

15.8. Use of Power Tools and Cables

- All electrical equipment and tools used by the contractors and their employees shall be properly checked by contractor's supervisor before use.
- All power tools must have proper guard at all-time.
- Leads /cables must be placed so that they do not create a tripping hazard.

15.9. Pressure / Leak Testing

Hydrostatic and Pneumatic Test

Access to the test area shall be limited to essential personnel only. before the test commences compliance is required with the following points:

- Persons supervising pressure or leak tests must have sufficient knowledge and experience of testing to fully understand the hazards of the activity and the precaution, which must be taken.
- Effective communication, including formal procedures, must be established between sites whenever the test envelope extends beyond one site, for example, pipelines.
- The area shall be cordoned off (using tape, shields or barriers, etc.) at an adequate distance from the equipment to be tested, as specified on the Permit to Work
- Warning signs shall be posted at access ways, at other strategic positions, and on the equipment to be tested (including the doors of test workshops or other designated areas.
- Pressuring equipment shall be provided with suitably calibrated pressure control/regulator devices
- Pressuring equipment shall not be left unattended at any time during the test.
- Pressuring equipment shall be isolated from the equipment under test and where practicable disconnected, when the test pressure has been reached.
- Care must be taken to ensure that materials of construction have the required ductility at the test temperature to prevent brittle fracture.
- A safety valve should be fitted to the equipment/system being tested, set to relieve at a pressure that will prevent over pressurization.
- Sufficient venting / draining points shall be provided in order to prevent trapping of pressurizing medium behind non-return valves, check valves, between isolation



valves, or within dead legs of the pressure envelope.

- The equipment/plant to be pressure tested must be subjected to thorough examination prior to testing. It may be necessary to 100% inspect all welds using visual, radio graphic or other NDT techniques.
- The gas supply must be isolated when test pressure has been achieved.
- The pressure envelope must contain sufficient vents, to a safe location.
- De-pressurization after pneumatic testing must be gradual.

15.10. Barricades and Warning Signs

- Area where work is being carried out above man height or below 1' ground depth must be barricaded. Linked barrier with link chains must be provided by the contractor for cordoning the area at ground level, during GI work.
- Follow the instruction of all types of warning signs like "NO SMOKING" "NOENTRY" "DANGER" "Work at height", "Inconvenience to member of public regretted/work in progress",
- Name of the Contractor and contact details"

15.11. Basic Safety Rules For The Construction Site

- The construction site shall be considered a restricted area and unauthorized entry into the site is strictly prohibited. Anyone found trespassing should be asked to leave the site immediately.
- All persons of CLIENT/Consultant/Contractor shall be responsible for their own safety in plant or work sites.
- Nobody authorized to touch any valve, switch, or interfere with plant/site activities.
- Children below 18 years are not allowed inside plant / worksite.
- Never walk on the pipes, equipment, structure etc.
- Always use stairs, handrails & walkover platforms.
- Never carry sharp or pointed tools in pockets.
- Alcoholic beverages will not be consumed, brought into, or manufactured on the work sites or inside the plant.
- Drugs/intoxicant substances will not be used, brought into, or manufacture don't he site or plant.



- Cigarette, beedi smoking is not allowed except in the designated smoking booths.
- Firearms, explosives, knives or other types of weapons will not be allowed on the site.
- Gambling or any other form of betting games is prohibited.
- Discrimination on the basis of race, sex or national origin is prohibited.
- Horseplay, Fight, Practical jokes, Aggressive or abnormal behavior is prohibited.
- Individuals under the influence of alcohol or drugs will not be permitted entry to the site.
- Safety helmet, safety shoes, ear plug or ear muff, hand gloves, safety goggles, safety harness & clothing for body protection are mandatory in the plant or work site.
- Use other personal protective equipment as displayed in plan/site.
- It is strictly not allowed to use non-intrinsically safe equipment or instruments in the operational area of site.
- All vehicles for use on the site shall conform to the requirements of the Vehicle Entry Permit. Maximum Speed limit inside complex is 10km/Hr.
- In case of Emergency dial appropriate agency like Fire, Hospital, Security etc as displayed.

Violation of the Rules and Regulations might result in removing the person(s) concerned from the premises and denying the person(s) concerned from any future access to the site. The site in-charge will judge whether permanent removal of the individual from the premises is justified depending on the seriousness of the violation(s). All Indian laws shall be complied with at all the time.

15.12. Site Emergency Preparedness and Response

The CONTRACTOR shall establish, what are the arrangements in the event of an emergency.

The CONTRACTOR shall ensure that their Personnel are familiar with the essential emergency equipment, the use of which shall be demonstrated and practiced in drills.

The CONTRACTOR shall check the emergency procedures and the location and condition of the emergency equipment.

The CONTRACTOR personnel will be instructed of the actions to take in the event of serious personal injury, gas or toxic release, fire, explosion, heavy rains, wind storms, chemical spillage, land slide, scaffolding or structure collapse, critical damage to operating equipment, etc. and other emergency situations during the induction training and other

ongoing training sessions.

These situations may demand adequate rescue and relief measure to handle such events quickly and effectively.

In an emergency, or on hearing the alarm, every supervisor shall ensure the following;

- All work is stopped at once.
- All equipment vehicles and tools are shut down (all sources of ignition).
- All men are evacuated to a pre-determined Muster point.
- A roll call is taken and every man is accounted for.
- No one is permitted to return to work until notification has been received from the CONTRACTOR representative that it is safe to do so.

15.12.1. Emergency Preparedness

The basic and essential features of any emergency Preparedness are to analyse and plan for the potential risk. This includes;

- Establishing and maintaining effective communications.
- Liaison with local emergency services and authorities.
- Action Procedure (evacuation routes and assembly points).
- Appointment of key personnel and specifying their duties and responsibility.
- Emergency Response Drills

15.12.2. Emergency Response Drills

Effectiveness and comprehensiveness of Emergency Response Plan must be tested on a regular basis. Drills which reflect the conditions induced from the more likely emergency occurrences must be conducted. CONTRACTOR should conduct such drill on periodic basis. All emergency drills, exercises and responses to actual incidents shall be fully documented and followed by a complete review and when necessary, procedure revision process.

Initiate any required procedural changes, and initiate the dissemination of any lessons learned through the Site HSE communication system.

15.13. Road Safety Norms

- For roadside working site to be barricaded..
- Only eligible driver can drive required vehicle inside site
- Speed limit norms of site must be followed
- No riding or travelling on the back of open end vehicle, fork lift or trailers should be done.



15.14. Environment

The CONTRACTOR shall pay due regard to the environment by preserving air, water, soil, animal and plant life from adverse effects of the CONTRACTOR's activities and minimizing any nuisance which may arise from such operations.

All waste generated by the CONTRACTOR shall be contained and disposed of in accordance with the legal requirement on waste management.

15.15. Labor Welfare & Legal Requirement

- All mandatory provisions with regard to safety as prescribed under contract Labor (Abolition & Regulation) Act 1970 and Rules made there under are applicable.
- Workmen compensation insurance and registration under ESI should be maintained.
- Time to time, all rules and regulations suggested by safety committee of site must be followed and implemented

ANNEXURES

ANNEXURE - A

RELEVANT IS-CODES FOR PERSONNEL PROTECTION

IS : 2925 – 1984	:Industrial Safety Helmets
IS : 4770 – 1968	:Rubber gloves for electrical purposes
IS : 6994 – 1973	:Industrial Safety Gloves (Leather & Cotton)
(Part – I)	
IS : 1989–1986	:Leather safety boots and shoes
(Part – I & III)	
IS : 3738 – 1975	:Rubber knee boots
IS : 6519 – 1971	:Code of practice for selection, care and repair of Safety footwear
IS : 11226 – 1985	:Leather Safety footwear having direct molding sole
IS : 5983 – 1978	:Eye protectors
IS : 9167 – 1979	:Ear protectors.
IS : 3521 – 1983	:Industrial Safety belts and harness



MONTHLY CHECKLIST CUM COMPLIANCE REPORT REGARDING HSE (1/6)

Project: _____ Contractor: _____
 Date: _____ Owner: _____
 Inspection By: _____

Note: write 'NC' (Not Concern) wherever any of the items are not applicable

Item	Yes	No	Remarks	Action
HOUSEKEEPING				
Waste containers provided and used				
Sanitary facilities adequate and Clean				
Passageways and Walkways Clear				
General neatness of working areas				
Proper Material Storage				
Wooden Boards properly stacked and nails removed				
Cords, leads out of walk and traffic ways				
Scraps removed from the work site				
Other				
PERSONNEL PROTECTIVE EQUIPMENT				
Goggles : Shields				
Face protection				
Hearing protection				
Safety Shoes provided				
Hand protection				
Respiratory Masks etc.				
Safety Belts				
Safety Helmets				
Other				
EXCAVATIONS / OPENINGS				
Excavation permit				
Excavated earth kept away from edge				
Dewatering pump kept away from edge				
Safe access into excavated area				
Opening properly covered or barricaded				
Excavations shored				
Excavations barricaded				
Overnight lighting provided				
Other				



MONTHLY CHECKLIST CUM COMPLIANCE REPORT REGARDING HSE (2/6)

Item	Yes	No	Remark	Action
Welding Cutting				
Valid not work permit				
Flashback arrester provided for cylinders				
Power cable not crossing the welding cable				
Adequate earthing provided				
No combustible materials kept near welding & cutting works				
Gas cylinder chained upright & kept in trolleys				
Cables and hoses not obstructing				
Screens or shields used				
Flammable materials protected				
Fire extinguisher (s) accessible				
Other				
SCAFFOLDING				
Fully decked platform				
Guard and intermediate rails in place				
Toe boards in place & tied properly				
Adequate shoring				
Adequate access				
Other				
LADDERS				
Extension side rails 1 m above				
Top of landing				
Properly secured at top & bottom				
Angle $\pm 70^\circ$ from horizontal				
Other				



MONTHLY CHECKLIST CUM COMPLIANCE REPORT REGARDING HSE (3/6)

Item	Yes	No	Remark	Action
HOISTS, CRANES AND DERRICKS				
Condition of cables and sheaves OK				
Condition of slings, chains, hooks and eyes OK				
Inspection and maintenance logs maintained				
Outriggers used				
Singh/ barricades provided				
Signals observed and understood				
Qualified operators				
Other				
MACHINERY, TOOLS AND EQUIPMENT				
Proper instruction				
Safety devices				
Proper cords				
Inspections and maintenance				
Other				
VEHICLE AND TRAFFIC				
Rules and regulations observed				
Inspection and maintenance				
Licensed drivers				
Others				