

Safety Requirements

The Employer is committed to achieve its goal of 'zero' - zero fatality, zero injuries and zero excuses. In order to achieve this, every Contractor is responsible and accountable to ensure zero tolerance to any violation with respect to the safety protocols of the Employer. In the process of undertaking the Scope of Work, the Contractor shall ensure strict compliance with applicable safety standard requirements and all business specific standards or procedures as may be provided by the Employer. In the event of any inconsistency between the provisions stipulated herein and the requirements specified in any other documents provided by the Employer, the provisions stipulated herein shall prevail, to the extent of such inconsistency. Critical safety requirements which are required to be complied by the Contractor are as follows:

1. Work Permit System (PTW)

The Contractor shall be familiar with permit requirements and shall be responsible for ensuring compliance with such permit requirements. No work shall be carried out without work permits authorized by the Employer unless exempted at the Site. There is an integrated work permit for all non-routine activities (except work pertaining to operation and maintenance which may have SAP generated PTW) which takes care of all related safety standards. The work permit shall be issued with a validity of only one shift which can be renewed shift-wise. However, the Employer shall have the right to issue the work permit for a longer duration, based on the nature of work. Except in the cases of routine jobs, where an integrated work permit is provided, no work permit shall be issued unless the Contractor has a written job safety analysis (JSA) approved by the Employer, preferably in the local language prevalent at the Site. All the non-routine work (except work pertaining to operation and maintenance) performed after 10pm shall require a separate 'night work permit' to be issued by the Employer and the same has to be procured and acknowledged by the Contractor. For avoidance of doubt, it is clarified that when night work is required a period of 'overlap' shall be scheduled such that the day and night engineers can discuss the work and align themselves on the Work to be performed under such night work permit. For Sunday and holidays, separate work permit shall be required which shall be authorized by the Employer's concerned line manager and/or safety officer.

2. Work at Height (W@H)

- 2.1. The Contractor shall have a written plan for W@H, in addition to the relevant certificate(s), certifying the right to W@H. Such plan shall ensure that:
 - (a) Height works above one point eight (1.8) metres have safe access, egress, and safe platform. Otherwise people shall be secured through use of full body harness with double lanyard including shock absorber and sufficient strengthened lifeline support.
 - (b) Working platform shall have handrail, mid rail and toe board. Certified horizontal lifeline shall be used, preferably 8mm wire rope.
 - (c) Working at more than five (5) metres (e.g. transmission tower, truck covering etc.), or requiring different body posture even at lesser height shall require "Fall Arrestor" (for vertical movement).
 - (d) Falling objects safety net shall be installed to arrest such objects.
 - (e) Step ladder / platform should be used if any personnel intends to work at height. Use of empty drums to climb up is banned. People taking tools for working at height shall have tool kits to facilitate three (3) point contact during access and egress.
 - (f) Employer's floor-hole cover policy shall be complied with and hole covers shall be fabricated as per such policy and design.
- 2.2. All the personnel involved in designing fall prevention measures or fall protection measures shall be subject to formal competency checks by the Contractor, prior to the personnel commencing the assigned work, to ensure that such personnel have the necessary training, experience and qualification to perform the assigned work. The Contractor shall also have a rescue plan in writing, which provides for, *inter alia*, the manner and mechanism in which all persons at the Site, including people working at a height, are to be rescued.

3. Scaffolds

Contractor shall ensure compliance with standard practices for all scaffold related activities. Some of them are:

- (a) Every scaffold and its support shall be of good construction and be of suitable and sound material and strength. Use of wood and bamboo scaffolds are banned.
- (b) All elevated structures/ working platform areas should be guarded on all sides with railings and toe board as described.
- (c) Scaffolds shall be designed to support at least four (4) times the anticipated weight of men and material. It shall have standard inclined ladder / staircase for access and egress.

- (d) Landing platform shall be provided at every nine (9) meters of height. Extra support can be taken from existing nearby structure. Maintain a safe distance from power lines.
- (e) Fall protection when erecting, dismantling, modifying scaffolds shall be under the direction of a competent person.
- (f) Scaffold shall be designed, erected, and certified for use by competent persons. Ready for use scaffolding shall be tagged with green board while other scaffolding shall be tagged with red tag and shall not be used pending certification.

4. Portable Ladders

4.1. The Contractor shall ensure that:

- (a) only commercially available and approved ladders of metal / aluminium / fibreglass are allowed to be used.
- (b) metal ladders shall not be used by persons performing electric welding or working near energized electric lines or services, unless otherwise approved in writing by the Employer for a specific job.
- (c) painted ladders are not permitted.
- (d) all ladders shall be inspected by a qualified person or inspection agency as per the statutory requirements or requirements of the Employer.
- (e) bends, dents, cracks, loose or missing rivets, disconnected braces, condition of steps and corrosion seriously weaken a ladder. Destroy or repair any defective ladders immediately in accordance with manufacturers' recommendations

5. Barricades and Signs

- 5.1. The Contractor shall furnish, erect and dismantle all barricades as required for indicating (warning) and protecting from hazards such as excavated area, opening of a platform, crane swing area, fabrication yard, overhead work, to carry out work on road and such other locations. Protective barricades shall be made of sheet metal or 40 NB pipe, painted with yellow and black stripes or red and white stripes, with caution signage on it and strong enough, to resist a force of one hundred (100) kilograms, for excavated pit more than one (1) metre depth. For warning, indicative barricades can be made of fluorescent tape, cable and ropes with signs affixed. No excavated pit shall be left unprotected or without signs indicating caution during the job till backfilling is completed. Caution tape shall be used to highlight hazards to other personnel that may need to access the area.
- 5.2. Any barricade must be at least one point five (1.5) meters from the edge of the excavation or opening. No overburden soil, or vehicle movement shall be allowed within one point five (1.5) m of an excavated pit.
- 5.3. Barricades, in areas with night traffic by vehicles or people, must be lit with warning flashers (red or yellow) every fifty (50) meters and there shall be caution boards and warning flags.

6. Confined Space (CS)

The Contractor shall:

- (a) confirm with site engineer about working in confined spaces and follow Site specific confined space entry procedure if any.
- (b) prepare safe entry procedure and obtain entry and work permits.
- (c) provide on the job training to persons entering into confined spaces and have stand-by person and rescue team for any incidents.
- (d) ensure proper ventilation (forced or exhaust), illumination using 24 V power supply
- (e) carry out checks for presence of toxic/ flammable gases, monitor the oxygen content in confined spaces and ensure availability of communication media between stand-by confined spaces attendant and people inside confined spaces
- (f) ensure availability of self-contained breathing apparatus or equivalent and use of all relevant personal protective equipment as per JSA and PTW.
- (g) ensure that all persons exit from the confined space upon completion of the work. To ensure such exit, head count of the men entering and exiting such confined spaces shall be performed and a record maintained in a register.

7. Excavation

- 7.1. Before an excavation begins, the Contractor shall verify Site specific conditions such as traffic, vibrations, proximity of structures, soil, surface water and groundwater, chemical contamination of water, water table, overhead and underground utilities along with Site map, weather condition etc.

7.2. Minimal precautions required are:

- (a) provision of high visibility jacket for persons exposed to traffic.
- (b) remove or stabilize all surface impediments including by way of removal of loose rock or soil that could fall and create hazards to persons.
- (c) erect either warning barricades (with depth of less than one (1) metres) or rigid, protective barricades (with depth of more than one (1) metre) to avoid leaving an excavation hazard unprotected. However, a spoil pile at least one point five (1.5) meter high can be used as a barricade on one side of the excavation.
- (d) keep spoil dirt and any material or equipment that may fall into an excavation at least one point five (1.5) meter from the edge.
- (e) Excavated pits deeper than one point five (1.5) meters will have a maximum height of vertical wall of one point five (1.5) meters with sloped edges at forty-five degrees (45°).
- (f) protect, support, or remove underground installations (e.g., electrical ducts, water lines, sewer lines, or fire lines).
- (g) prohibit personnel from working or passing under the loads of lifting or digging equipment inside the pit.
- (h) provide support systems such as shoring, bracing, or underpinning to ensure the stability of adjoining buildings, walls or structures, particularly if depth is more than one (1) metre. In such cases, confined space entry shall be obtained and safe access / egress path shall be provided.
- (i) that no worker shall be allowed to work alone in a trench at any time.

8. Hot Job

- 8.1. The Contractor shall obtain and adhere to written work permit while carrying out any hot work involving welding, cutting, brazing, polishing or heating a metal drum, barrel, or tank. Sealed container, cylinder etc. must not be welded or gas cut in any case.
- 8.2. All operators involved in hot work shall be trained on the hazard and risk control measures as per JSA and should be qualified. Flammable source must be removed or protected from heat using fire retardant mat(s). There shall be flash back arrester both at cylinder and torch, precaution related to gas cylinder safety shall be adhered to and welding machine shall be certified by Employer's electrical engineer for suitability and integrity. The Contractor shall not use AC transformer type welding machine and only generator / rectifier type machine shall be used. Electrical DB supply must be fitted with ELCB/RCCB set for thirty milli-ampere (30mA). Spatters generated from hot work must be arrested and the area shall be barricaded if hot work is performed at height. The Contractor shall ensure availability and use of recommended PPEs as outlined in the JSA and PTW. A trained fire watcher must be placed for all critical hot work. Job and machine grounding must be ensured. In case of hot job in Confined Space, atmospheric test must be carried out by an authorized person.
- 8.3. The Contractor shall provide fire extinguisher during hot work which shall be periodically inspected and checked for the purposes of being fit to use.

9. Electrical installation

The Contractor shall ensure that:

- (a) any temporary power distribution system including the source shall be designed and approved by Employer's electrical engineer.
- (b) all cables overhead should be more than two point five (2.5) metres on insulated or wooden support and no temporary cable shall be laid over the ground.
- (c) all electrical installations, distribution box and welding machines should be prominently marked for identifications with hazard signs and following information shall be provided: identification number, name of the Contractor/Subcontractor, source of incoming /outgoing power and danger sign in case of 440V DB.
- (d) power supply points are of adequate capacity, provided with proper switch and fuse arrangement and installed at strategic locations.
- (e) panel rooms/ distribution box pathways are clear and free from any obstructions.
- (f) while working near the live electrical conductors, arc flash suit of sufficient rating, as per JSA and PTW, shall be used.
- (g) temporary electrical installations must meet the same electrical code requirements as permanent installation, i.e. proper earthing, glands and seals at electrical boxes and cable repairs equal to the original cable insulation.

- (h) Earth Leakage Circuit Breaker (ELCB) or Residual Current Circuit Breaker (RCCB): earth protection for personnel on the Sites shall be provided by a thirty milli-ampere (30mA) ELCB/RCCB. It should not be replaced by MCB.
- (i) the Electricity Rules, 2005 and safety requirements specified under the applicable regulations issued by the Central Electricity Authority are complied with and the following are adhered to:
 - (i) engage a wire-man and technician or engineer (license holder) to work on all electrical installations;
 - (ii) ensure that only industrial type plug and sockets are used and proper earth is provided on electrical installations;
 - (iii) electrical distribution boxes are installed on mountings at predetermined locations with its nomenclature;
 - (iv) rain protections are provided on electrical installations and DBs;
 - (v) only three core double insulated cables are used for any temporary wiring or portable/ hand held tools or lightings;
 - (vi) use authorized cable jointers / connectors to join the cables;
 - (vii) handles/ body of portable electrical tools shall be of rubber or insulating material; and
 - (viii) electrical system shall be handled by a competent and authorized person for the voltage as per authorization and in line with the applicable statutory requirements.

10. Portable Tools and Equipment

- 10.1. The Contractor shall ensure that tools and equipment requiring a formal periodic inspection must be tagged, marked, labelled, tested, certified and calibrated (as applicable) to indicate that the formal inspection has been performed. All formal inspections must have inspection records. The Contractor shall be required to ensure use of all certified, adequately insulated, tested, checked and quality manufactured tools and tackles including cutting, brazing, welding, cutting torch, rock breaker, driller, lifting gear etc.
- 10.2. Any tools and equipment found defective or in need of inspection must be tagged with a "defective" tag and returned to the appropriate person for repair or inspection. The tool or equipment must be removed from the Site until repaired or inspected. All portable grinding / grinding equipment must have adequate and valid wheel, insulation, guard cover and good quality wire. The Contractor shall ensure that cables for all power tools shall be without any cable joints and 2 Pin/3 Pin shall be used for power connection.
- 10.3. Tool bags must be used for carrying and transporting all hand tools to the workplace. Standard tool tying arrangement (lanyard) must be made for all tools so that they can be tied with the nearest anchor point while working at heights to prevent fall of tool. Also, to avoid injury due to deflection of the tool while it is applied on a job, adequate attachments like D-Ring, short lanyard or any other inbuilt tethering arrangement must be applied.

11. Hoisting/ Mobile lifting equipment

- 11.1. The Contractor's personnel are forbidden to ride on any hook, load, or headache ball. Equipment operator certifications shall be submitted to the Employer's Site team. Unauthorized lifts (including tandem lifts) are not permitted. The Employer's site engineer must be notified prior to any critical lift (a critical lift is any lift that exceeds eighty percent (80%) of the design capacity of the lifting device/or exceeds 02 tons) being carried out.
- 11.2. All lifting equipment, tools and tackles and devices shall be tested, certified and maintained to manufacturer specifications. For man lift and other industrial lifts, the Contractor shall ensure that the Contractor, prior to deployment of the lifting equipment, tools and tackles and devices at the Site, procures a certificate from third party inspection agencies as per the statutory requirements, certifying the successful testing of such lifts at Site..

12. Lifting Equipment

- 12.1. The Contractor shall ensure that different man and material lifting equipment (different cranes, winch machine, hydraulic lift, etc.), tools and tackles proposed to be used at the Sites are suitable for the job and approved for use by the site team. The Contractor shall use the Employer's site checklist of different cranes / heavy vehicle etc. before hiring or bringing any such equipment to Site for use. After that the Contractor shall use periodic and daily checklist to ensure continued suitability. These equipment and tools should have all valid legal documents and maintenance record available with them. The operator shall have necessary statutory certification, training record on manufacturer's training and refresher training of every three (3) years with minimum experience of five (5) years in the job before coming to the Site. All cranes used at the Site must have safe load indicator, over run cut-off switch (anti-two block switch) and audio-visual alarms.
- 12.2. The safe working load, date of last testing and due date for next testing should be clearly marked on the body. Use of first-generation hydra at the Sites are banned.

- 12.3. All material lift job should have a documented plan as approved by the Site team and for any critical lifts (with weight of more than two (2) tons, as minimum normal practice but can be different as agreed by Site team) should have detail material lift plan validating soil compactness, crane placement, man and material locations, detail sling specification, angle of lift, approval and presence of competent mechanical engineer during lift. Critical lifts are normally not permitted at night at the Sites.

13. Machine Guarding

- 13.1. Contractor shall be responsible for ensure guarding of rotating machines adequately to prevent exposure of personnel.

14. LOTO

- 14.1. The Contractor's supervisor shall ensure that lock-out and tag-out is performed according to the plan and no personnel works beyond the facilities protected through lockout and danger tags.
- 14.2. All people involved directly or indirectly in the work associated with hazardous energy sources shall be involved in the control of these hazards. This involvement may include developing and / or reviewing the lockout plan, placing the locks and danger tag on isolation devices or group locks system or at least verifying the lock/tag on the equipment on which they are supposed to work. The Contractor shall ensure that its personnel will try to ensure proper isolation before allowing people to work on the equipment. After ensuring proper lock-out and tag-out, key to the lock shall be made available to the concerned supervisor or the engineer in-charge.

15. Winch Machine Safety

- 15.1. The winch machine shall be fit for the purpose in terms of its integrity, rope size, diameter and quality, brakes liners, electrical integrity, condition of isolators, double earth for motor and panels, overloading relay setting with respect to rated current of the motor, solid support in its installation –either through a concrete column or steel column. Machine shall be locked with the column with the help of wire rope or foundation bolt and shall have interlocking arrangement in case of sudden increase in speed. Total lifting process of the rope shall be done in the multiple of thirty (30) meters in case where height is more than thirty (30) meters.

16. Concreting

- 16.1. Formwork shall be in line with the current version of approved, released and accepted drawing. The Contractor shall be responsible for adherence to 'Bar Bending Schedule' and 'Concreting Plan' and shall submit and obtain approval for method statement, shuttering and staging plan including rebar spacing and chair design. Formwork shall be inspected by a competent person before pouring of concrete begins. All projected reinforcement bars shall be covered / bent when work is being carried out overhead. Any timber form work shall be carefully inspected for cracks and excessive knots before use. Tubular steel shall be inspected for rusting, dents, damaged welds etc. before it is erected. All vertical supports shall be vertically braced and cross bar support. Footings under the support shall be set on firm soil or other suitable materials which assures stability and the prop shall be of full length and not of two or three pieces joined together.
- 16.2. During pouring of concrete there should be continuous inspection of centring wedges and adjustment screws. Before removing the forms, the Contractor shall ensure that the concrete has developed sufficient strength to support itself and all loads that will be impinging on it.
- 16.3. Formwork structure shall have sufficient catwalks and other secure access for inspection.

17. Motor Vehicle

- 17.1. All motor vehicles to be used in the performance of the Scope of Work shall be strictly fit for the purpose. Following must be ensured: a valid driving license and vehicle insurance, adequate road worthiness (vehicles less than ten (10) years old for heavy vehicle and less than five (5) years for passengers vehicle, good tyre, engine condition, working front and back lights, horn and reverse horn, three (3) way mirrors, registration number clearly visible, good body condition, good brake system, fail safe brake system, retractable three (3) point seat belt, ABS and air bags for passenger vehicle). Vehicle should have periodic maintenance record as per OEM. The driver shall not be less than twenty five (25) years of age with minimum of five (5) years of driving experience with good eyesight. Drivers shall not be allowed to drive for more than twelve (12) hours. Vehicles utilised for hazardous goods transportation shall comply with all statutory obligation including approval from Chief Controller of Explosives, Transport Emergency (TREM) card and training.
- 17.2. Transportation of passengers shall only be permitted in the passenger compartment of vehicles. All the passengers and driver shall use seat belt irrespective of their sitting position and the driver shall not be driving using mobile phone or under influence of alcohol, drugs or any other narcotic or hallucinogenic substance.
- 17.3. The driver shall not exceed the posted speed limit. The speed limit on the Site for construction vehicles/ cranes is fifteen (15) km/h. Any load being dispatched from or received at the Site shall not exceed the carrying capacity of the vehicle.

- 17.4. Tractor trailers while being used for the work of the Employer shall not be used for transporting passengers unless agreed and approved by Site team. These tractors (with trailer/ tanker) shall be driven at a speed of less than twenty (20) KMPH or should have fitted speed governors, should have four (4) wheeled tanker with capacity more than two thousand (2000) litres. The tractor trolley connector pin (coupling) should be either auto-disconnector type or three sixty-degree (360°) rotation type.
- 17.5. Any mobile equipment like tanker/bowser deployed for material handling of fly ash or any other material shall comply to the minimum mandatory requirements as given below;
- (a) Well-engineered working platform, railings, and fixed stairs with standard material for safe access to the top.
 - (b) All piping connections, valves at the loading/unloading station shall be clearly identified with name or other marking system to avoid wrong unloading operation. (Colour code as per IS 2379: 1990 standard - Compressed Air up to 15kg/cm² -Sky Blue)
 - (c) Any open-end pipes or hoses shall be capped, flanged, or plugged. Hoses shall be stored in a safe secure location. Transfer hoses shall be inspected for physical damage/deterioration before each use and should be hydrostatically or pneumatically tested annually at a test pressure (the recommended test pressure is 1.5 times the maximum working pressure). Compressor shall be fitted with high pressure control (doser) valve and safety relief valve.
 - (d) All tankers must be tested by competent person for;
 - (i) External examination - frequency once in six months
 - (ii) Hydraulic test (1.5 times working pressure) - frequency once in year
 - (iii) Shell ultrasonic test (>10 % deviation from tanker design thickness is not allowed)- frequency once in two year. Generally, shell thickness varies from 3 to 5 mm.
 - (e) For tanker/bowser loading and unloading operations, site working procedures must be followed to adhere to the working pressure requirements, use of pressure control valve and safety relief valve, etc.

17.6. Securing of Heavy Loads during Transportation:

While transporting heavy loads e.g., HR steel coils, other heavy machineries and equipment's, etc. the same needs to be adequately anchored and tied over any open trailer/ inside iron containers as deemed fit for the purpose in order to maintain adequate stability of the loads over the trailers/ inside the containers so as to avoid movement of loads in the event of jerks due to sudden acceleration or braking due to poor road conditions. Also, during loading of containers on trailer beds, containers must be locked on all ends as per arrangements provided at the trailer bed or by other possible means. Loaded trucks/ trailers which are not complying to the above requirements shall not be permitted to enter Employer's Site.

18. Heavy Earth Moving Equipment (HEME)

- 18.1. All HEME supplied or used at the Sites shall have all mandatory attributes for safe operation including rollover protection structure (ROPS), fall-over protection structure (FOPS), reverse and side camera, automatic reverse alarm, fire extinguisher, functional wipers, heating and air conditioning vent as applicable, illumination lamp etc. For enhancing the stability of truck tippers and prevent overturning, toppling or collision cases, it is mandatorily recommended to fix the following equipment's on any tipper used for Employer's Site.
- (a) Tipping Inclinator/ Tilt Sensor/ Tilt Switch;
 - (b) Body Raised Warning System (BRWS) [Sound Alarm with Warning Lights]; and
 - (c) Load Indicator/ Payload Meter.
- 18.2. All HEME vehicles shall only be operated by a trained, competent, and certified Driver/ Operator who is authorized by Employer. Drivers/ Operators must be adequately trained in defensive driving techniques to get acclimatized with the hazards/risks to ensure that vehicles are kept away from over-head power line, not allowing anybody within 10 m radius from the vehicle etc. Driver shall be required to stop engine and come-out from cabin for any discussion. Wearing all PPEs, movement against edge from trenches / excavated area, parking the vehicle with all levers in locked condition and daily and periodic inspection by the operator shall be mandatory and should be trained accordingly.

19. Concrete Vibrators

- 19.1. Vibrating unit shall be completely enclosed and belt transmitting the power to the unit adequately guarded. Electrically operated compactor vibrators shall be totally enclosed and be protected against overloads by suitable overload relays and shall be effectively earthed. Sufficient length of cable to the vibrator shall be ensured. Needle load shall be firmly locked while inserting in the vibrator and inner core shall be adequately lubricated.

20. Concrete Mixers

- 20.1. All gears, chains and rollers of concrete mixer should be adequately guarded to prevent damage / danger.
- 20.2. Concrete mixer hopper shall be protected by side railing to prevent workers from passing under them and operators shall make sure before lowering the skip bucket that no one is there. Hopper hoist, wire rope and anchoring brake, skip hoist clutch, must be checked for its condition and adjusted periodically. Nothing should be kept inside the motor enclosure.
- 20.3. The Operator shall ensure that motor fan guard is secured firmly, wiring is properly connected and insulated and double earthing is done for electric mixers.

21. Access Control Security System

The Contractor shall be responsible to provide valid identity card as approved by the Employer's site team to its personnel. This should indicate basic detail about the Contractor's personnel. These should be issued only when the Contractor's personnel have attended safety orientation / induction and passed health screening.

22. Personnel Access, Vehicle and Material/Equipment Movement Control

- 22.1. All personnel, vehicles and materials moving in and out of the Site shall move only through the designated security check points.
- 22.2. All personnel must register their ingress and egress by going through the security checkpoint to ensure that they are accounted for.
- 22.3. Materials/equipment moving in and out of the Site shall be accompanied by approved gate pass.
- 22.4. All personnel bringing their property such as personal computers, tools, equipment and samples must declare at the security check points using the Material/Equipment Gate Pass before entering the Site.
- 22.5. Approval will be required from the authorized signatories before bringing out any personal property from the Site which was not previously declared at the security checkpoints.

23. Education and Training

- 23.1. All Contractors, and Subcontractors are required to attend Site safety orientation/induction training, prior to entry to the Site.
- 23.2. The information provided during the orientation shall include:
 - (a) Job rules, personal safety and conduct;
 - (b) Adani Life Saving Safety Rules, hazards reporting;
 - (c) reporting of injuries/pre-existing conditions; emergency procedures;
 - (d) working with chemicals;
 - (e) fire-fighting;
 - (f) safety activities and program including disciplinary measure and incentives; and
 - (g) JSA and PTW as outlined above.
- 23.3. Site and job specific training shall be imparted as per the Specifications.

24. Appointment of Safety Resources, Supervisors and Safety Stewards

- 24.1. The Contractor shall appoint necessary and agreed competent safety resources for the job. The Contractor shall ensure availability of one safety supervisor in case of up to one hundred (100) deployed personnel and an additional safety supervisor for personnel numbering between one hundred (100) and two hundred (200). However, if deployed personnel are more than two hundred (200), then a minimum of one safety officer is required to be deployed and for every additional one hundred (100) personnel, an additional safety supervisor shall be required. The Contractor should also deploy trained safety stewards at the rate of one for every fifty (50) personnel for ensuring safety vigilance.

25. Supervisor's Role in Worker's Orientation

- 25.1. The attitude of personnel toward accident prevention depends a great deal upon the attitude of the supervisor and therefore the following action steps shall be taken as a part of the supervisor's orientation of a new worker:
 - (a) Ask about last job and describe the new job;
 - (b) Show worker around work area;
 - (c) point out hazards;

- (d) introduce worker to others and describe basic rules;
- (e) procure history of previous training and provide understanding on JSA;
- (f) Give worker a test run on tools and equipment;
- (g) monitor new personnel's safety, health and environmental performance;
- (h) provide coaching where necessary; and
- (i) check back to see how the worker is progressing.

25.2. The Contractor shall establish systems to check competency of skilled worker / supervisors.

26. Pre-Employment Site Personnel

Contractor shall ensure appointment of personnel for the Site (engineers/ supervisor/ and skilled/ semiskilled/ unskilled tradesmen) based on such personnel's previous performance and background. The said personnel shall possess the desired licenses issued by the governmental authorities or competent person; electrician wireman, driving (LMV/HMV), equipment operators, radiography, sand blasting or any other as per statutory requirement.

27. Pre- Employment Medical check up

27.1. The Contractor shall carry out a pre-employment medical check-up for all its personnel and shall be able to produce the certificate of fitness to the Employer prior to the deployment of such personnel at Site. The Contractor shall also organize periodical medical check-up (six monthly) for the following category persons:

- (a) drivers and equipment operator: check for vision and hearing.
- (b) height workers: check for vision, hearing, vertigo and acrophobia.
- (c) dangerous substances handlers: effect of chemicals and substances.

28. Personal Protective Equipment (PPEs) Protocol

28.1. The Contractor shall ensure availability and use of suitable quality personal protective equipment to its personnel. Use of safety helmets, safety shoes, high visibility jackets and safety eye wear shall be mandatory. Based on the job requirement, other PPEs like gum-boot, electrically insulated hand gloves, electrical safety shoes, respiratory mask for dust nuisance or other chemical fumes protection, hand gloves or leather hand gloves, full body harness with lifeline support, retractable fall arrester, safety net, PVC suit, arc flash suit, cotton blue dress, flame retardant cloths, welder's masks with suitable screen numbered visor, gas cutter goggles, runner etc., shall be used as indicated in Work Permit and Job Safety Analysis.

28.2. All the PPEs used by the personnel shall, at all times, be in accordance with at least one of the following internationally recognized standards: (i) ANSI; (ii) ISO; (iii) BS; (iv) IS or (v) EU. The Contractor shall take prior approval of the Employer, for any deviation in the PPE standards proposed to be used for the performance of the Scope of Work.

29. Working Over or Near to Water Bodies

29.1. The Contractor shall comply with Employer's standard requirement on working over or near to water bodies including medical suitability, necessary statutory certification, use of life jacket, involving skilled team, rescue system in case person falls in the water and use of insulated powered tools.

30. Pre-Startup Safety Reviews (PSSR)

30.1. PSSR is a process to validate whether: (i) the construction and equipment installed are in accordance with design specifications, (ii) the risks associated with operation of the plant has been identified, studied and discussed, (iii) the preventive and corrective actions have been completed, and (iv) any emergency actions which can be required, has been understood, documented and that the plant / facility is complete in all safety aspects, before the start-up of the facility. The Contractor shall be responsible to re-work based on the findings coming out of the PSSR.

31. Notice Boards/ Caution Boards/ Safety Awareness Boards

31.1. There must be a safety board which must contain following items:- manpower numbers; date of last incident occurred; total number of injuries, incidences and near-miss case reporting; million man-hours injury free recorded; and details of contact persons in case of emergency, 'Current Severity Index', and numbers of 4s and 5s severity unsafe acts and conditions.

31.2. The Contractor shall also display a Site layout, indicating the project manager's details, Contractor's details, job details, date of start and expected end date of job, path-way, first-aid post, drinking water, change room, toilet, entry and exit point, parking etc. A general background colour coding of different messages are: **blue – mandatory, red - prohibited, yellow - danger, green - safe condition.**

32. Safety Awareness Campaign/ Program

32.1. The Contractors are encouraged to organize safety promotional programs in support of the Employer's program. The Employer's team at Site shall provide the appropriate emergency rescue, first aid and medical staff, facilities and procedures necessary to respond to anticipated onsite emergencies.

33. Medical/First Aid Treatment

33.1. The Contractor shall maintain first aid box and/or medical centre as per statutory requirement and shall have a tie-up with nearby good specialty hospital to manage medical emergencies. A medical attendant shall administer first-aid care to injured personnel using established standards of practice, or as directed by the local consulting physician. When an injury occurs at the Site and requires treatment beyond the limits of the medical attendant, the Contractor shall ensure that such personnel is transported to the nearest hospital.

33.2. If the Employer has a first-aid centre and other similar facilities at the Site, the Employer may, at its option, make available such facilities for the treatment of the Contractor's personnel, who have been injured or have become ill while being engaged in the performance of the Scope of Work.

34. Accident Investigation and Reporting

34.1. The Employer's policy requires that all incidents and environmental releases, regardless of severity, are reported immediately to the Employer's project manager and safety manager first by verbal and then by a written "preliminary" First Incident Report (FIR). Subsequently, a joint written investigation should be conducted by incident investigation team, with an initial report issued in writing within twenty-four (24) hours, even where no injuries occur. The Employer's team shall record these incidents online at the Adani Gensuite or such other platform designate by the Employer.

34.2. Where the actual or potential severity of the incident or behaviour is significant or occurs frequently, the Project Head shall appoint a committee to investigate, the accident/incident, verifying the information and complete a root cause analysis. All corrective actions shall be carried out, monitored by the project/construction SHE Department and initialled/dated on the original report.

35. Contractor Inspections and Audits

35.1. The Contractor/Subcontractors' supervisors are responsible for ensuring that regular inspections are made of work areas / activities. Project safety managers or their designates shall regularly audit project facilities and report deviations to Employer. This audit shall also involve the 'Safety Risk Field Audit' (SRFA) based on the severity index.

36. Contractor Safety Assurance Audit

36.1. Copies of the 'Weekly Safety Risk Field Audits' (SRFA) and inspection reports shall be forwarded to the respective project manager and to Contractor's site management for corrective actions. The respective Contractor site management must take immediate corrective actions as may be required.

37. Daily/Periodic Safety Inspection

37.1. The Contractor and Site supervisors shall conduct routine periodic safety inspections and monitoring. Inspections shall make note of; hazardous material, unsafe acts/conditions observations and corrections, equipment, rigging, electrical, scaffolding, ladder inspections, etc.

38. Safe-Work Practice Assessments

38.1. The project safety managers shall conduct periodic assessments of compliance with site safety practices and procedures to ensure that such site safety practices and procedures are effective and are being followed.

39. Fire Prevention and Protection

39.1. Fire prevention policies of the Employer require prevention and mitigation training on fire emergency, segregated storage area for flammable and combustible material, safety in welding and burning operation, high risk welding operations, etc. and shall be complied with by the Contractor.

40. Hazard Communication

40.1. The Contractor shall ensure correct hazard communication to working team on - hazardous chemicals and their safety data sheets, precautions while handling and storage of gas cylinder, performing hot job, entering and working in confined space, working in an excavated pit, identify and correct use of quality personal protective equipment, high noise and vibration. These communications should be carried out through verbal, written, JSA, Work Permit, training, tool box talk, symbol display, practical display and mock demonstration.

41. Housekeeping Guidelines

41.1. The Contractors shall be responsible for maintaining very high standard of housekeeping including clearly defined walkways and stairways, keeping clean unobstructed pathway free of tripping hazards, prohibit storage of materials and

equipment in aisles or under stairways, posting signs or barricades to warn tripping or slipping hazards, maintaining adequate lighting, having well-marked first aid/assembly points and not allowing loose material at height (placing them in cage/box).

(a) Storage Areas

The Contractor shall clearly identify purpose of area and define boundary by barricades, provide adequate size as per provision and discourage excess material and equipment. All material shall be stored in a neat, safe and orderly fashion with proper labelling.

(b) Trash removal plan

All Contractors shall ensure that trash is removed, accumulated and dumped at the designated disposal area on a daily basis. Collected trash and bins shall be cleared once a week to identified dumping area. No trash shall be thrown from height and shall be handled through a chute. As a best practice, the Employer appreciates the concept of "generator should be the cleaner".

(c) Rest Rooms and Drinking Water

The Contractor shall ensure availability of toilet facility and drinking water for their personnel in a hygienic manner as per the statutory requirements. These facilities should be separate for all genders. If the Employer has developed such facilities at the Site, the Employer may, at its option, make available such facilities to the Contractor's personnel.

42. Governance System

42.1. The Contractor shall be responsible for constituting a site level safety committee involving management and workmen under chairmanship of the Contractor's site in-charge and shall review safety performance including leading (training, severity index, reported UA/UC/NM cases) and lagging indicators (FAC, MTC, RWC, 'Lost Time Injuries', 'High Potential Incidences' etc.) on a weekly basis. The committee shall be responsible for submitting safety related MIS to the concerned site in-charge.

43. Emergency Response Plan

43.1. The Contractor shall prepare an emergency plan in line with foreseen emergency situation and shall be communicated to its staff as part of training. The preparedness should be checked for its effectiveness by conducting mock-drill. The emergency plan shall be approved by the Site In-charge.

43.2. An emergency rescue plan along with adequately trained team must be in place while working at height, working in confined spaces, hot job etc. The Contractor shall submit such emergency rescue plan to the Employer for inclusion in the site-specific emergency response procedure.

44. General

44.1. The Contractor shall provide proper illumination at the work location as per the statutory requirements and/or the requirements of the Employer.

44.2. The Contractor shall coordinate and procure requisite approvals from the statutory authorities prior to any blasting work that is to be executed at the Site.

44.3. Labour Camp (if applicable): The Contractor shall, and shall procure that its personnel shall, ensure compliance with the requirements pertaining to health and sanitation, including requirement of maintaining hygiene on Site. The Contractor shall be responsible to comply with all the statutory EHS requirements inside the labour camp.

45. Reward and Damages for Safety Violations

45.1. In case of any violation by the Contractor with respect to the safety requirements specified herein, the Employer can levy the following liquidated damages:

- (a) Violation with respect to lack of valid gate-pass, basic PPEs and/or other traffic violations: Indian Rupees One Thousand Only (INR 1000) per violation.
- (b) Violation with respect to work at height, electrical, confined space entry, excavation, hot jobs, barricading, heavy motor vehicle, crane: Indian Rupees Five Thousand Only (INR 5000) per violation with a ceiling of Indian Rupees One Lakh Only (INR 1,00,000) per contract exceeding which the Employer can terminate the Contract.
- (c) Fatal accident: Indian Rupees Fifteen Lakhs Only (INR 15,00,000) or five percent (5%) of the SO Price, whichever is less, for the first fatality and Indian Rupees Twenty Lakhs Only (INR 20,00,000) or five percent (5%) of the SO Price, whichever is less, for the second fatality. For any further fatalities, the Employer may at its discretion levy appropriate damages or may choose to terminate the SO Documents/SO at the risk and cost of the Contractor.

- (d) Lost time injury (on 24 hours basis) or non-reporting of incidents: Indian Rupees Fifty Thousand Only (INR 50,000) for each lost time injury or incident not reported.
 - (e) Serious (grievous) injury, such as loss of limb or a loss of more than twenty one (21) man-days: Indian Rupees Five Lakhs (INR 5,00,000) or five percent (5%) of the SO Price, whichever is less, for the first grievously injured person; and Indian Rupees Seven Lakhs (INR 7,00,000) or five percent (5%) of the SO Price, whichever is less, for every subsequent grievously injured person. For the purpose of levying these damages, "grievous injury" shall have the meaning ascribed to the term in the Employee's Compensation Act, 1923.
 - (f) Dangerous occurrences: Indian Rupees One Lakh (INR 1,00,000) or five percent (5%) of the SO Price, whichever is less, for the first violation and Indian Rupees Two Lakh (INR 2,00,000) or five percent (5%) of the SO Price, whichever is less, for subsequent violations.
 - (g) Procedural violation, including absence of method statement, staging and shuttering plan, concreting plan, erection/dismantling plan or non-compliance with any statutory requirement: Indian Rupees Fifty Thousand (INR 50,000) or zero-point zero five percent (0.05%) of the SO Price.
 - (h) Any incident involving injury to a member of the public: Indian Rupees Fifty Thousand (INR 50,000) or five percent (5%) of the SO Price, whichever is less for first violation and Indian Rupees One Lakh (INR 1,00,000) or five percent (5%) of the SO Price, whichever is less, for subsequent violations.
- 45.2. There will be a reward system for reporting and correcting UA/UC/NM cases, achievement of targeted severity index and excellent contribution in maintaining safety and housekeeping.