welding cables.
- Refer to prescribe and appropriate Personal Protective Equipment (Section H) and General Safety Rules (Section I.1) as required.

I.2.2 Power Tools

I.2.2a Electrical Tools and Portable Power Tools

- All tools shall be equipped with proper safeguards and used only in applications for which it is designed.
- All power tools should not be rated or used at a voltage exceeding 110 volts.
- All electrical and portable tools must have "dead man" switches.
- All electrical and portable tools shall be inspected, and color coded in monthly basis by a competent electrician.
- Extra low voltage tools and lights must be used in confined space.
- All electrical equipment's including plugs, sockets, etc. to be used at site must conform to recognized standard as per CLIENTS Safety Manual.
- All electrical outlets servicing these power tools must be protected by Ground Fault Circuit Interrupters (GFCI) which meets CLIENT standards.
- All using of power tools must conform the refer General Safety Rules on section I.1 and Personal

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Protective Equipment on section H as required.

- All connections shall be electrically and mechanically sound and properly insulated.
- Using these tools refer to the prescribed Personal Protective Equipment on section H shall be provided to personnel.

I.2.2b Cartridge Operated Tools

GENTEC shall ensure that only cartridge tools meet the required standards are used and maintained in good condition, in compliance with appropriate Safety Manual.

- A certificate of competency shall be required of all users of cartridge tools (Hilti Gun) to verify training for the specific tool. The certificate shall be obtained from an authorized vendor.
- Use Cartridge tools only in areas free of flammable, explosive, or combustible dusts.
- Tools shield or muzzle guards shall be attached and used.
- Use prescribed Personal Protective Equipment as refer on section H must be required to operators.
- Clear the area of people before operating the tools.
- Place barricades and warning signs.
- Keep a logbook inventory of issued and returned tools.

I.2.3 Work at Height


Work in industries and construction project which cannot reach from the ground are required to be done at heights. GENTEC Management ensure workers to prevent them falling from their places of work and injuring themselves or getting killed, also to prevent tools and materials falling from heights.

- Provide a safe working platform with safe access to it by some sort of scaffolding or mobile platform, ladders, mobile elevating/ suspended mast work platforms to prevent the fall of person.
- Person work in heights should be competent and protected by the use of fall protection system such as safety nets or safety harnesses
- Plan and organize work procedure before starting the work
- Equipment for work in heights is inspected and ensure safe before use
- All requirements shall meet the client's standards in compliance with safety manuals

I.2.3a Ladders

GENTEC shall ensure that appropriate ladders are provided and used for ingress to and egress from work places, where other means of ingress and egress are not available.

- Ladders must be inspected prior to use. Defective ladders must be tagged and removed from service.
- Use both hands when ascending or descending a ladder, use tool bags for lifting or lowering tools.
- Do not over reach from a ladder, move as closer to the work location
- Area around top and base of the ladder must free from tripping hazards.
- Ladders must be suitable quality for industrial use.
- Ladders used for electrical work shall be non-conductive materials.
- Ladders used for access or as working places shall raise at least 3 rungs or 1.05 meters above the platform or securely fixed at the upper resting area.
- Ladders shall be securely tied and evenly supported on both side and shall not be footed on loose

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materials.

- Unless specifically designed for use vertically with hoops or secured to a rolling scaffold, a ladder shall be placed a 75 deg. to the horizontal.

I.2.3b Scaffolding

GENTEC shall provide and use scaffolding, platforms or temporary floors for all work which cannot be done safely from ground level. The scaffolding shall be constructed of metal components which meet appropriate safety standards and erected by competent and certified person in compliance with the requirement of safety manual.

- Standards and frames shall be pitched on steel base plates and where the footing is soft or un-even timber sole plates will be used. All standards and frames shall be vertical.
- All scaffolding shall be adequately braced. Cross-bracing on frame scaffold shall be securely fixed.
- Working platforms shall be close planked for the entire width of the scaffold and, where more than 1.9 meters high, fitted with guardrails and toe boards. Two-inch planks shall not span distance greater than 2.6 meters. Planks which overhang end supports shall be securely fixed to prevent tipping.
- Scaffolds of 6 meters or more in height shall be guyed or securely fixed to a structure at least every 4.2 meters horizontally.
- The height of rolling and tower scaffolds shall not exceed three times the minimum base width, unless securely guyed, tied or weighted at the base.
- Rolling or moving scaffolds shall be moved only by pushing or pulling at the base, and never moved with men or materials on the platform.
- Scaffold up to 3 meters must be inspected by Area Supervisor or qualified person. Scaffolds in excess of 3 m. or suspended must be inspected by the Safety Officer.
- Refer also to Personal Protective Equipment on section H and General Safety Rules on section I.1 as required for erection and safety measures to erectors.

I.2.4 Electrical Installation Equipment


GENTEC shall ensure that all materials and equipment used in temporary electrical installations shall be of a type meeting the required standards including appropriate Safety Manual requirements and ensure also that all receptacle outlets not part of the permanent wiring of any building or structure, shall have Ground Fault Circuit Interrupters (GFCI) for personal protection.

- For proper work method involving electrical refer the General Safety Rules on section I.1.
- Equipment used in electrically classified areas (where flammable vapors must be present) shall be approved by CLIENT representative.
- Electrical distribution panels shall be labeled with its respective loads and “DANGER” warning signs to be posted.
- Lock-out, Tag-out system shall be implemented while working with electrical.

I.2.5 Cranes and Rigging Equipment

GENTEC ensures that all lifting appliances and every part thereof, including all equipment used for anchor, fixing such appliances, shall be in good mechanical operating condition, free from any defect, and constructed of materials with a specified strength suitable for the intended use. It also ensures that such lifting appliances are properly inspected, maintained and certified by qualified third party.

All mobile Heavy Equipment and Equipment operators must possess a valid Kingdom of Saudi Arabia heavy equipment operator's license and have a third-party certificate to operate the equipment. All cranes and lifting equipment must be properly inspected and certified before being permitted to operate inside the project and that riggers are certified by qualified third party.

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- Every Crane shall be fitted with a means of Load Moment Indicator to determine the operator from its maximum S.W. L. which may be lifted at each correct radius of the boom.
- The crane outrigger shall be fully extended, and appropriate size of floating pads shall be provided prior to start the lifting activities.
- Before commencing the lift, the operator shall do the pre-lifting exercise by turning, extending and swinging the boom to clear and secure the lifting load from the area.
- The load of the crane shall not exceed the S.W.L. specified by the manufacturers of the crane. See also General Safety Rules on section I.1.
- With the hoist rope of a crane fully extended there shall be at least two turns of rope on the drum.
- The Crane operator shall act and follow on the signals of a designated rigger only.
- The Rigger shall wear a luminous vest to recognize easily and shall use approved signals.
- Suitable tag lines shall be used to control movement of the object being lifted.
- The area where the lifting operation is conducted shall be properly isolated or barricaded and adequate warning signs must be provided and only the rigging team shall be within the vicinity.
- Under no circumstance, nobody is allowed under the suspended load.
- Crane operators shall conduct daily inspection using checklist to their respective cranes.
- Loads shall be lifted vertically and never drag or swing.
- Before lifting, a load shall be floated clear of the ground to ensure that the rigging is satisfactory, and that the S.W.L. of the crane at that radius is not exceed.
- An operator shall not leave the controls of his crane whilst load is suspended.
- Precaution shall be taken to prevent men being trapped or crushed between the slewing part of a crane and any fixed object.
- The lifting hook of a crane shall be fitted with an approved safety latch.
- Hook and load riding shall be strictly prohibited.
- Damaged and worn hooks, sling, shackles, rings eye bolt, chain and wire shall be disposed off and not used or left around on site.
- Connection shall always be made with shackles or other positive locking devices. Drift pins and other makeshift devices shall not be used.
- Shackles shall be used only with the correct pins and not ordinary bolts.
- Packing or softeners shall be used to protect slings and wire rope from damage by sharp edges.
- Cable clamps shall be fitted with the saddle on the live part of the top. Not less than 3 clamps shall be used for each connection.
- When a load is raised on multi legged slings, the legs shall be evenly disposed about the center of gravity of the load.
- Critical lift plan and a Work permit shall be obtained prior performing critical lifting activities.

I.2.6 Excavation, Trenching and Shoring

Excavation is defined as making a depression or cavity on the earth's surface, below the surrounding ground level. In excavation work extra precautions are required as to potential danger do exist, such as the existence of underground networks, like; live cables or pipes or on the method of trenching, benching and sloping shoring.

Risk associated in this activity includes cave-ins, toxic gases, falls, and striking buried service lines, injury from falling materials, tripping, and slipping.

- Excavation plans should be submitted to CLIENT Loss Prevention Division.
- All excavation work is carried out according to the requirements of procedures.
- GENTEC Supervisor / Construction Engineer of the planned excavation work shall notify the concerned

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CLIENT area supervisor and shall show him the exact location, extent of the excavation and the equipment to be used.

- GENTEC Supervisor / Construction Engineer shall also arrange for a survey on the area planned to be excavated together with CLIENT area supervisor to identify underground networks, example: buried cables, pipelines or any other hazard that may be found during excavation.
- The GENTEC Construction Engineer marks the area with stick/ pole and if necessary put a guard or fence.
- Provide a set of "As Built drawing" (as may be required)
- Excavation/Work permit must be completed and duly signed by all concerned department prior commencing work.
- Vertical excavations that are 1.2 meters depth or more shall be properly shored or sloped to a safe angle.
- All machineries, equipment's and hand tools with updated inspection certificate by third party will be in good operational condition to prevent any delay of the excavation work and observe the method of work.
- One (1) meter distance shall be maintained from the edges of a trench for excavated materials to avoid danger of sliding or falling back. Excavated materials if possible, shall not stack piles to block and obstruct the road traffic in case the area is limited.
- Where vehicles or other motorized equipment is used to dump material into an excavation, a flagman shall be utilized and a suitable stop block shall be installed/ mounted.
- For safe means of egress and ingress from excavation a ladder shall be provided at intervals not exceeding 15 meters.
- Workers shall be working in a safer distance where they could not be struck by any part of a mechanical excavator and excavated debris.
- Where there is a potential presence of hazardous atmosphere and risk to workers in an excavation, gas test must be carried out by certified gas tester.
- Excavation shall be suitably marked and barricaded. Excavation work in roads, or sidewalks shall not be undertaken without the prior approval of the Safety Officer.
- Any obstruction or danger encountered while digging must be immediately brought to the attention of the Safety Officer.
- Warning enclosure barricades and appropriate traffic signs or re-routing signs will be provided and properly maintained during which excavation works and trench exist.
- Underground and surface utilities (water, gas, electricity, sewer, etc.) should be identified referring as-built drawings and by using cable metal scanning instrument.
- Daily inspection using excavation safety inspection checklist for all excavation shall be conducted by the in-charge excavation foreman/ supervisor. Documents shall be kept for file.
- Properly built cross over ramps or bridges with complete boarding, toe boards and guardrails shall be provided for ling excavation or trenches for safe access of personnel.
- When using mechanical excavator for excavation activities, a flagman with luminous vest shall be delegated to guide the operator and to warn nearby workers.
- While excavation is open, underground installation shall be protected, supported or removed as necessary to safeguard employees from accidental contact.
- Personnel shall be trained in emergency response plan and aware of actions to be taken in case of emergency.

1.2.7 Formworks

The following minimum requirements shall be provided during form work operations.

- Form work supports shall conform to required standards. The timber to be used shall be of suitable

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materials and of adequate strength.

- Form work shall be designed, erected, supported and braced by a competent crew, and shall be maintained so that it will safely support all vertical and lateral loads that maybe imposed upon it during concrete pouring.
- Only authorized site personnel will be allowed in concrete pouring operations. Unauthorized people shall stay clear of the pour area. A clear area will be maintained at 1½ times the highest point of form work.
- All formworks supporting ground or completed construction upon which formwork shoring and bracing is to be placed shall be of adequate strength to carry the vertical and lateral loads to be imposed or can be suitable to support by its own structure.
- Structural and reinforcement steel walls, piers, columns, and other similar vertical structures shall be supported or guyed to prevent overturning or collapse.
- All shoring equipment's and tools shall be inspected prior its erection to determine if it's specified for design. Any equipment for formworks found have damage shall not be used.
- A safety wire will properly tie-on the handle to any power tools or equipment use when working above or in heights to prevent from falling or injuries to personnel below.
- Fall Protection System shall be provided which will prevent personnel from slipping and falling when working in heights and prevent personnel at lower level from being struck by falling objects.
- Removal of formworks, forms, and shores (except those on slab or grade and slip forms) shall not be removed until the individual responsible for forming/ or shoring determines that the concrete has gained sufficient curing.
- All materials were used from shoring upon removal for the formworks shall be immediately cleared of pointed nails or any sharp materials and bent to prevent any risk of protruding to personnel. Place all used materials in isolated area. Shall be kept for use to other purpose.

I.2.8 Ionizing Radiation


GENTEC will implement the safe working for all operations involving radioactive materials. Ensure that all employees using this equipment have a "Radioactive Permit" prior commencing of work and aware of the mandatory precautions to be taken against ionizing radiation hazard.

- All operation involving the use of radioactive materials must be covered by precautions contained on the Loss Prevention Program.
- Suitable notices, warning signs must be displayed and complete barriers with flashing lights. An audible warning device must be sounded prior to source exposure. Workers not involved in the activity must be warned not to enter the cordoned zone.
- Conform to the requirement per General Safety Rules on Section I.1 and appropriate Personal Protective Equipment on section H before ionizing radiation test.
- Radiation warnings and signs should be installed / posted at least 20 meters or more away around the exposure area.
- An exposed source must be returned to its safe container immediately after the operation.
- Frequent checks and monitor the radiation intensity outside the cordoned-off area.
- Workers working with ionizing radiation must wear radiation suit or film badges at all times.

I.2.9 Materials Handling

I.2.9a Manual Lifting

- When lifting heavy objects, bend your knees, keep your back straight, and use your legs muscle not the back to lift the object. To unload the objects, use the same techniques when lifting the object.
- Plan your route and never carry object that blocks your vision.
- Keep the Load close to your body.

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- If the load is too heavy, ask for assistance or use mechanical help.
- Always move your feet rather than twisting your body to change direction.
- Examine your hands and fingers out of the ends of pipes or other tabular material.

I.2.9b Team Lifting

When two or more persons have to carry a long or heavy object, the person in the rear must give the signal or properly communicate for lifting, lowering or moving in any direction.

I.2.10 Mechanical Equipment


GENTEC shall ensure that all mechanical equipment provided is maintained in good condition. All moving parts of any equipment shall be securely guarded to prevent access to these parts by person working on or passing through the work site.

- Equipment shall be adequate and suitable for the work to be done.
- All equipment shall be maintained in a safe and operable condition.
- Equipment shall be operated only by men who have been instructed in its use and have demonstrated their ability to use it safely.
- All shafting, gear, chain or belt drives, cranks reciprocating or revolving parts, and other dangerous parts of equipment shall be securely guarded.
- Woodworking machinery shall be suitably fitted and correctly adjusted guards and riving knives. A push stick shall be used for close work.
- Dozer blades, scraper aprons, and tipper bodies shall always be lowered after use. If raised for maintenance, they shall be blocked.
- Heavy equipment shall have a spotter (attendant) or signalman to assist with maneuvering and warn the operator of unseen hazards.
- Mechanically sound hitches must be used whenever trailers/ equipment is being towed. All moving Heavy equipment's shall be provided or installed with beacon/ strobe light and backing horns when in operations and on backing maneuver.
- Engine shall be stopped or switch-off when refueling.
- Whenever an exhaust fume are given off in a confined space, adequate ventilation shall be provided.
- Internal combustion engines operated in a restricted area requires a Hot Work Permit.
- Passenger transportation practice refers the General Safety Rules (section I.1) and Transportation on section I.2.11 to follow the safety measures.
- All heavy equipment's must be fitted with "audible" reverse or back-up alarms.

I.2.11 Transportation

GENTEC shall ensure that all passengers shall travel only in vehicles that are provided with passenger seats. This requirement shall apply for transport to and from any work site or to designated workplace.

- Seat belts shall be installed and used in all vehicles carrying personnel (except in the case of buses where seat belts are mandatory only for the driver).
- The towing of small equipment such as compressor, welding machine, etc. should be properly safe connected to the towing clamp (vehicle).
- Transporting of construction materials and supplies between storehouse and work site should pertinent on the requirement of Saudi traffic regulations
- All motor vehicle drivers shall have and in his possession a Saudi Government license (SAG).
- Every driver shall familiarize himself with the Local / Internal Road Traffic regulation.
- Passenger shall be carried only in the passenger car compartments, trucks, and buses. Passengers shall not be carried on the back of the pickups, on truck beds, on cranes, or on other items of

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equipment.

- All vehicles shall be parked properly and where provided, in designated parking areas.
- Parked vehicles shall not obstruct other vehicles, roads, access ways, fire exits or fire hydrant.
- Drivers to ensure that any materials extending more than one (1) meter beyond the front or rear of the vehicle shall have a red flag fastened at the end of the load.

I.2.12 First Aid Facilities

GENTEC shall provide and maintain First Aid Facilities at work site, i.e.:

- First aid kit/ cabinet shall be provided and maintained within Site containing approved medicines and paraphernalia.
- The medicine and paraphernalia shall be regularly checked and inspected by the person responsible for administering first-aid to the injured during working hours.
- If work carried out in scattered location which more than 300 meters apart a separate first aid kit/ cabinet shall be provided.
- Person-in-charge who trained or certified in first aid procedure will be assigned to be responsible for taking care and maintaining the First Aid Kit / Cabinets.

I.2.13 Fire Prevention


- Understanding of the four (4) basic principles of components of Fire is the key to Fire Prevention in any given place. Fire will spread from an ignition source to a fuel or other fuel sources by Conduction, Convection, Radiation and the Sustaining Chemical Chain Reaction.
- GENTEC subscribes that Fire Prevention shall be given highest priority in the project site. To attain this goal, GENTEC will provide and maintain in good working order adequate and suitable firefighting equipment in job sites, as well as in the Company premises (i.e. industrial / residential buildings).

I.2.13a Pre-Fire Plan

- All personnel shall be properly trained in the use of Fire Extinguisher in different classes of fires:
 - ✓ Class A - Ordinary combustible
 - ✓ Class B - Flammable Liquids
 - ✓ Class C - Electrical Equipment
 - ✓ Class D - Combustible metals
- Fire Prevention topic shall also be included in the toolbox safety meeting/ safety talks to effectively disseminate and informed all personnel on the job site on fire prevention.
- Firefighting equipment installed/ situated in the GENTEC AOR job site shall be monthly inspected and tagged to ensure of its effectiveness and readiness in case of emergency.
- All firefighting equipment shall be visible and maintained throughout the site.
- All firefighting equipment shall not be always obstructed.
- Ingress and egress shall be kept open and un-obstructed at all times.
- Fire extinguisher of appropriate type shall be provided, maintained, adequate and easily accessible on the job site, lay down yards, and for the specific fire hazard.
- Gasoline and diesel engines shall be operated only in well-ventilated areas and shall be mark with "FLAMMABLE AREA" signs.

I.2.13b Storage Handling Flammable / Combustible / Materials

- Combustible and flammable materials shall be stored in isolated locations, a 50ft. distance away from ignition sources or building operations.
- Flammable liquids shall not be transported if not stored in metal safety containers on which the

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containers are properly marked or labeled as to the contents.

- Flammable should not be poured within 15 meters (50 ft) of any ignition source such as: running motors, chipping, operating power tools, welding, cutting or grinding.
- Flammable liquids shall not be stored in buildings unless such buildings have been specifically designated and are suitably isolated.
- Storage of flammables (i.e. gasoline, acetone, and paint thinner, and petroleum distillates) should be kept in metal cabinets, ventilated and inside sheds or huts.
- Minimize the storage of flammable materials at the work site for the daily supply as needed.
- Use only approved cable and clamps on despising drums and receiving containers.

I.2.13c Housekeeping

- Ensure good housekeeping in the work site to prevent accumulation of rubbish.
- Accumulated rubbish shall be classified and segregated according to their nature as general construction waste, combustible materials, etc.
- Burning of rubbish or other materials in the work site is strictly prohibited.

I.2.13d Smoking at Prohibited Areas

- Smoking is only permitted in designated smoking area. "NO SMOKING SIGN" shall be posted in the area where flammable liquids and other flammable materials are stored.
- Non-combustible containers shall be provided for cigarette butts disposal.

I.2.13e Hot Works and Electrical Equipment

- During hot work activities trained personnel shall be assigned as fire watchman and shall be vigilant and remain in the area until the activities is completed.
- Adequate fire extinguisher and fire blanket shall be provided for each location where a hot work activity is being performed.
- No hot work shall be performed if flammable and combustible materials is near or present.
- All electrical equipment use shall be of an approved type and in good condition. Use equipment only on appropriate supply of power source (110/ 220 volts).
- Electrical wirings, extension wire/cables and other electrical equipment shall be properly checked before and after use to ensure safety from a short circuit, electrocution, and fire.
- Damage equipment or worn-out wirings and cables shall not be used.

J. Attachments (Appendices and Forms)

- Appendix A - Safety Policy Statement
- Appendix B - Safety Inspection Reports (Templates 1, 2 and 3)
- Appendix C - HSE Performance Reports (Templates 1 through 7)