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## **SECTION 1: GENERAL**

This document generally sets out Owner's/ Project Manager's expectations from contractor on Environment, Health and Safety aspect of the construction workers deployed at the project site. It provides general EHS procedures for most, but not all, construction activities to prevent accidents and to monitor/correct violations of procedures through regular Safety meetings. However, a key requirement for EHS success is serious commitment from senior management and strong safety leadership at the project site with well defined roles and responsibilities of the assigned individuals. Towards that, it is imperative that the selected Managing Contractor employs a well qualified (relevant qualifications) and experienced Safety Officer responsible for implementing and continuously communicating and driving the procedures throughout the labour force. Being one of the key critical to quality (CTQ's) parameters, the contractors shall be required to submit with their tenders a brief summary of the safety performance on projects that they have managed in the last three years (i.e. number of man-hours, number of fatalities, accidents, near-misses, type and cause of accidents, etc).

### **Scope of procedures and relationship with the owner:**

The Contractor's Safety & Health Procedures applies to all contractor and its subcontractor employees and to all construction and maintenance activities on the job site. A close relationship and continuous interaction must be maintained with the Owner and the Project Manager by the construction manager of the contractor. The Owner does have specific safety and health requirements to be observed and co-operation with its representative, Architects, Project manager and other contractors at site, throughout the contract is essential.

### **Selection of sub contractor:**

The main contractor shall select sub or works contractors, using the same criteria of practical safety policy. Again, it must be ensured that the terms of contract include adequate provision for safe working practices & for specified safety and health items.

### **Standards**

The prime contractor and all subcontractors are to comply with the Client specific rules and procedures, the national legislation and codes and in particular the following standards;

IS: 3696 (Part I) -1966 Safety code for scaffolds and ladders: Part I Scaffolds

IS: 3696 (Part II)-1966 Safety code for scaffolds and ladders: Part II Ladders

IS: 3764-1966 Safety code for excavation work

IS: 4082-1977 Recommendations on stacking and storage of construction materials at site (first revision)

IS: 4130-1976 Safety code for demolition of building (first revision)

IS: 4912-1978 Safety requirements for floor and wall openings, railings and toe boards (first revision)

IS: 5121-1969 Safety code for piling and other deep foundations

IS: 5916-1970 Safety code constructions involving use of hot bituminous materials

- IS: 7205-1974 Safety code for erection of structural steel work
- IS: 7969-1975 Safety code for handling and storage of building materials
- IS: 8989-1978 Safety code for erection of concrete framed structures
- IS: 7293-1974 Safety code for working with construction machinery
- IS: 10291-1982 Code of dress in Civil Engineering works, safety
- IS: 875-1964 Code of practice for structural safety of buildings and loading standards
- IS: 1905-1980 Code of practice for structural safety of buildings, masonry walls
- IS: 10386-1983 General aspects Part 1 – 1983, Part 2 – 1982, Part 6 – 1983, Part 10 – 1983 Amenities, protective clothing and equipment, construction, storage, handling, detection and safety measures for gases, chemicals and flammable liquids
- IS: 2925-1984 Safety helmet tests
- IS: 5983-1980 Testing for Eye protectors
- IS: 7524 (Part I)-1979 Safety goggles
- IS:1179-1967 Welding helmets
- IS: 5914-1970 Safety shoes
- IS: 4770-1991 Safety gloves
- IS: 12254-1993 Rubber/ PVC knee boots/ gum boots
- Client specific requirements for compliance with OSHA standards

## **SECTION 2: ELEMENTS OF CONSTRUCTION SAFETY**

### **Planning:**

Detailed planning should take the following matters into account;

- Obtaining work specific permits like;
  - Permit for work at Height
  - Hot work permit
  - Disposal permit
  - Excavation permit
  - Night work permit
  - Permit for working in restricted areas
  - Confined space Entry permit
  - Shaft work permit
- Know hazardous operations eg. Use of cranes and site transport, structural erection, excavation and false work, scaffolding, roof work, demolition etc.
- Requirement for plant and equipment to ensure safe working or ease of handling

- Sequence of work and its phasing between contractors to minimize the possibility of one contractor placing another contractor's men at risk, where appropriate the segregation of contractors should be considered
- Need to provide information, instruction and appropriate training, both on general site safety and hazardous specific in the site. The latter could range from restricted zones, Permit-to-work systems, lifting operation to the wearing of Personal protective equipment
- Need for fire precautions and emergency procedures
- Need for environmental monitoring and health surveillance
- Site security and foreseeable risks to the public, including the need for directional and warning signs
- Safe access across the site for persons, vehicles and equipment. Thought should be given to arrangements for keeping the site tidy, accommodation for site staff, safety welfare, first aid and other facilities
- Provision of safe places of work at different stages of the job including the provision of scaffolding, ladders for a number of sub-contractors

**Control:**

Sub and works contractors shall be briefed about the safety policy and site including site specific safety procedures of the prime contractor at the pre-bid meeting itself and further reiterated during the kick-off meeting. Responsibilities of all parties shall be clearly defined before contractors start work at site. Such matters should include:

- Appropriate precautions and methods for identified hazards or hazardous work
- Necessary plant, equipment and arrangements for its provision, maintenance use and inspection
- Question of trade union or other workforce safety representation and the need for a joint safety committee
- A formal joint safety committee must be appointed to review results and to initiate further actions (should be done either during kick-off meeting or subsequently)
- Arrangement for initiation of introduction training for new states on site
- Arrangements for any specialized training
- Arrangements for promulgating safety and health information e.g. On-site notice boards

It is important that such safety and health arrangements are reviewed at the Kick-off meeting as well as first project and first Safety meeting, where the site management can set the tone for the conduct of work by resolving at an early stage the difficulties which may arise at a later date. It is expected that each subcontractor will provide employees adequately licensed (if required for specific works), trained and capable of doing the specialty work.

**Coordination:**

The Site In-charge appointed by the prime contractor shall be totally responsible for compliance with this health and safety code. The contractor must appoint a Chief Safety Officer and form a "contractor safety committee" along with safety representatives from its sub-contractors. This committee will be chaired by the Site In-charge and meet at least once a week to review status on EHS issues. It is expected that each contractor and sub-contractor will participate in Daily "Tool Box Talks" and other safety meeting to co-ordinate project work for the day across trades. The site in-charge must make suitable arrangements to ensure the effective co-ordination of the work of all its sub-contractors on site. Clear lines of communication should be set up between each sub-contractor's Safety Officer and Safety officer of the prime Contractor. Effective co-ordination will be enhanced by ensuring that

'Safety and Health' figures prominently on the agenda of regular project meetings, as well as Safety meetings. For better coordination on project related EHS issues, the safety meeting participants shall include Project Manager, Project Manager's Safety representative, all contractor's safety representatives along with Owner's safety rep. Project Manager's Safety officer shall convene this meeting and participants from all contractors safety representatives will be mandatory. Minutes of this meeting shall be circulated to all concerned.

**Monitoring:**

Arrangements must be made for safety and health monitoring of the site on a regular basis. This will include, not only ensuring the safety issues associated with working at heights, excavations, working with energy sources, etc. but also environmental matters such as hazardous dust, fumes, noise etc. In all cases, the contractor's Site-In-charge shall ensure that daily site inspections are carried out by the contractor's Safety Officer, more in depth inspection being done periodically by visiting safety advisor. It may be necessary for arrangements to be made for specialist occupational health and hygiene advice. The checklist for daily inspection is provided which must be included in the Behavior Observation Process (BOP).

**Records:**

The prime contractor should ensure that all statutory notification, examinations and inspections are carried out. Except for equipment used exclusively by individual contractors, all records should be kept & updated by the contractor's Site In-charge. This individual shall also keep track of all Safety statistics and send report to Project Manager on periodic basis, as determined by Project Manager.

**Non Compliance with Safety and Health Provisions:**

The compliance with Environmental Health and Safety provisions is of utmost importance to the Owner. The contractors must note that the Owner will take a serious view of any Safety non-compliance notices. The Owner has a right to order stoppage of work till rectification is carried out to the satisfaction of the safety committee or safe arrangements are made for the execution of work and all stoppages on this account will be at the entire risk, costs and consequences of the contractor.

**Disciplinary action:**

Noncompliance of the Safety and Health Provisions will result in disciplinary action as per the procedure below:

1<sup>st</sup> time violation: Written warning



2<sup>nd</sup> time violation: Imposition of penalty as deemed fit by Project Manager

3<sup>rd</sup> time violation: Removal from site



In the event of the offender bringing itself or others in direct life threatening situation or where he/she creates a large material damage, will result in immediate removal from site. Repeated violations by a contracting company shall lead to termination of contract and removal of contracting firm from the job site. Any losses incurred by the contracting company, whatsoever, shall be the responsibility of contracting company.

**Imposition of penalties for non-compliance with EHS guidelines:**

The contractor will be required to comply with all the requirements laid down in these EHS guidelines, Special safety conditions, General conditions of contract and any other safety requirements as a matter of general prudence. Upon failure to comply with any of these, Project Manager is authorized to impose penalty on the contractor as per the details below;

Degree of Penalty	Activities covered	Penalty amount (each activity each violation)
1 <sup>st</sup> Degree	<ul style="list-style-type: none"> <li>a) Safety material and notices not posted</li> <li>b) General neatness not maintained in work areas, projecting nails, Oil &amp; grease, unused material, material not stacked properly at the work area</li> <li>c) Inadequate lighting (natural/ artificial)</li> <li>d) Waste containers not provided</li> <li>e) Inadequate and unclean sanitary facilities</li> <li>f) Movement paths not defined</li> <li>g) Cluttered passageways and walkways</li> <li>h) Clear access to Fire hydrants</li> <li>i) Usage of proper PPE (compliance level &gt;75% but &lt;100%)</li> <li>j) Electrical dangers posted</li> <li>k) Bad condition of ladders</li> <li>l) Improper usage of ladders</li> <li>m) Incorrect material handling</li> <li>n) Materials not protected from heat and moisture</li> <li>o) Inappropriate material storage</li> <li>p) Site safety records not maintained</li> <li>q) Task being done without submission of Pre task plan, which is otherwise required</li> <li>r) Workers working without having gone through safety induction</li> <li>s) Workers working without ID cards</li> <li>t) No back horn for earth moving equipment</li> <li>u) Using temporary electrical connections without plug stops</li> <li>v) Using single insulated cable, unless otherwise have permission from EHS manager in special cases</li> <li>w) Temporary electrical connection from other vendor's DB without prior permission from that vendor</li> <li>x) Chewing pan-parag or other similar stuff and spitting on walls and floors</li> <li>y) Carrying out dismantling of scaffold members/ stripping/ demolition work in the absence of supervisor or competent person</li> </ul>	 Rs. 500 each 
2 <sup>nd</sup> Degree	<ul style="list-style-type: none"> <li>a) Non-Availability of first aid kit</li> <li>b) Emergency numbers not posted</li> <li>c) Fire extinguishers of correct type, no. and fully charged not in place</li> <li>d) Non-availability of fire extinguishers</li> <li>e) Usage of proper PPE (compliance level &gt;50% but &lt;75%)</li> <li>f) Frayed electrical wiring</li> <li>g) Fuses and GFI not provided</li> <li>h) Splicing of wire without usage of connectors</li> </ul>	



	<ul style="list-style-type: none"> <li>i) Equipment safeguards not in use</li> <li>j) Scaffolding erected does not conform to the scaffolding checklist</li> <li>k) Proper grounding of equipments not done</li> <li>l) No Edge protection for terrace works or open sides floors (Floor plates without exterior wall/ skin and not edge protection)</li> <li>m) Inadequate/ no shoring of adjacent structure during excavation</li> <li>n) Excavation material too close to the edge of excavation</li> <li>o) Excavation equipment too close to the edge</li> <li>p) Required number of exit points not provided in the excavation</li> <li>q) Proper shoring and strutting not carried out for the trenches below specified depth or alternately proper slope not provided to soil</li> <li>r) Vehicle movement paths not defined on construction sites</li> <li>s) Shuttering for concrete work not properly supported and not resting on firm ground</li> <li>t) Absence of emergency vehicle at site during night work</li> <li>u) Grinding FRP ducts (producing fiber dust), cutting/ grinding of tiles/ granite (producing fine dust particles and impulse noise), cutting acrylic sheets (producing fine plastic dust) – inside closed rooms and restricted areas and/ or without proper protection</li> </ul>	 Rs. 1000 each 
3 <sup>rd</sup> Degree	<ul style="list-style-type: none"> <li>a) Hot work being carried out without permit</li> <li>b) Working at heights without proper safety devices like body harness and without following safety measures like proper tie-offs</li> <li>c) Hoisting equipment checklist not filled prior to performing hoisting operations</li> <li>d) Usage of proper PPE (compliance level &lt; 50%)</li> <li>e) Working at heights without permit</li> <li>f) Excavation work without permit</li> <li>g) Working in confined space without permit</li> <li>h) Working without permit in restricted areas like Server room, AHU room, UPS room, Electrical room, Plant rooms after the equipment has been installed there, Walk-in fume hoods, Labs</li> <li>i) Wrong Electrical connections.</li> <li>j) Barricading of open trenches/ shafts/ floor openings (planked or barricaded) not done</li> <li>k) Cutouts and shafts not protected.</li> </ul>	These are all serious violations and will not be permitted at all. Non-compliance of these will lead to the penalty of Rs. 2000/- each incident each violation in addition to possible job site dismissal of the affected employee and/ or contractor

Upon observing any of the above non-compliances, Project Manager/ its designated representative shall serve a written notice listing the non-compliance, estimated penalty and corrective action due date. The penalty shall be deducted from Contractor's next running bill. Should the Contractor not completely rectify the situation by the due date, Contractor risks dismissal from the site.



### **SECTION 3: SAFETY AUDITS**

1) It is essential to conduct formal periodic safety audits using Cushman & Wakefield Standard Audit System to prevent deviations from safety standards.

2) The audit should take the form of a full survey covering all aspects of safety throughout the project site. Reports should be submitted to the Safety Committee. Copies of the results of a survey should be sent to the persons in charge of the respective areas so that corrective measures can be taken. A copy of the Audit report should also be sent to the Director, Operations.

3) Audit team should cover the following aspects:

- Organization
- Accident control
- Hygiene facilities
- Electrical systems
- Fire prevention
- Demarcated areas
- Mechanical equipment
- Safe work practices
- Storage areas
- Material stacking
- Housekeeping
- Safety statistics
- Display of emergency numbers
- MSDS sheets
- Personal Protective Equipment
- Safety training
- Safety meetings
- First aid facilities
- Traffic control, Signage, etc.

4) Findings of the safety audits shall be sent to Safety committee and also be discussed in the Safety committee meetings.

5) Work place audits should also be carried out at job site frequently (at least every week) conducted by representatives of respective contractors to make sure that all Safety provisions are getting complied with. These should primarily focus on Safe working systems, Housekeeping, Machine guarding and use of PPE. Results of these audits shall be reported to the Safety committee.

### **SECTION 4: ACCIDENT PREVENTION, REPORTING AND INVESTIGATION**

#### **Definition:**

An accident is commonly defined as: “An unplanned event which may or may not result in injury or damage”.

As is clear from the definition, an accident need not necessarily involve either injury or damage to person or property. A “near miss” is by definition an accident and should be regarded as a warning that a problem exists and that some action is required to avoid a possible accident/ incident in future.

**Causes of Accidents:**

88% of all accidents are caused by human error, 10% are caused by mechanical failures and the other 2% are considered outside human control eg. earthquakes. The likely causes of accidents should be identified in advance and the appropriate action taken to ensure that the accident never actually takes place. The most important and effective accident prevention technique is training the actions and attitudes of all personnel.

**Accident Recording and Investigation**

It is essential to have an effective management system for recording accidents. All accidents should be thoroughly investigated. A near miss or incident should be investigated as though an accident had occurred. The prime objective of all investigations of this type is to identify the causes in order to eliminate the risk. Such aspects as systems training and guarding should all be considered in addition to what actually happened and why.

The accidents record should include accidents to employees and non employees on company premises i.e. Contractors, construction workers, maintenance workers, visitors etc. and to those using company vehicles.

Supervisory staff and, when possible, department personnel should be involved in any investigation relating to their area of control and should be delegated in writing to conduct a detailed analysis of the causes. They should determine how best to prevent a recurrence and this should be taken into account in the report. The depth of the investigation and the effectiveness of the follow up action should be monitored.

Records of all accidents must be kept to enable statistics to be analyzed and root causes determined.

**Incident Control System**

Unsafe acts & conditions and “near misses”, if they are not dealt with appropriately, can turn into accidents. It is essential that companies operate an incident control system to ensure that these potential hazards are reported and eliminated. The system should;

- Ensure that whenever possible safety representatives and other employees are involved
- Encourage any person to register an unsafe action or conditions
- Ensure that reports are recorded and acted upon
- Identify the responsibility for investigation and for carrying out corrective action
- Specify the time within which the corrective action should be completed or progress reported
- Ensure that a report is made to management and to the originator when corrective action has been completed

**Levels of Accident Investigation:**

The type or level of accident investigation depends on the nature and seriousness of the incident. In most cases, an “Accident and Incident investigation panel” will be formed which will determine the appropriate level of investigation.

**Types of Investigation:**

- A full investigation which requires a panel including a Project Manager, Safety Officer and Contractor’s Safety representative and Owner’s Safety representative or a panel as determined by Owner/ Project Manager

- A departmental investigation involving the departmental manager(s) the safety officers and the appropriate supervisor
- An investigation by the supervisor involving, where appropriate, the employees concerned

**Lost Time Accidents (LTA):**

This refers to the total number of accidents of all types which result in lost man hours. Lost man hours occur if the person involved is unable to return to normal duties immediately after any treatment.

**Reportable Accidents:**

When an employee, as a result of a lost time accident, is absent from work for more than one day (24 hour), then this will be recorded not only as a lost time accident but also a reportable accident. Brief details of each reportable accident and the steps taken to avoid repetition should be given in the Project Managers monthly Report.

**Serious Accident:**

This is an accident which causes death or serious injury e.g. a broken limb, amputation serious burns etc., or hospitalization for one or more nights.

In addition any escape of gases/toxics substances, which affect the environment and the surrounding area / community even if it does not cause injury to people, is considered a serious accident.

This definition applies to employees and non employees, the yardstick that defines whether it is a serious accident in site terms is whether the victim was on company premises on company business, or using company equipment or transport. Thus if an operating company is in any way involved in a serious accident then it must be fully investigated and reported to company management.

**Incident / Near Miss:**

This can be described as an undesired event which, under slightly different circumstances, could have resulted in an accident.

**Reporting Accidents/ Incidents/ Near Misses:**

All Accidents/ Near misses must be reported to Project managers of the company immediately, with brief details. A preliminary report will then be submitted by the Project Manager to the Zonal Associate Director and Executive Director, as per the procedure outlined in Project Management firm's Standard Operating Procedures. A full and final report will subsequently need to be prepared and submitted. The contractor shall submit the report in the standardized format attached with these EHS guidelines.

**Reporting Accident Statistics:**

Accident statistics reported to company should be based on employees at job site. Accidents to non-employees (vendors or sub-vendors) should be reported as separate statistics.

**Statistical formulae:**

*Lost time Accidents:* This is the total number of accidents including all reportable and serious accidents

*Reportable Accident:* This is the number of accidents where an employee is absent from work for more than 48 hours consecutively (excluding the day of accident).

*Percentage man hours lost:* This is the total number of hours lost expressed as a percentage of total man hours worked.

$$\frac{\text{Total Man hours lost} \times 100\%}{\text{Total man hours worked}}$$

The lost time accidents, reportable accidents and percentage man hours lost should be adjusted monthly as part of the Project Manager's review. The figures given in each category should be for the month under review, the year to date and the previous year to date.

**Accident Frequency rate:**

This is the total number of lost time accidents per 1 million man hours worked by permanent and temporary employees

$$\frac{\text{Total number of lost time accidents} \times 1,000,000}{\text{Total number of man hours worked}}$$

**Accident incident rate:**

This is the total number of any accidents per 1000 employees.

$$\frac{\text{Total number of lost time accident} \times 1000}{\text{Average number of persons employed}}$$

For this calculation the total number of employees should be averaged out over the year. Part time employees should be included in proportion to the time worked.

The accident frequency rate and accident incidence rate should be calculated annually and reported in the year end results.

In addition to the statistics referred to above, all data pertaining to incidents must also be kept at site.

## **SECTION 5: MANAGEMENT RESPONSIBILITY FOR SAFETY**

Management has both moral and legal responsibility to ensure that a well developed Safety program is in place. The contractors are obligated to provide;

- Safe place of work, which includes safe means of access and exit during normal daily work routine as well as in emergencies
- Safe plant and equipment including the maintenance of it
- Safe systems of work. This includes safe working practices and work instructions for all jobs taking particular account of hazardous situations
- Safe working environment and proper arrangements for employee welfare. This responsibility includes proper lighting, ventilation, fume and dust extraction, noise control, housekeeping, seating, drinking water, sanitary facilities and a wide range of other factors
- Safe methods for storing, handling and transporting goods and substances
- Such information instruction, training and supervision as is necessary to ensure efficient and safe working practices, which comply with national legislation and company rules
- Basic and job related safety training for all its and as well its Sub contractor's temporary and permanent employees

- Consultation with employee with a view to making and maintaining adequate and effective arrangements for health safety and welfare
- A written statement with respect to the health, safety and welfare of the employees containing details of procedures which will put the policy into effect and define individual responsibilities for safety
- Where accommodation provided by the company, this must conform to the same safety and hygiene standards as other company premises, in respect of the premises itself and the working of any staff.

## **SECTION 6: SAFETY ORGANISATION**

The contractor/ contracting company shall appoint in writing a person to direct and co-ordinate job site safety program. This person should be a full time, technically qualified safety officer and must have received formal training in Health and Safety. In addition, the contracting company shall also appoint required number of safety stewards, as per prevailing Laws and regulations, but in any event, a Safety steward shall be on the job site at all times when work is ongoing.

The duties and responsibilities of contractor's safety manager should be clearly defined at the outset, which will include managing the company health and safety program in order to achieve an accident free environment.

### **Duties of contractor's Safety Manager**

The precise duties of the manager responsible for health and safety will be determined by the contractor/ contracting company concerned and the following should only be taken as a minimum guideline. In general the duties shall include:

- To manage the company Health and Safety program
- To make recommendations on matters concerning health and safety to the Director responsible for the company health and safety program in order to achieve the company's health and safety objectives
- To inspect all or part of the premises daily to ensure the program is being complied with
- To carry out full inspection at least once every week for potential hazards
- To prepare Pre task plans and make necessary modifications till they are accepted by Project Manager's Safety representative
- To recommend any necessary health and safety rules including changes where appropriate
- To arrange adequate materials and publicity for the Health and Safety Program
- To arrange, attend and supply relevant material for Safety Committee Meetings and weekly safety meetings
- To conduct appropriate job related health and safety training for all new and existing staff whether temporary or permanent. Any job change should be accompanied by relevant retraining.
- To carry out specific health and safety training for managers, supervisors and safety representatives.
- To properly investigate all accidents, damage to property and near miss incidents and make sure that any corrective action is implemented
- To maintain accident records and make a weekly inspection of first aid records and implement any necessary subsequent action
- To prepare weekly summaries of injury/damage and inspection reports for senior management
- To ensure that all fire equipment is regularly inspected and serviced.

- To ensure the provision of safe tools, equipments and protective clothing where appropriate, and their safe use.

## **SECTION 7: SAFETY COMMITTEE**

A safety committee is one of the best methods of obtaining employee involvement in safety. The committee should have formal status and its members shall include;

- Project Manager's Safety representative
- Owner's Safety representative
- Contractor's safety representative
- Subcontractor's safety representatives
- Head – Site security
- Fire officer
- Any other members the management may decide to include

### **Objectives of Safety Committees:**

The prime objective of a safety committee is to promote co-operation between employers and employees in order to investigate, develop and carry out measures designed to ensure the health and safety at work of the company's employees, non-employees and other project participants on job site.

### **Functions of Department Safety Committees:**

The key functions of a departmental safety committee shall include;

- To study the accident statistics and trends within their area
- To report on unsafe or unhealthy conditions together with recommendations which can then be made to management and the safety group
- Examining safety audits relating to their area
- Considering reports comments and suggestions of safety representatives
- Giving assistance in the development of safety rules/ systems of work
- Commenting on the effectiveness of the safety content of staff training program
- Commenting on the adequacy of health and safety
- Communications in the workplace including on-the-job safety meetings
- Co-operating with management in carrying out regular safety inspection of departmental areas and reporting the results of these inspections to the main safety committee.

The safety committees can only assist Management in taking decisions; they cannot substitute for Management.

Management must still take overall responsibility for executive action with a view to ensuring that health and safety arrangements are checked regularly and that the health and safety policy as a whole is being implemented properly.

## **SECTION 8: CONTACTOR'S SAFETY INSPECTION CHECK LIST**

Contractor\_\_\_\_\_Contract No.\_\_\_\_\_

Project\_\_\_\_\_

Location\_\_\_\_\_

Type of Work \_\_\_\_\_

Date \_\_\_\_\_ Checked By \_\_\_\_\_

SI No	ITEM	STATUS	REMARKS
	<b>Accident prevention Organization</b> Trained First Aid person First Aid Kit Safety Material Posted Emergency Phone # Posted		
	<b>Housekeeping &amp; Sanitation</b> General neatness of working areas Daily disposal of waste and trash Passageways and walkways clear Adequate lighting Projecting nails removed Oil and grease removed Waste containers provided & used Sanitary facilities adequate and clean Drinking water tested and approved Adequate supply of water Drinking cups, Clean Dispensers Exit sign posted		
	<b>Fire Prevention</b> Fire extinguishers identified, checked, charged Hydrants clear access to public thoroughfare open Good Housekeeping <b>NO SMOKING</b> posted and enforced where needed		
	<b>Personal Protection</b> Hard-hats Noise Level Exposure / Ear protection Eye Protection Safety Lines & harnesses Life Jackets (If necessary) Safety shoes / Gum Boots Gloves		
	<b>Electrical Installation</b> Adequate well insulated wiring Fuses & GFI provided Fire hazards checked Electrical dangers posted Open wires without adaptors not used Lock out / Tag out procedures used for maintenance of Electrical system, Temporary wiring not used as permanent installation. Personal protective equipment and clothing provided.		
	<b>Hand &amp; Power Tools</b> Tools and cords in good condition		



	<p>Proper grounding  All mechanical safeguards in use  Tools neatly stored when not in use  Right tool being used for the job at hand  Wiring properly installed  Enough men used to handle material  Use of GFCI for tools used outdoors</p>		
	<p><b>Ladders</b>  Stock ladders in good condition  Stock ladders not spliced  Properly secured, top and bottom  Side rails on fixed ladders extend above top landing  Built-up ladders constructed of sound materials  Rungs not over 12 inches on centre  Stepladders fully open when in use  Metal ladders not used around electrical hazards  Proper maintenance and storage</p>		
	<p><b>Scaffolding</b>  All structural members adequate for use  All connections adequate  Safe tie-in to structure  Ladders and working areas free of debris, snow, ice, grease  Proper footings provided  Passerby protected from falling objects  Supports plumb, adequate cross bracing provided  Guard rails and toe boards in place  Scaffold machines in working order  Ropes and cables in good condition  Load rating posted.</p>		
	<p><b>Hoists, Cranes &amp; Derricks</b>  Inspect cables and sheaves  Check slings and chains, hooks and eyes  Equipment firmly supported  Outriggers used if needed  Power lines inactivated, removed, or at safe distance  Proper Loading for capacity at lifting radius  All equipment properly lubricated and maintained  Signalmen where needed  Hoisting plan</p>		
	<p><b>Motor Vehicles</b>  Brakes, lights, warning devices or barricaded  Weight limits and load sizes controlled  Personnel carried in safe manner.  Seat belts provided and used.</p>		
	<p><b>Barricades</b>  Floor opening planked over or barricaded  Roadways and sidewalks effectively protected  Adequate lighting provided  Traffic controlled</p>		
	<p><b>Handling &amp; Storage of Materials</b>  Neat storage area, clear passageway</p>		

	<p>Stacks on firm footings, not too high Men picking up loads, correctly Materials protected from heat and moisture Protection against falling into hoppers and bins Dust protection observed</p>		
	<p><b>Excavation &amp; Shoring</b> Shoring of adjacent structures Shoring and sheathing as needed for soil and depth Public roads and sidewalks supported and protected Materials not too close to the edge of excavation Lighting at night Water controlled Equipment at safe distance from edge</p>		
	<p><b>Concrete Construction</b> Forms properly installed and braced Adequate shoring, plumbed and cross braced Shoring remains in place until strength is attained Proper curing period and procedures Check heating devices Adequate runways Protection from cement dust Hard-hats, safety shoes, shirts covering skin Nails and stripped form material removed from area</p>		
	<p><b>Masonry</b> Proper scaffolding Masonry saws properly equipped, dust protection provided Safe hoisting equipment</p>		

## **SECTION 9: FIRST AID AND EMERGENCIES**

### **Trained First Aid Person**

A contractor shall provide, or ensure that required number of suitable persons as adequate and appropriate are provided in the circumstances for rendering first aid to people deployed at site if they are injured or become ill at work. The trained first aid person should have undergone:

- a) Such training and has qualifications as the Health and Safety Executive may approve for the time being in respect of that case or the class of case, and
- b) Such additional training, if any, as may be appropriate in the circumstances of that case.

In practice, (a) refers to a trained first aider and (b) to an occupational first aider. In addition, a person who holds a current first aid certificate issued by registered medical association or Indian Red Cross Society will be classed as a “Suitable Person” for the purposes of regulation.

The contractors shall ensure that sufficient first aides are appointed to provide adequate coverage for each shift. Provisions for medical care must be made available by the contractor for every employee covered by the regulations. In the absence of dispensaries, clinics, or hospitals in proximity to the work site, properly trained and certified first aid personnel must be available, and first aid supplies must be provided by the contractor. Appropriate equipment for transportation of injured personnel to a physician or hospital must be provided for. An emergency plan, medical care, firefighting and evacuation plan must be developed by the main contractor.

**First Aid Kit:**

Regardless of the number of people there must be at least one first-aid box on site. Every first aide and occupational first aider should have easy access to first-aid equipment, and provision should be made for every person to have reasonably rapid access to first aid. Each box should be placed in a clearly identified and readily accessible location, and contain a sufficient quantity of suitable first-aid materials and nothing else. Boxes and kits should be checked frequently to ensure they are fully stocked and all items are in a usable condition. Sufficient quantities of each item should always be available in every first aid box or cabinet.

Sl.No	Item	Numbers of People working at Site				
		1-5	6-10	11-50	100	150
1	Guidance card individually wrapped	1	1	1	1	1
2	Sterile adhesive dressings	10	20	40	40	40
3	Sterile eye pads with attachment	1	2	4	6	8
4	Triangular bandages	1	2	4	5	8
5	Sterile coverings for serious wounds	1	2	4	5	8
6	Safety pins	6	6	12	12	12
7	Medium sized sterile un-medicated	3	6	8	10	12
8	large sterile un-medicated dressings	1	2	4	6	8
9	X-large sterile un-medicated dressing	1	2	4	6	8
10	Sterile water in 300 ml disposable containers, where tap water unavailable	1	1	3	6	6

The first-aid box or cupboard should protect the content from dampness and dust and be clearly marked with a white cross on green background

**First Aid Rooms:**

Where there are 250 or more persons at work on site, a suitably staffed and equipped first-aid room should be provided. In addition, where there is a large (over 150) number of employees divided into several dispersed working groups, or the location of the site makes access to places of treatment outside difficult, the contractor should consider whether a centralized first-aid room may be needed.

A First aid room should:

- Be under the charge of an occupational first aider in most circumstances: names and locations of all first aiders should be displayed
- Be readily available and used only for the rendering of first aid
- Be clearly identified and of sufficient size to allow access for a stretcher, wheelchair, etc. And hold a couch with space for people to work around it
- Contain in addition to the previously mentioned first aid materials: a sink with hot and cold running water, drinking water, paper towels, impermeable work surfaces, clean garments for use by first aiders and occupational first aider's clinical thermometer a couch with pillow and blankets frequently cleaned
- Be heated, lighted, ventilated and cleaned regularly
- Be designed so that immediate contact can be made with the person on call, e.g radio, siren, and a telephone link if feasible. It should be stressed that a sufficient number of first-aid boxes must be provided for any work area, which is not within easy reach of the first aid room.

### Emergency Phone # Posted

Project name \_\_\_\_\_ Project No. \_\_\_\_\_

The following are the business telephone numbers where project key personnel can be reached at all times. In addition, the emergency telephone numbers of other vital agencies are listed:

	<b>BUSINESS</b>	<b>RESIDENCE</b>
Project Manager		
Owner Project Manager		
Contractor Safety Officer		
PMC Safety Officer		
Fire/ Security officer		

### OTHER EMERGENCY TELEPHONE NUMBERS

Fire :  
 Ambulance :  
 Doctor :  
 Hospital :  
 Police :  
 Gas Company :  
 Electric Company :  
 Water Company :  
 Telephone Company :  
 Insurance Carrier :  
 :

## **SECTION 10: HOUSEKEEPING AND SANITATION**

At the work site, an adequate supply of potable water must be provided, as well as clean drinking water dispensers. Potable water for clean up must be provided. Where non potable water is used for industrial or fire fighting purpose it must be identified by appropriate signs.

Apart from the above, the contractor has to adhere to general neatness of working areas, daily disposal of waste and trash, maintenance of clear passageways and walkways, providing adequate temporary lighting and ventilation (both natural as well

as artificial) to perform the project related works, removal of projecting nails, removal of oil and grease, removal of loose unused construction material, provision for waste containers, and maintaining adequate sanitary facilities for the work force. The contractor and in turn its sub-contractors shall be responsible for cleaning behind them on daily basis. The accumulation of construction materials/ debris shall not be permitted at any location.

### **SECTION 11: FIRE PREVENTION**

An emerging plan for firefighting and evacuation must be made. A training plan must be developed.

Electrical wiring equipment for heating, light or power purposes must be installed in compliance with the statutory requirements. Internal combustion engine-powered equipment must be located with exhausts well away from combustible materials. Smoking is to be prohibited in the vicinity of fire hazards, and such areas must be conspicuously posted. Care shall be taken properly to ground nozzles, hoses or steam lines used in hazardous tanks or vessels.

In location of temporary buildings and yard storage, appropriate care shall be taken for proper separation to allow an accumulation of fire potential. The contractor is responsible for maintaining the entire area, but particularly storage areas, free from accumulation of unnecessary combustible materials. Sufficient fire extinguishes must be installed in all temporary buildings and storerooms.

The contractor must identify and maintain proper escape routes at the project site in the event of a fire emergency. The escape routes should be sufficient in number and free from any encumbrances. All the workers as well as others working at job site should be made aware of them through training, mock drills and posting of exit signs. The contractor, consultation with the Project Manager must identify a "Mustering point" where all the workers would be required to gather in the event of fire. The contractor must generate an "Evacuation Procedure" in the event of fire and post it at multiple locations on the project site. The procedure should include what should be done to the ongoing activity when such a situation arises, which escape routes to follow, safe location to gather, who to call (with telephone numbers), how to inform the site security, etc.

#### **Site Fire Check List**

- Are safe ashtrays provided where smoking is permitted? And are fire extinguishers installed?
- Are heaters properly guarded?
- Are wet clothes kept clear of heaters?
- Are portable heaters secure from being knocked over?
- Is all temporary wiring well supported and protected?
- Are any circuits overloaded?
- Are all flammable liquids, gas cylinders and flammable materials separately and properly stored?
- Are all gas appliances fitted with control taps?
- No burning of rubbish is permitted outside
- Is all flame cutting and welding taking place with proper precautions?
- Are all blow lamps and blow torches being used correctly and all the hoses protected?
- Do all night watchmen and security patrols know the fire routines?

**Preventing the spread of fire:**

- Is waste accumulating in hoist shafts, under butts, in odd corners?
- Are separate metal waste containers supplied for each of the following : oily rags, paint rags, paint scrapings, waste flammable liquids, wood shavings and offcuts?
- Is all waste regularly cleared?
- Are all huts safely located?

**Means of escape:**

- Are all gangways, stair and platforms free from obstruction?
- Does everyone know what to do in an emergency?
- Is fire drill practiced, and is there a system to ensure that all persons have evacuated the area?

**Fire Fighting:**

- Have all extinguishers been checked and / or recharged?
- Are they clearly identified and easily accessible?
- Are operatives trained in their use?

**SECTION 12: PERSONNEL PROTECTION**

The required personnel protective equipment (PPE) should be worn at all times. The contractor is encouraged to supply comfortable personnel protective equipment to the site workers. All necessary personnel safety equipment as considered adequate by the Engineer-in-charge shall be available for use of persons employed on the site and maintained in a condition suitable for immediate use, and the contractor shall take adequate steps to ensure proper use of equipment by those concerned.

Irrespective of the type of work being performed, contractor will have 100% compliance with Safety hard hats, safety glasses and safety shoes. In addition for specific works described below though not limited to these only, additional safety precautions as stated will be taken by the contractor.

Workers employed on mixing asphalt materials, cement and lime mortars/ concrete shall be provided with protective footwear and protective gloves.

Those engaged in handling any material which is injurious to eyes shall be provided with protective goggles. Special protective goggles must be used by graining, sawing and drilling. Those engaged in welding works shall be provided with welder's protective eye-shields.

Stone workers are employed in sewer and manholes, which are in use, the contractor shall ensure that manholes are ventilated at least for an hour before workers are allowed to get into them. Manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to public

During these activities in sewers and manholes, regular monitoring of oxygen levels and the presence of explosive mixtures and toxic gases are to be controlled.

Suitable face masks shall be supplied for use by workers during painting work.

Overalls shall be supplied by the contractor to workmen and adequate facilities shall be provided to enable working painters to wash during and on cessation of work. Special care should be taken with regards to the hygiene of the temporary facilities.

### **SECTION 13: ELECTRICAL INSTALLATION**

The National Indian electric codes and regulations shall apply to all permanent and temporary electrical installations.

A temporary power distribution system shall be installed in accordance with the national codes

All other temporary connections and sub distribution systems shall be connected to this main system.

All temporary power systems shall be properly grounded.

Circuit breakers (incl. fuses) shall be used in all temporary power connections for system and cable protection.

All wires shall be colour coded in accordance with the national codes.

All electrical cables shall consist of solid copper conductors (stranded wires shall not be used).

Only certified electricians will be allowed to enter high tension station, transformer and low voltage areas.

All electrical installation work and all connections to the main power distribution system shall be done by qualified electricians from certified contractors.

Usage of 30Ma ELCB as per IE guidelines (or as stated in its subsequent revisions)

### **SECTION 14: LADDERS**

Work activities situated above 2.5m from ground floor level

Precautions shall be made to avoid workers from falling down. For work above 2.5m from ground level, proper scaffolds need to be erected.

No metal ladders to be used around electrical hazards. Special attention shall be paid to the material of the ladder for the type of work to be performed i.e. whether the ladder shall be metal or wooden.

#### **Use of ladders and folding step ladders**

This regulation applies to all ladders and pairs of steps but not roof ladders and crawling boards.

Ladders must:

- Be fixed near the top if practicable, or near the bottom if not: if suspended they must be secure.
- Be placed (except when suspended) on a firm level base; they must not stand on loose packing (eg. Bricks)
- Be intermediately secured, where necessary, to prevent swaying and sagging
- Be supported, or suspended, equally on each stile.



- When working on a ladder above 2.5m, fall protection must be used.
- Extend at least 1.05m above any landing place beyond the highest rung from which a person may be working or have a nearby handhold of equivalent height.
- Be placed so that there is space behind each rung for proper foothold (eg. no rung should coincide with a scaffold tube)

## **SECTION 15: SCAFFOLDING**

### **Work activities above 2.5m from the ground level:**

Precautions shall be made to avoid workers from falling down. For work above 2.5m above a floor level proper scaffolds need to be erected. Ladders properly secured can be used, but only for light work which can be done with one hand.

### **Supervision of work and inspection of material:**

Scaffolds must be erected, altered or dismantled only under competent supervision and as far as possible, by experienced persons. All scaffolding materials must be inspected before use to check that they are up to standard. All inspected scaffolds must bear a sign “ready for use”.

### **Construction and material:**

Sufficient sound material must be provided for a scaffold to be strong and stable enough for the job. Wherever timber is used for any kind of scaffolding purpose, it must be of the right type for the job and must not be painted so that any defects are hidden. Scaffold tubes and fittings must not be bent, distorted or unduly rusty.

### **Defective material:**

Scaffold tubes, couples or fittings that are bent unduly rusty or distorted should be rejected. Timber with dangerous splits and knots should always be rejected. Ropes and lashings showing signs of chafing through wear, or of being corroded, should be rejected. All scaffold components must be properly stored when not in use and kept separately from all other building materials

### **Maintenance of scaffolds:**

Scaffolding must be kept in good order and every effort made to prevent the accidental displacement of any part.

### **Partly erected or dismantled scaffolds:**

If any scaffold is either partly erected (or partly dismantled), but nevertheless is still capable of being used to some extent, it must have a bold warning notice fixed, or all access blocked off or barred, at the point beyond which it cannot be safely used.

### **Standards or Uprights, Ledgers and Putlogs:**

Scaffold standards should be vertical and spaced closely enough for the intended use of the scaffold.

Base plates must be used. Timber sole plates should also be used to distribute the load from the standard over a wide area, as well as to offset possible local subsidence.

Ledgers must be level and fixed to standards with right-angle couplers.

Putlogs and transoms must be firmly fixed to ledgers or standards.

The flattened end of the putlog must be pushed right into the wall to provide maximum support.

Putlogs and transoms should be spaced according to the expected load and the thickness of the boards to be used in the platform.

In normal use, putlogs and transoms should be spaced so that the spans of scaffold boards should not be greater than :

32mm boards: 1m  
38mm boards: 1.50 m  
50mm boards: 4.60 m

#### **Ladders used in Scaffolds:**

Ladders used as uprights must be:

- Strong enough to carry the load of both the work and the workers.
- Equally supported on each side.
- Secured to prevent slipping.

Ladders to be placed under an angle of 70 ° with the vertical and shall extend 1m above the railing. Ladders are only to be used to support a scaffold platform when the work is light, e.g., painting.

#### **Stability of Scaffolds:**

All scaffolds must be:

- On a solid, even base ; or suspended from a sound structure
- Braced to prevent failure, and
- Tied to the building or structure unless specially designed to be completely independent.

Any building or structure which supports a scaffold must be strong enough to carry the scaffold and its load

A scaffold only used as a working platform for workers when a scaffold also used to store material etc, a calculation is needed to check if that scaffold is safe to carry the total load.

Mobile scaffolds must:

- Be stable, weighted at the base if necessary
- Be used only on a flat, level surface.
- Have the wheels locked to prevent movement whilst being used for work,
- Be pushed, or pulled only at the base when being moved.

Scaffolds must not be built on loose bricks, drain pipes, chimney pots, etc. Bricks or blocks can be used to support a platform no higher than 600mm from the ground or floor.

#### **Slung Scaffolds**

- Be strong enough

- Be properly secured to be overhead anchor-ages and to be platform frame,
- Be spaced so as to keep the platform stable,
- Be vertical, and
- Be kept straight
- No rope other than wire rope may be used for suspension
- Packing must be used to prevent damage to suspension ropes or chains at any point where sharp or rough-edged protrusions could cause chafing.
- The platform must be secured to prevent swaying whilst in use.

**Cantilever, Jib figure and Bracket scaffolds:**

Cantilever or jib scaffolds must be anchored to a structure which is strong enough to carry the total load Outriggers must be long enough and strong enough and the scaffold must be braced to ensure stability.

Figure or bracket scaffolds supported by dogs or spikes must not be used if there is any danger of these pulling out of the brickwork or stone-work.

**Support for Scaffolds:**

No part of the building may be used to support scaffolding unless it is strong enough to do so. Unless gutters have been designed as walkways and are strong enough to bear the weight, they must not be used to support scaffolding or ladders.

**Suspended Scaffolds (Not Power Operated)**

The ropes, winches, block and tackle must be strong enough and correctly rigged. A safe anchorage for the suspension must be provided.

**Winches or similar lifting devices must:**

- a. have brakes which apply when the operating lever is released, and
- b. be protected from the weather, falling dirt, etc.

**Outriggers must:**

- a. be long enough and strong enough,
- b. be horizontal (light cradles are excepted)
- c. have stops at their outer ends (light cradles excepted)
- d. be tied down or properly counter-weighted at the tail, and
- e. be close enough together to support the rails and scaffolds properly .

**Counterweight Must**

- a. be bolted or securely attached to the outriggers, and

**Runways must:**

- be strong enough and in good condition,
- have stops at each, and
- be bolted or tied securely to their supports

**Platforms of suspended scaffolds must:**

- be closely boarded
- be at least 430mm wide on light weight cradles and
- be at least 600mm wide on all other types, if used only for workmen, or
- be at least 800mm wide, if used for workmen and materials
- Never be used to carry higher platform

Platforms should be as close as possible to the face of the building but where persons sit on the edge of the platform to carry out their work then the distance between platform and building can be upto 300mm

**Winches must:**

Have at least two full turns of rope on the drum when the platform is in its lowest position and

Be marked with the length of rope on the drum

Suspended scaffolds and associated equipment must be maintained in good conditions. Platforms must be prevented from tipping or swaying whilst in use.

Steel wire rope must be used for the suspension for all platforms other than light weight cradles

Light cradles may be suspended by fibre ropes and pulley blocks which should not be more than 3.20m apart. (Only ropes recommended by manufacturers for this purpose should be used)

**Boatswain's Chair's Cages, Skips etc. (Not Power Operated)**

Hand-operated boatswain's chairs, skip etc. must:

- Be well constructed, strong enough, and properly maintained
- Have outriggers strong enough and firmly anchored,
- Have chains, ropes and lifting gear firmly secured to the outriggers above and to the chair, skip etc. The construction (lifting operations) regulations apply to the lifting gear,
- Be designed so that the occupant cannot fall out
- Carry no loose materials which could interfere with the safety of occupant
- Have means of preventing spinning and tipping (a swivel connection at the suspension points is strongly advised)
- In the case of skips, be at least 910 mm deep
- Be under the supervision of a competent person during installation and use, and
- A boatswain's chair may only be used as a workplace when the work would not take long enough to make the use of a suspended (or standard) scaffold reasonably practicable.
- Persons working in these must wear fall protection harnesses connected to a rope or chain separate from the chair or skip suspension rope or chain.

**SECTION 16: HOISTS, CRANES AND DERRICKS**

**Safety of Hoist ways, Platform and Cage:**

Hoist ways must be enclosed wherever access is provided or wherever persons could be struck by the platform or other moving parts. Gates must be fitted in the enclosure at all landing places and must normally be at least 2m high, but gates 910 mm high are acceptable where persons are not at the risk of falling down the hoist-ways or coming into contact with moving parts. Gates must be kept closed except for the movement of men and materials; it is the duty of all persons to ensure it is done.

Hoists platforms and cages must be fitted with a device capable of supporting them, fully loaded, should hoists, ropes or driving gear fail. Hoists must be fitted with ver-run stops at the top.

### **Operation of Hoists**

- a) Hoists must only be capable of being operated from one position at a time, whether by rope, lever or switch. Hoists must not be operated from the cage.
- b) Where the hoist driver cannot see the platform or cage during its movement, a signaling system, which covers all landing places, must be used.
- c) All hoists, prior to their use, have to be inspected by a competent person

### **Safe Working Load and Marking of Hoists**

- a) The platform of materials or goods hoists must carry a notice stating
  - (i) the safe working load and
  - (ii) that the passenger must not ride on platform

The safe working load must not be exceeded except for test purposes.

- b) Cages for passengers hoists must carry a notice stating
  - (i) the safe working load and
  - (ii) the number of passengers permitted.

No greater number of passengers may be carried and safe working load must not be exceeded except for the test purposes.

## **SECTION 17: MOTOR VEHICLES**

A site traffic plan must be developed at the beginning of the project to control all traffic on site and movement of materials, parking etc.

Motor equipment left unattended at night near areas where work is in progress must have appropriate lights, reflectors or barricades to identify the locations of the equipment. A safety tie rack, cage, or equivalent protection must be used when a worker is inflating, mounting, tires installed on split rims or rims equipped with locking rings. Heavy machinery that is suspended or held aloft by the use of slings, hoists, or jacks must be blocked or cribbed to prevent falling or shifting before employees are permitted to work under them. Bulldozer and scraper blades and similar equipment shall be either fully lowered or blocked when being repaired or when not in use. All controls must be in the neutral position and the motor stopped and brakes set, unless work being performed requires otherwise. Parked equipment must be checked and parking brakes set. All cab glass shall be safety glass. All vehicles must have a service brake system, an emergency brake system, and a parking brake system. Vehicles that require additional light shall have at least two headlights, as well as brake lights. The vehicles must also be equipped with back horn which automatically sets off as and when the vehicle is in reverse gear.

Other standard vehicles equipment such as seat belts, rear-view mirrors and safety latches on operating levers shall be in accordance with standard vehicle codes, and state-inspected where appropriate.

The authorized individuals with valid driving license only shall be allowed to drive.

## **SECTION 18: BARRICADES**

- (i) Contractor shall erect and maintain barricades required in connection with its operation to guard or protect,
  - a) Hoisting areas.
  - b) Areas adjudged hazardous by contractor's safety management and/ or Project Manager's Inspectors
  - c) Owner's existing property subject to damage by the contractor's operations
- (ii) Contractor's employees and those of his subcontractors shall become acquainted with Project Managers barricading practice and shall respect the provisions thereof.

### **Guarding of floor opening and floor holes:**

Every temporary floor opening shall have railings, or shall be constantly attended by Supervisors appointed by Contractor's safety officer / Manager.

Every floor hole into which persons can accidentally fall shall be guarded by either:

- a) A railing with toe board on all exposed sides, or
- b) A floor hole cover of adequate strength and it should be hinged in place. When the cover is not in place, the place the floor hole shall be constantly attended by some one or shall be protected by a removable railing.

Barricades must be strong enough to carry the weight of people.

Every stairway floor opening shall be guarded by a railing on all exposed sides, except at entrance to stairway. Every ladder way floor opening or platform shall be guarded by a guard railing with toe board on all exposed sides (except at entrance to opening) with the passage through the railing either provided with a swinging gate or so offset that a person can not directly into the opening.

### **Guarding if open-side floors and platform**

Every open-sided floor or platform 120cm or more above adjacent floor or ground level shall be guarded by a railing (or the equivalent) or all open sides except where there is entrance to ramp, stairway or fixed ladder. The railing shall be provided with a toe board beneath the open sides wherever,

- (a) Persons may pass,
- (b) there is moving machinery and
- (c) there is equipment with which failing materials could create a hazard

## **SECTION 19: HANDLING AND STORAGE OF MATERIALS**

### **Cement:**

Storage and stacking: Cement shall be stored at the work site in a building or a shed which is dry, leak proof and moisture proof. The building or shed for storage should have minimum number of windows and close fitting doors and these should be kept closed.

Cement received in bags shall be kept in such a way that the bags are kept free from the possibility of any dampness or moisture coming in contact with them. Cement bags shall be stacked off the floor on wooden planks in such a way as to keep them

150 to 200mm clear from the floor and space of 450mm minimum shall be left all round between the exterior walls and in the stacks. In the stacks the cement shall be kept close together to reduce circulation of air as much as possible. Owing to pressure on bottom layer of bags sometimes 'warehouse pack' is developed in these bags. This can be removed easily by rolling the bags when cement is taken out for use.

The height of stack shall not be more than 15 bags to prevent the possibility of lumping up under pressure. The width of the stack shall be not more than four bags length or 3m. In stacks more than eight bags high, the cement bags shall be arranged alternately lengthwise and crosswise so as to tie the stacks together and minimize the danger of toppling over.

For extra safety during monsoon or when it is expected to store for an unusually long period, the stack shall be completely enclosed by a water proofing membrane such as polyethylene, which shall close on the top of the stack. Care shall be taken to see that the waterproofing membrane is not damaged any time during the use.

Drums or other heavy containers of cement shall not be stacked more than two layers high.

The manner of storage shall facilitate the requirement that lots of cement received are removed and used more or less in the order in which they are received.

Handling – Hooks shall not be used for handling cement bags unless specifically permitted by the engineer-in-charge.

### **Polyethylene pipes**

#### **(a) Storage & stacking:**

Black polyethylene pipes may, be stored either under cover or in the open. Natural polyethylene pipes however, should be stored under cover and protected from direct sunlight.

Coils may be stored either on edge or stacked flat one on top of the other, but in either case they should not be allowed to come into contact with hot water or steam pipes and should be kept away from hot surface.

Straight lengths should be stored on horizontal racks giving continuous support to prevent the pipe taking on a permanent set.

Storage of pipes in heated areas exceeding 27<sup>0</sup> C should be avoided.

#### **(b) Handling: Removal of pipe from a pile shall be accomplished by working from the ends of the pipe.**

### **Pipes of conducting materials:**

#### **(a) Storage and stacking: Pipes shall be stacked on solid level sills and contained in a manner to prevent spreading or rolling of the pipe. Where quantity storage is necessary suitable packing shall be placed between succeeding layers to reduce the pressure and resulting spreading of the pile.**

In stacking and handing of pipes and other conducting materials the following minimum safety distances shall be ensured from the overhead power line:



11KV and below	40m
Above 11 and below 33KV	60m
Above 33 and below 132KV	70m
Above 132 and below 275KV	70m
Above 275 and below 400KV	50m

- (b) Handling: Removal of pipes from a pile shall be accomplished by working from the ends of the pipe. During transportation, the pipes shall be so secured as to ensure against displacement.

**Paints, Varnishes and Thinners:**

- (a) Storage and stacking: Paints, varnishes lacquers, thinners and other flammable materials shall be kept in properly sealed or closed containers. The containers shall be kept in a well ventilated location, free from excessive heat, smoke, sparks or flame. The floor of the paint stores shall be made up of 10cm thick loose sand and stored in a collection drip pan to prevent leakage's to the ground and/or the soil.

Paint materials in quantities other than required for daily use shall be kept stocked under regular storage place.

Where the paint is likely to deteriorate with age the manner of storage shall facilitate removal and use if lots in the same order in which they are received.

Temporary electrical wiring / fittings shall not be installed in the paint store. When electric lights, switches or electrical equipment are necessary, they shall be of explosion proof design.

- (b) Handling: Ventilation shall be adequate to prevent the accumulation of flammable vapors to hazardous levels of concentration shall be provided in all areas where painting is done.

When painting is done in confined spaces where flammable or explosive vapors may develop any necessary heat shall be provided through duct work remote from the source of flame.

Sources of ignition such as open flame and exposed heating elements shall not be permitted in area or rooms where spray painting is done nor shall smoking be allowed there.

Care should be taken not to use any naked flame inside the paint store. Buckets containing sand shall be kept ready for use in case of fire. Fire extinguisher when required shall be of foam type conforming to accepted standards.

**Bitumen, Road Tar, Asphalt etc.:**

- (a) Storage and stacking: Drums or containers containing all types of bitumen, road tar, asphalt etc. shall be stacked vertically on their bottoms in upto 3 tiers. Leaky drums shall be segregated and either their contents shall be emptied into intact drums or contained in larger containers. All spillages or leakages onto natural soil shall be immediately cleaned up and placed in a contained area. Empty drums shall be stored in pyramidal stacks neatly in rows.

- (b) Handling: Bitumen / Tar – Bitumen / tar shall not be heated beyond the temperature recommended by the manufacturer of the product. While discharging heated binder from the boiler, workers shall not stand opposite to the jet so as to avoid the possibility of hot binder falling on them. The container shall be handled only after closing the control valve. While handling hot bitumen / tar, workers shall exercise scrupulous care to prevent accidental spillage thereof. The buckets and cans in which the hot material is carried from boiler shall be checked before use to ensure that they are intact and safe. Mops and other applicators contaminated with bituminous materials shall not be stored inside buildings

**Bituminous roofing felts:**

- (a) Storage and stacking: Bituminous roofing felts shall be stored away from other combustible, flammable materials. For long storage it shall be kept under shade.
- (b) Handling: Bituminous roofing felts should be handled in a manner to prevent cracking and other damages

**Flammable materials:**

- (a) Storage and stacking: In addition the following provisions shall also apply: Outdoor storage of drums required some care to avoid contamination because moisture and dirt in hydraulic brake and transmission fluid, gasoline or lubricants may cause malfunction of failure or equipment with possible danger to personnel. The storage area should be free of accumulations of spilled products, debris and other hazards and Compressed gases and petroleum products shall not be stored in the same building or close to each other.
- (b) Handling: Petroleum products delivered to the job site and stored there in drums shall be protected during handling to prevent loss of identification through damage to drum markings, tag, etc. Unidentifiable petroleum products may result in improper use with possible fire hazard damage to equipment or operating failure.

Workmen shall be required to guard carefully against any part their clothing becoming contaminated with flammable fluids. They shall not be allowed to continue work when their clothing becomes so contaminated. All flammable and toxic liquids shall be stored in suitable collecting drip pans to avoid spill contamination into the ground/soil.

All workers shall be provided training as part of the induction as to how to correctly handle and lift materials and the maximum load they can lift or handle at any point.

**SECTION 20: EXCAVATION AND SHORING**

Excavation and Trenching: All trenches, 1.5m or more in depth, shall at all times be supplied with at least one ladder for each 30m in length or fraction thereof. Ladder shall be extended from bottom of trench to at least 1meter above surface of the ground. Sides of a trench which is 1.5m or more in depth shall be stepped back to give suitable slope or securely held by timber bracing so as to avoid the danger of sides collapsing. Excavated material shall not be placed within 1.5m of edge of trench of half of depth of trench, whichever is more cutting undermining or undercutting be done.

Safety procedures for the operation of the excavation and grading equipment (such as the safe distance from excavations) should be developed.

## **SECTION 21: CONCRETE CONSTRUCTION**

### **Handling of plant**

Mixers: All gears, chains and rollers of mixers shall be properly guarded. If the mixer has a charging skip the operator shall ensure that the workmen are out of danger before the skip is lowered. Railings shall be provided on the ground to prevent anyone walking under the skip while it is being lowered.

All cables, clamps, hooks, wire ropes, gears and clutches etc. of the mixer, shall be checked and cleaned, oiled and greased and service once a week. A trial run of the mixer shall be made and defects shall be removed before operating a mixer.

When workmen are cleaning the inside of the drums and operating power of the mixer shall be locked in the off position and all fuses shall be removed and a suitable notice hung at the place.

### **Trucks:**

When trucks are being used on the site, traffic problems shall be taken care of. A reasonably smooth traffic surface shall be provided. If practicable, a loop road shall be provided to permit continuous operation of vehicles and to eliminate their backing. If a continuous loop is not possible a turnout shall be provided. Backing operations shall be controlled by a signalman positioned so as to have a clear view of the area behind the truck and to be clearly visible to the truck driver. Movement of workmen and plant shall be routed to avoid crossing as much as possible the truck lanes.

### **Formwork:**

Formwork shall be designed after taking into considering spans, setting temperature of concrete, dead load and working load to be supported and safety factor for the material used for formwork.

All timber formwork shall be carefully inspected before use and members having cracks and excessive knots shall be discarded

The vertical supports shall be adequately braced or otherwise secured in position that these do not fall when the load gets released or the supports are accidentally hit.

Tubular steel centering shall be used in accordance with the manufacturer's instructions. When tubular steel and timber centering is to be used in combination necessary precautions shall be taken to avoid any unequal settlement under load.

### **All centering shall be finally inspected to ensure that:**

- a) Footings or sills under every post of the centering are sound
- b) All tower adjustment screws or wedges are snug against the legs of the panels.
- c) All upper adjustment screws or heads of jacks are in full contact with the formwork.
- d) Panels are plumb in both directions.
- e) All cross braces are in place and locking devices are in closed and secure position.
- f) In case of chajjas and balconies the props shall be adequate to transfer the load to the supporting point.

**Ramps and gangways:**

Ramps and gangways shall be of adequate strength and evenly supported. They shall either have a sufficiently flat slope or shall have cleats fixed to the surface to prevent slipping of workmen. Ramps and gangways shall be kept free from grease, mud, snow or other slipping hazards or other obstructions leading to tripping and accidental fall of workman.

Ramps and gangways meant for transporting materials shall have even surface and be of sufficient width and provided with skirt boards on open sides.

**Pre-stressed concrete:**

In pre-stressing operations, operating, maintenance and replacement instructions of the supplier of the equipment shall be strictly adhered to.

Necessary shields should be put up immediately behind the pre-stressing jacks during stressing operations.

Wedges and other temporary anchoring devices shall be inspected before use.

The pre-stressing jacks shall be periodically examined for wear and tear.

A spreader beam shall be used wherever possible so that the cable can be as perpendicular to the members being lifted as practical. The angle between the cable and the members to be lifted shall not be less than 60°.

Methods of assembly and erection specified by the designer, shall be strictly adhered to at site. Immediately on erecting any unit in position, temporary connections or supports as specified shall be provided before releasing the lifting equipment. The permanent structural connections shall be established at the earliest opportunity.

**Heated concrete:**

When heaters are being used to heat aggregates and other materials and to maintain proper curing temperatures, the heaters shall be frequently checked for functioning and precautions shall be taken to avoid hazards in using coal, liquid, gas or any fuel.

**SECTION 22: MASONRY WORK****Walls**

General: Depending on the type of wall to be constructed the height of construction per day shall be restricted to ensure that the newly constructed wall does not come down due to lack of strength in the lower layers. Similarly, in long walls adequate expansion / crumple joints shall be provided to ensure safety.

Opening in walls: Whenever making of an opening in the existing walls is contemplated, adequate supports against the collapse or cracking of the wall portion above or roof or adjoining walls shall be provided.

Guarding of wall openings and Holes: Wall opening barriers and screens shall be of such construction and mounting that they are capable of withstanding the intended loads safely. For detailed information reference may be made to good practice. Every wall opening from which there is a drop of more than 120mm shall be one of the following:

Rail, roller, picket fence, half door or equivalent barrier: The guard may be removable but should be preferable be hinged or otherwise mounted so as to be conveniently replaceable. Where there is danger to persons working or passing below on account of the falling materials, a removable toe board or the equivalent shall also be provided. When the opening is not in use for handling materials the guards shall be kept in position regardless of a door in the opening. In addition a grab handle shall be provided on each side of the opening. The opening should have a sill that projects above the floor level at least 2.5cm.

Extension platform into which materials may be hoisted for handling, shall be of full length of the opening shall be of full length of the opening and shall have side rails or equivalent guards.

Every chute wall opening from which there is a drop of more than 120mm shall be guarded by one or more of the barriers specified in 16.2.1 or as required by the conditions.

### **SECTION 23: HEALTH & HYGIENE STANDARDS**

#### **Drinking water:**

- a) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
- b) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- c) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or any other source of pollution.

#### **Washing facilities:**

- a) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employee therein
- b) Separate and adequate cleaning facilities shall be provided for the use of male and female workers
- c) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

#### **Latrines and Urinals**

- (a). Latrines shall be provided in every work place on the following scale namely:
  - (i) Where females are employed there shall be at least one latrine for every 25 females.
  - (ii) Where males are employed there shall be at least one latrine for every 25 males.

Provided that where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25males or females as the case may be upto first 100 and one for every 50 thereafter.

- (b). Every latrine shall be under cover and so partitioned off as to secure privacy and shall have proper door and fastenings.
- (c) Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting non-absorbent materials and shall be cement

washed inside and outside at least once a year, latrines shall not be of standard lower than borehole system.

- (d) (i) Where workers of both sexes are employed, there shall be displayed out side each block of latrine and urinal a notice in the language understood by the majority of the workers “for men only” or for” women only” as the case may be.
- (d) (ii) The notice shall also bear the figure of man or woman as the case may be.
- (e) There shall be at least one urinal for male workers upto 50 and for female workers upto 50 employed at a time, provided that where the number of male or female workers as the case may exceed 500 it shall be sufficient if there is one urinal for every 50 males or females upto the first 500 and one for every 100 or part thereafter.
- (f) (i) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times
- (f) (ii) Latrines and urinals other than those connected with flush sewage system shall comply with the requirements of Public Health Authorities.
- (g) Water shall be provided by means of tap or otherwise so as to conveniently accessible in or near the latrines and urinals.
- (h) Disposal of excreta: Unless otherwise arranged by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of pucca tank prepared for the purpose and covering it with 15cm layer of waste or refuse and then covering it with a layer of earth for a fortnight (then it will turn to manure)
- (i) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-charge to effect proper disposal of night soil and other conservancy work in respect of the contractor’s workmen or employees of the site. The contractor shall be responsible for payment of any charges which may be levied by the municipal or cantonment authority for execution of such on behalf.

**Provision of shelter during rest:**

At every place there shall be provided free of cost, for suitable sheds two for meals and other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3m from the floor level to the lowest part of the of the shed roof. These shall be kept clean and the space provided shall be on the basis of 0.6sqm per head.

Provided that the engineer-in-charge may permit subject to its satisfaction, a portion of building under construction or other alternative accommodation to be used for the purpose.

**Canteens:**

- a. In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour

numbering 100 or more are ordinarily employed an adequate canteen shall be provided by the contractor for the use of such labour.

- b. The canteen shall be maintained by the contractor in an efficient manner.
- c. The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.
- d. The floor shall be made of smooth and impervious materials and inside walls shall be lime washed or colour washed at least once a year. Provided that the inside walls of the kitchen shall be lime washed every four months.
- e. The premises of the canteen shall be maintained in a clean and sanitary condition
- f. Suitable arrangements shall be made for the collection of disposal of garbage.
- g. Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause nuisance.
- h. The dining hall shall accommodate at a time 30% of the contract labour working at a time.
- i. The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not to be less than 1sqm per diner to be accommodated as prescribed in sub-rule (i)
- j.
  - a) There shall be provided and maintained sufficient utensils crockery, furniture and any other equipment necessary for efficient running of canteen
  - b) The furniture, utensils and other equipment shall be maintained in a clean and hygienic condition.
  - c) Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
  - d) A service counter, if provided shall have top of smooth and impervious material.
  - e) Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment.
- k. A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.
- l. Sufficient tables stools or benches shall be available for the number of diners to be accommodated as prescribed in subrule (i)
- m. The food stuff and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- n. The charges of food stuffs, beverages and other items served in the canteen shall be based on 'No profit no loss' and shall be conspicuously displayed in the canteen.
- o. In arriving at the price of the foodstuffs and other article served in the canteen, the following items shall not be taken in to consideration as expenditure namely:



- i. The rent of land and building
  - ii. The depreciation and maintenance charges for the building and equipment provided for the canteen.
  - iii. The purchase, repairs and replacement of equipment including furniture, crockery, cutlery and utensils.
  - iv. The water charges and other charges incurred for lighting and ventilation
  - v. The interest and amount spend on the provision and maintenance of equipment provided for the canteen.
- p. The accounts pertaining to the canteen shall be audited once every 12months by registered accountants and auditors.

**Anti-malarial precautions:**

The contractor shall at its own expense, conform to all anti-malarial instructions given to him by Engineer-in-charge including the filling up of any borrow pits which may have been dug by him.

## **SECTION 24: RESPONSIBILITIES**

**S&H –coordinators:**

In connection with (Indian Regulations and standards) the tasks and responsibilities of the S&H coordinator(s) as well as the design- as the construction phase, are as follows:

**Design phase:**

- Co-ordination of the general aspects with respect to Safety, Health and Welfare.
- Taking care of the set-up of a S&H-plan 'in draft'.
- Putting together the S&H-file.
- Keep up and actualize the S&H-plan 'in draft' -and file.
- Hand-over the S&H-plan 'in draft' -and file to the S&H-coordinator(s) for the construction phase.

**Construction phase:**

- Organizing and coordinating the cooperation between employers.
- Coordinating the Safety, Health and Welfare measures by the employers.
- Coordinating supervision to meet the joint facilities.
- Give indications to the Owner.
- Coordinating the information to the employees.

- Take measures to assure that only persons which are entitled to can come in at the works.
- Keep up and actualize the S&H-plan 'in draft' -and file.
- Handover the S&H-file to the principal.

## **SECTION 25: COMMUNICATION**

### **Kick-off meeting**

The kick-off meeting should be seen as a start up meeting, preliminary to the general or project oriented activities. In the kick-off meeting, besides technical relevant information, pay attention to the aspects of safety and health in general sense.

The Contractor will be required to provide their job site safety program either at kick-off meeting or within a time period as determined by Project Manager after the kick-off meeting along with other pre-start documentation.

### **Pre-job meeting**

The Pre-job meeting is meant for consultation before the activities may start. A part of this meeting is reserved to make detail appointments for specific Plant or Location directed safety- and health matters and 'actual' deviations of the normal situation. This meeting is meant as a supplement to the general information which already has been handed over during the kick-off meeting. At this meeting the **Pre-job Checklist** should be handled and worked out with all persons involved.

### **Progress Meeting:**

The progress meeting is meant to get an update from contractors on project progress and resolve any construction/ coordination issues. It is normally held on weekly basis. This meeting will have EHS component and following items shall be discussed under this head.

Major safety issues at site

Actions being taken to resolve them

### **Toolbox meeting:**

Toolbox meetings are company (contractor) internal matters. With this kind of meeting, employees supposed to execute the job are informed about the most actual state of the activities. This information can be appointments, instructions which are the result of above mentioned meetings. A toolbox meeting is a medium to inform 'executing employees'. Copies of these toolbox meetings (incl. registration forms) should be attached to this chapter.

### **Safety Meeting:**

Safety meetings shall be held on weekly basis to be attended by Project Manager's Safety representative and safety officer from all contractors as well as their sub-contractors. The meeting shall be chaired by Project Manager's safety representative and Project Manager may also like to attend the meetings randomly. The topics to be covered shall broadly include:

- a) Safety issues at job site
- b) Review pre task plans
- c) Discuss safety statistics
- d) Review safety committee reports/ recommendations
- e) Discuss safety training initiatives
- f) Review overall job site safety

## **SECTION 26: INFORMATION**

**General S&H-instructions**

Everyone, who is doing activities at the Client site, should be registered at the job site. After registration, everyone get a Contractor Safety Instruction (video-presentation). This presentation shows an explanation on the S&H policy, the most important emergency measures (Fire and Gas alarms) and shows general behavior rules and procedures.

**Site Specific S&H-instructions**

These instructions can be given when the common interest is served (equal for all facilities and departments) and the necessity exists.  
Examples are: LoTo, shutdown, etc.

Site specific, S&H instructions, needed for this project to follow are as under;

\_\_\_\_\_.

**SECTION 27: PRE TASK PLANS (PTP)/ JOB TASK HAZARD ANALYSIS (JTHA)**

PTP/ JTHA is the process of systematic investigation of a task and its subtasks, ascertaining the risks associated with carrying out activities associated with those tasks, listing preventive measures to avoid potential hazards associated with executing that activity and developing contingency plan in case of emergencies. The Standard Operating Procedure of the Project Manager will serve as reference guidelines for the tasks which require development of PTP/ JTHA. However, the list is not all inclusive and if the Project Manager/ Project Manager’s safety representative/ Owner’s safety representative determine that the PTP/ JTHA is required for some other tasks too, the contractor will be obligated to provide that as per the procedure and in the format as indicated by Project Manager (copy of format attached with these guidelines).

Subsequent to the kick-off meeting, within the specified time period, the contractor will also provide the list of tasks against which PTP/ JTHA shall be submitted along with the expected time, when it would be submitted. This listing shall be done on the format shown below;

LIST OF PRE-TASK PLANS TO BE SUBMITTED ON THE <i>Project Name</i>	
Contractor:	Trade Package:

TASK	TIME OF EXECUTION	TARGET PTP SUBMISSION DATE

**SECTION 28: ENVIRONMENT**

**Waste Disposal**

Waste originated from activities at the project site should be dumped at the designated location in the designated manner as indicated by Owner/ PM.

Chemical waste (air-sprays, oil, paint etc.) should be collected separately and, if property of client, shall be offered to the facility / department. This in conjunction with the waste-coordinator of the department concerned, or the In & out Clean department. In case the waste coordinator does not require the chemical waste for

re-usage, the contractor will dispose it off at its own expense at the designated location in the designated manner as directed by Project Manager and in accordance with all Indian Environmental Laws.

Chemical waste which originates from Contractor's works should be collected and carried away by Contractor according to the legal regulations. The In & Out Clean department should be informed before carrying away the waste.

**Material Safety Data Sheets (MSDS)**

The Contractor is obligated to inform about the risks and dangers associated with handling of chemical and hazardous substances at site. Therefore, the information transfer in the form of Material Safety Data Sheets is necessary. The contractor shall list all materials to be used at project site that require submission of MSDS and submit those. The material shall be brought to the site only after obtaining prior approval from Owner's representatives on the MSDS.

Contractor is required to provide Material Safety Data sheets (MSDSs) for any chemical brought on site. An index of MSDSs for all products proposed to be used on site must be provided. In so far as possible, "environmentally friendly" products should be used (e.g. detergent or citrus based cleaners rather than solvent based cleaners). Low-Volatile Organic Compound (VOC) products should be used at all times. Chlorinated solvents should not be brought on site except on a pre-approved case-by-case basis. **No chemicals or substances which may require health monitoring under US OSHA rules (29 CFR 1910) will be allowed to be brought on site (e.g. Asbestos contained in any product-roof coatings, tile, caulk; Benzene, Beryllium, Cadmium, Formaldehyde, Lead of any kind in any product- e.g. lead paint, lead solder, Methylenedianiline, Chloride, Vinyl chloride).** *(Delete the yellow highlighted para in case Client is not stringent for complying with OSHA guidelines)* The Client/ Owner reserves the right to reject any chemical proposed to be brought on site.

Any regulated wastes generated on site (e.g. hazardous, residual or special waste, including regulated wastewaters, waste oil, waste paint), in must be disposed of by Contractor in strict accordance with federal, provincial and municipal or and local standards. No wastes may be disposed of down the drain or in the Client installed dumpster without prior written consent.

Contractor must have appropriate training for the work to be done. Training records must be produced upon demand. Contractors must bring appropriate tools, equipment, safety devices and clothing to the job site. No tools or equipment may be borrowed from the Client without prior written consent.

<b>LIST OF MSDS SHEETS TO BE SUBMITTED DURING THE PROJECT</b>	
<b>Material</b>	<b>MSDS sheet to be submitted by</b>

**SECTION 29: REPORTING**

The contractor will submit the Monthly man-hour & safety report on the format enclosed in EHS guidelines. The report will be submitted by \_\_\_\_\_ hrs. on \_\_\_\_ day of every month. In addition, should the Project Manager require any interim man-hour reports on weekly basis or any other frequency determined by Project Manager, those will also be submitted by the contractor. Safety reports submitted are in no way linked with the requirement for submission of Daily report on the part of contractor.

### INFRACTION FORM

CUSHMAN & WAKEFIELD (INDIA)	CONTRACTOR HEALTH AND SAFETY	
Sl. No..... Date.....		
General information ( To be Completed by Safety officer )		
Contractor Name :		
Project Name :		
On site contractor Representative / Supervisor / Safety		
Location of Infraction :		
Description of Infraction:		
Observed By :	Date :	Time :
Status of Project :	Project Stopped until correction	
	Project Continuing W/infraction	
	Corrective Actions Required by ( Date/time)	
CORRECTIVE ACTION ( To be Completed by the Contractor )		
Corrective Action :		
Corrective Action Performed by :		
Date / time :	Name :	Signature :
Return to M/s Cushman & Wakefield		
CORRECTIVE ACTION FOLLOW UP ( To be completed by Cushman & Wakefield )		
Received / Certified By : C & W		
Date :		
Remarks :		

From:

Name of the Contractor  
Name of the organization

To:

Project Manager  
Cushman & Wakefield  
*Location – Pin code*

**Subject: EHS Declaration**

I/ we hereby declare to accept the responsibility to carry out the work safely.

I/ we have understood the hazards associated with site activity and developed the relevant safety procedures, trained the man power and provided required PPE and equipment.

I/ we or the workers working under my/our control will adhere to the site safety rules and EHS guidelines as stated in this document.

The following are the safety practices that will be followed in addition to any other requirements as recommended by Project Manager's EHS Manager/ Site safety officer to work safely at site.

1. Wear safety helmet, safety shoes, eye protection with side shields.
2. Wear safety harness and hooking to the life line rope.
3. Wear appropriate hand gloves like cotton, leather, PVC, rubber or surgical hand gloves.
4. Proper tools will be used and checked for defects and replaced whenever required.
5. Welding torch with ring guard, welding shield, leather hand gloves required.
6. No steel rod will be used as earthing on to the welding machine.
7. Proper working platform with hand rail will be used while working at heights.
8. a) House keeping will be done on daily basis and the debris, sand, concrete materials and mortar will be removed and stored at identified place.  
b) Papers, plastic sheets, rubber materials and wooden pieces have to be put in recycle bin from the work place and this will be sent outside the site.
9. I/ we will be appointing one safety officer, safety stewards and group leader of safety.
10. My/ our workmen and I/ we will not create any problem, quarreling with other agents.
11. I/ we will be providing fire extinguishers, fire buckets with water and sand in work place.
12. First aid facility and hospital facility will be provided to my/ our workman.
13. I/ we will be conducting the safety training programs for my/ our workmen, like first aid, fire fighting and safety.
14. I/ we will obtain work permits to work for hazardous area.
15. As per the contract document, we agree with imposition of penalty on us should we violate any safety norms/ practices at the project site, which can be deducted from our invoices.
16. I/ we will submit all the required insurance policies as per the contract documents.

Signature of the contractor



**PERSONAL PROTECTIVE EQUIPMENTS CHECKLIST**

<b>SL.NO</b>	<b>PARTICULARS</b>	<b>YES / NO</b>
1	Do the Workers Wear Helmet in such a way to protect their head?	
2	Are they wearing hand gloves, Rubber gloves ( IS 4770 for electrical purpose ),Leather hand gloves of required quality for the job	
3	Do the workers using appropriate Footwear?	
4	Is there any need for Safety harness (IS 3521-1965 ) use ? If so, are they hooked property?	
5	Is there any need for Ear protection? If so, are they using the device external or internal type?	
6	Are the workers wearing Safety glasses / Safety screens /Safety goggles for the work being done? If so, are they using appropriate equipment?	
7	Do the Workers have respirator/ protection from inhalation hazards?	
8	Are the helpers also using proper PPE or not?	
9	Have the Workers been briefed about the Hazards associated with the job and the emergency action to be followed whenever there is requirement ?	

EHS Manager/ Site Safety Officer

Contractor's Site In-charge/ Safety In-charge

**PERMIT FOR WORKING AT HEIGHTS**

Permit No.:  
Project Name:  
Contractor:  
Job description:

Date:  
Location:  
Sub-contractor:  
Area/ location:

<b>SCAFFOLDING &amp; RELATED PROTECTION</b>		<b>YES</b>	<b>NO</b>	<b>N/A</b>
1	Scaffolding good construction, adequate strength with 50 cm clear walk ways toe boards with wide screens.			
2	Scaffold well secured with stair ways, hand rails. Should be wide enough to pass two persons at a time.			
3	Maintained good House keeping at work location / site			
<b>OVERHEAD CLEARANCE</b>				
1	Required clearance available from all overhead electrical cables			
<b>LADDERS</b>				
1	Strong material, well maintained ladders			
2	Ladder not placed against loose boxes materials, sound objects, near electrical installation.			
3	Ladder of sufficient height used, on top tied down and man positioned at the foot at ladder.			
4	Safety Footwear provided			
5	Ladder placed at an angle of 70 to 75 degrees			
6	Area of work barricaded so no person can walk under the ladder.			
<b>PERSONAL PROTECTION EQUIPMENT</b>				
1	Safety harness provided and worn			
2	Safety helmet, safety shoes and any other PPE required to perform the job at hand is provided and worn properly			

**A. Permission:**

Permission granted from \_\_\_\_\_ to \_\_\_\_\_ hrs. on \_\_\_\_\_

Time \_\_\_\_\_

Date \_\_\_\_\_

Signature of permit issuing authority

**B. Receipt:**

I hereby declare that I accept the responsibility for carrying out the work as detailed on this permit and no attempt will be made by me or men under my control to carryout any other work.

Time \_\_\_\_\_ Date \_\_\_\_\_

Signature of Person Receiving Permit

**C. Clearance certificate:**

Work completed by taking all precautionary steps as approved by permit issuing authority.

Time \_\_\_\_\_ Date \_\_\_\_\_

Signature of Person completing jobs

**D. Cancellation:**

This permit to work is hereby cancelled.

Time \_\_\_\_\_ Date \_\_\_\_\_

Signature of permit issuing authority/  
Shift in-charge

### HOT WORK PERMIT

Permit No.:  
Name of the Project:  
Name of the Contractor:

Date:  
Location:  
Sub-Contractor:

**A) Person taking permit /permittee to fill up:**

- 1) Exact location where hot work is being planned\_\_\_\_\_
- 2) Approximate duration of work From: Date:\_\_\_\_\_ Start Time\_\_\_\_\_ Finish Time\_\_\_\_  
Revalidated To: Date:\_\_\_\_\_ Start Time\_\_\_\_\_ Finish Time\_\_\_\_
- 3) Description of work:
- 4) Tools & Tackles used:

Points to be checked

SL No	Details	Remarks		
		Yes	No	Not Required
1	Has the area immediately below and adjacent to the work spot been cleared/ removed of oil, grease and waste cotton etc?			
2	In case of Gas welding, proper hose pipes and pressure gauges are used?			
3	Have fire extinguishers been kept handy at site?			
4	Has tin sheet / wet gunny bag / fire retardant cloth/ sheet been placed to prevent sparks from causing fire?			
5	Have fire sand buckets been kept handy at site?			
6	Whether cylinders are kept in upright positions?			
7	Whether Proper PPE's are available?			
8	In Electrical Welding whether proper Earthing is provided.			

The above points have been complied with and conditions rendered safe / hazards innocuous to undertake the hot work.

Name of \_\_\_\_\_ Signature \_\_\_\_\_ Designation\_\_\_\_\_

Permittee (Site engineer)

Name & Signature of Safety Officer \_\_\_\_\_

**B) The person giving permit (Issuing Authority) to fill up:**

After checking all the above precautions the hot work can be carried out in the above area.

1. Date : \_\_\_\_\_ Time: \_\_\_\_\_ Signature of C&W Safety Officer \_\_\_\_\_

Permit is revalidated for the Period

2. Date : \_\_\_\_\_ Time: \_\_\_\_\_ Signature of C&W Safety Officer \_\_\_\_\_

**C) Time \_\_\_\_\_ Date: \_\_\_\_\_ at which the permit closed & filed**

**DISPOSAL PERMIT FORM**

PERMIT NO.: \_\_\_\_\_

DATE: \_\_\_\_\_

Mr. \_\_\_\_\_ Foreman, is authorized to dispose of the following materials in the manner indicated:

MATERIAL	METHOD	LOCATION

The procedures posted at the burning ground and disposal area must be followed in detail during these operations.

Personnel Authorised \_\_\_\_\_

Time : \_\_\_\_\_

Date : \_\_\_\_\_

\_\_\_\_\_  
(Supervisor)

**EXCAVATION PERMIT**

Permit No: \_\_\_\_\_  
 Project Name: \_\_\_\_\_  
 Contractor: \_\_\_\_\_

Date: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Sub-contractor: \_\_\_\_\_

**Excavation details:**

Purpose: \_\_\_\_\_  
 Area/ Location: \_\_\_\_\_  
 Proposed date and time for start of work: \_\_\_\_\_  
 Proposed date and time for completion of work: \_\_\_\_\_  
 Tools and equipment involved: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Length \_\_\_\_\_ m      Width \_\_\_\_\_ m      Depth \_\_\_\_\_ m

**Preparation**

- |  |        |
|--|--------|
| 1. Underground cables, pipelines, electrical lines etc checked | Yes/No |
| 2. Personnel protective equipments to be used to include;      |        |
| A. Safety Shoe   | Yes/No |
| B. Safety Helmet   | Yes/No |
| C. Gloves  | Yes/No |
| D. Eye Protection  | Yes/No |
| E. Ear Protection  | Yes/No |
| F. Nose Mask   | Yes/No |

**Safety Precautions**

1. The proper approach arrangement to be made with required no. of exit points
2. Wear proper PPEs
3. Barricade area and Display Warning boards
4. Ensure good housekeeping before and after the work
5. Ensure the presence of supervisor during the execution of work
6. Use certified machinery
7. Check for possible interference with any underground utilities
8. Check reverse horn for vehicles and driver license
9. Any special safety precautions (specify) \_\_\_\_\_

Checked By:

Contractor's Safety Officer	Signature	Date

PERMIT ISSUING AUTHORITY (Permit is granted & valid up to)

1. Date: \_\_\_\_\_ Time: \_\_\_\_\_ Signature of C&W Safety Officer \_\_\_\_\_

Permit is revalidated for the Period

2. Date: \_\_\_\_\_ Time: \_\_\_\_\_ Signature of C&W Safety Officer \_\_\_\_\_

**NIGHT WORK PERMIT FORM**

PERMIT NO.: \_\_\_\_\_ DATE: \_\_\_\_\_  
 Project name: \_\_\_\_\_ Location: \_\_\_\_\_  
 Contractor name: \_\_\_\_\_ Trade Package: \_\_\_\_\_

Activities scheduled for night work with location: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Reason for conducting these activities at night: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name of the Supervisor: \_\_\_\_\_

Name of workers and designation:

S.No	NAME	DESIGNATION

Sufficient lighting provided: YES/NO  
 Area to be cleaned after work: YES/NO  
 Emergency vehicle available: YES/NO      Vehicle No.: \_\_\_\_\_  
 Any other special precautions: \_\_\_\_\_

Signature: \_\_\_\_\_ Signature: \_\_\_\_\_ Signature: \_\_\_\_\_

Supervisor (Contractor)      Site In charge(Main Contractor)      EHS Manager (C&W)

Note: CONCERNED AGENCIES ARE RESPONSIBLE FOR ANY UNSAFE ACT/ CONDITIONS



**PERMIT FOR WORKING IN AHU/ ELECT/ UPS/ SERVER/ BATTERY ROOMS****A.**

Date: \_\_\_\_\_ Permit number: \_\_\_\_\_

Project: \_\_\_\_\_ Location: \_\_\_\_\_

Agency requesting permit: \_\_\_\_\_

Location of work: \_\_\_\_\_

Permit to work on (date): \_\_\_\_\_ From: \_\_\_\_\_ To: \_\_\_\_\_

Description of work: \_\_\_\_\_

\_\_\_\_\_

Names of Individuals who will work in the area along with the name of supervisor:

\_\_\_\_\_

\_\_\_\_\_

LOTO required or not? \_\_\_\_\_

Hot work/ Height work permit taken, if required. \_\_\_\_\_

Any other precautions, if required: \_\_\_\_\_

\_\_\_\_\_

Signatures of requestor

**B.**

Permit granted to work on \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_.

Signatures of C&amp;W PM/ authorized representative

**C.**

Area cleared after work: \_\_\_\_\_

Signature of rep of agency which  
Performed work

Signatures of C&amp;W representative

Copy to:  
1. Workers working at site  
2. C&W representative  
3. Contractor records

**CONFINED SPACE ENTRY PERMIT**

**A.**

Date: \_\_\_\_\_ Permit no.: \_\_\_\_\_  
 Project Name and Location: \_\_\_\_\_  
 Permit Requested by: \_\_\_\_\_  
 Confined space location: \_\_\_\_\_ Confined space description: \_\_\_\_\_  
 Purpose of entry and description of work: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Duration of permit: From: \_\_\_\_\_ To: \_\_\_\_\_

Potential hazards (Mark all that apply):

- Oxygen deficiency     Toxic gases     Fire/ explosion     Mechanical hazards

**B.**

No.	Item	Yes	Not Required
1	Proper lighting provided		
2	Proper ventilation provided (natural/ artificial)		
3	Full body harness with lifeline provided		
4	Proper access for exit provided		
5	Entrance barrier provided		
6	Method of isolation/ control, purge, flush, etc.		
7	Lockout provided		
8	Respiratory protection provided		
9	Rescue team with devices put on stand by		
10	Proper PPE provided		
11	Tests required (Attach reports):		
	Oxygen level (19.5% - 23%)		
	Carbon Monoxide level (<25 ppm)		

Name of Entrants	Name of Attendants (stand by team)

I have checked the above points and found the conditions compliant to undertake the abovementioned work.

\_\_\_\_\_  
 Name of permittee                      Signature of permittee                      Designation

**C.**

The precautions and safe conditions mentioned above have been verified and the work can be started.

\_\_\_\_\_  
 Name of Issuing authority    Signatures of Issuing authority                      Designation

**D.**

Time \_\_\_\_\_ Date \_\_\_\_\_ Permit closed and filed.

Signature of safety supervisor: \_\_\_\_\_

### SHAFT WORK PERMIT

Date: \_\_\_\_\_

Permit no.: \_\_\_\_\_

Project name and Location: \_\_\_\_\_

Name of the agency requesting permit: \_\_\_\_\_

Location of work: Shaft number: \_\_\_\_\_ Floor: \_\_\_\_\_

Task to be performed: \_\_\_\_\_

Start date and time: \_\_\_\_\_ Finish date and time: \_\_\_\_\_

Safety Precautions required:

No.	Item	Yes	Not required
1	All personnel are wearing proper PPE		
2	Workers have been briefed about hazards		
3	Safe access to shaft available		
4	Safe working platform erected		
5	Safety harness with lifeline provided		
6	Fire extinguisher provided for hot work		
7	Shaft appropriately barricaded		

 Names of workmen entering shaft: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

I have ensured that the safety precautions as listed above for the task to be performed have been taken for this shaft work.

Name of permittee	Signature of permittee	Designation

Name of Issuing authority	Signature of Issuing authority	Designation

Notes:

1. Separate permit required for work in each shaft.
2. Work permit is valid for the prescribed date, time and in prescribed location only.

Time \_\_\_\_\_ Date \_\_\_\_\_ Permit is closed.

Name and Signature of the Issuing authority: \_\_\_\_\_

**CONTRACTOR INCIDENT/ NEAR MISS REPORTING FORMAT**

Project: \_\_\_\_\_ Location: \_\_\_\_\_  
Name of Contractor: \_\_\_\_\_  
Name of Contractor Employee: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_  
Incident Date: \_\_\_\_\_ Incident Time: \_\_\_\_\_ Incident Location: \_\_\_\_\_  
Injuries: \_\_\_\_\_  
Treated by: \_\_\_\_\_ Treated at: \_\_\_\_\_  
Type of Incident (First aid/ Recordable/ Lost Work day/ Fatal/ Near Miss): \_\_\_\_\_  
Task assigned to person at the time of incident: \_\_\_\_\_  
\_\_\_\_\_

Description of the Incident: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Primary Root cause for the Incident: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contributory factors: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date when latest safety training was given to employee: \_\_\_\_\_  
Subject of training: \_\_\_\_\_ Given by: \_\_\_\_\_  
Was a Pre task plan required/ submitted for this task: \_\_\_\_\_  
Is there a standard procedure developed to perform this task? \_\_\_\_\_  
If yes, was it reviewed with the worker and when? \_\_\_\_\_

Preventive measures proposed to avoid recurrence in future: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contractor Site In-Charge

Contractor Safety In-Charge

**PEP TALK REPORT FORM**

*(To be filled by the person conducting pep talk)*

Project: \_\_\_\_\_ Location: \_\_\_\_\_

Name of Contractor: \_\_\_\_\_ Trade: \_\_\_\_\_

Name of Site In-Charge: \_\_\_\_\_

Name of Contractor Safety coordinator: \_\_\_\_\_

Number of Workmen present in Pep talk: \_\_\_\_\_

Date and Time of Pep talk: \_\_\_\_\_

Topics discussed: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Any significant problems/ issues identified: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Remarks (if any): \_\_\_\_\_

\_\_\_\_\_

Contractor Safety Representative

C&W Safety Representative

**MONTHLY EHS STATISTICS REPORT – Month, Year**  
*(To be filled and submitted by contractor)*

Project: \_\_\_\_\_ Report No: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Contractor: \_\_\_\_\_ Trade: \_\_\_\_\_

<b>SI#</b>	<b>Description</b>	<b>Status</b>
1	No. of Man-hours worked over last month	
2	Cumulative Man-hours worked till date	
3	No. of Reportable Accidents on project	
4	No. of Near Misses	
5	No. of Lost Work Day (LWD) cases	
6	No. of Safety Pep talks conducted	
7	Infraction Notices/ Safety Inspection Reports received	
8	Infraction Notices/ Safety Inspection Reports closed	
9	No. of Fire extinguishers available at site (all types)	
	a   Foam Type (Last serviced on _____)	
	b   CO2 Type (Last refilled on _____)	
	c   Others	
10	No. of Training sessions conducted	
	a   Fire fighting training	
	b   First Aid training	
	c   PPE Usage training	
	d   Others	
11	Safety Permits Issued	
12	No. of Safety sign boards displayed at site	
13	Housekeeping practices (Excellent/ V Good/ Good/ Average/ Poor)	
14	No. of times Equipment, Machinery and Tools inspected	
15	Physical condition of the PPE in usage (Good/ Average/ Poor)	
16	License and vehicle documents available (if applicable)	
17	Percentage compliance on the usage of PPE by workers	

Submitted by:

Contractor Safety Representative/ Site In-Charge

C&W Safety Representative Comments (if any):

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Reviewed by:

C&W Safety Representative

Copy to: C&W Project Manager

**MONTHLY EHS STATISTICS REPORT – Month, Year**

*(To be prepared by C&W for submission to Client)*

Project: \_\_\_\_\_ Report No: \_\_\_\_\_ Date: \_\_\_\_\_

<b>SI#</b>	<b>Description</b>	<b>Status</b>
1	No. of Man-hours worked over last month	
2	Cumulative Man-hours worked till date	
3	No. of Reportable Accidents on project	
4	No. of Near Misses	
5	No. of Lost Work Day (LWD) cases	
6	No. of Safety Inspections conducted	
7	No. of Safety Audits conducted	
8	No. of Safety Infraction Notices/ Inspection Reports issued	
9	No. of Fire extinguishers available at site (all types)	
	a   Foam Type (Last serviced on _____)	
	b   CO2 Type (Last refilled on _____)	
	c   Others	
10	No. of Training sessions conducted	
	a   Fire fighting training	
	b   First Aid training	
	c   PPE Usage training	
	d   Others	
11	No. of Safety pep talks conducted	
12	Total number of Safety Permits Issued	
13	No. of Safety sign boards displayed at site	
14	Housekeeping practices (Excellent/ V Good/ Good/ Average/ Poor)	
15	Equipment, Machinery & Tools inspection (Satisfactory/ Not)	
16	Physical condition of the PPE in usage (Good/ Average/ Poor)	
17	License and vehicle documents available (if applicable)	
18	Percentage compliance on the usage of PPE by workers	
19	Overall EHS implementation ((Excellent/ V Good/ Good/ Average/ Poor)	

Additional Comments (if any):

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C&W Safety Representative



**MONTHLY EHS REPORT – Month, Year**

**A. MAN-HOUR LOG**

SI#	Contractor	Up to Last report	Man-hours this report	Cumulative Man-hours
1				
2				
3				
4				
5				
	<b>Grand Total:</b>			

**B. INCIDENT REPORT**

SI#	Description	Up to Last report	This report	Cumulative	Remarks
1	Near Misses				
2	Recordable Incidents				
3	Lost Work Day cases				

**C. SAFETY INSPECTION REPORTS STATUS**

SI#	Safety inspection conducted on	No. of non-conformances	No. of Open non-conformances	Remarks
1				
2				
3				
4				

**D. SAFETY AUDITS STATUS**

SI#	Safety Audit Conducted on	Safety Rating/ Score
1		
2		
3		
	<b>Average Safety Score:</b>	

**E. OVERALL JOB SITE SAFETY AND COMPLIANCE WITH EHS STANDARDS**

*C&W EHS representative to indicate whether Excellent/ V Good/ Good/ Average/ Poor, as the over job site safety and compliance with EHS Standards and also provide comments (if any).*

Attachments: Monthly EHS statistics report

**PENALTY FOR NON COMPLIANCE WITH EHS GUIDELINES**

**A.**

Project: \_\_\_\_\_ Location: \_\_\_\_\_ Date: \_\_\_\_\_

Penalty notice issued to: \_\_\_\_\_

Contractor Site In-charge: \_\_\_\_\_

Contractor Safety representative: \_\_\_\_\_

Description of Non-compliance: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Location of non-compliance: \_\_\_\_\_

Have there been similar non-compliances in the past? \_\_\_\_\_

Have any Safety Infraction Notices been issued in the past? If yes, provide details

\_\_\_\_\_

\_\_\_\_\_

S. No.	Degree of violation	Type of violation	Penalty for violation	No. of violations	Penalty Amount
Total Penalty Amount					

Signature of the C&W Safety Officer/ representative generating this notice

**B.**

Billing department to proceed with deduction of INR \_\_\_\_\_ as penalty amount from contractor's next running bill, for non-compliance with EHS guidelines, duly accepted by contractor as part of tender document as well as through acceptance on EHS Declaration form.

Signatures of C&W Project Manager

CC to: Client Project Manager

**CHECKLIST FOR BUILDING HOIST/ WINCH**

Project: \_\_\_\_\_ Location: \_\_\_\_\_

Name of Contracting agency: \_\_\_\_\_

<b>S. No</b>	<b>Description</b>	<b>OK/ Not OK</b>	<b>Remarks</b>
	<b><u>A. SUPPORTING STRUCTURE:</u></b>		
1	Condition of steel tubes		
2	Condition of the Base		
3	Bracing (diagonal/horizontal)		
4	Anchorage with structure		
5	Any obstructions to the movement of rope?		
	<b><u>B. WINCH MACHINE:</u></b>		
1	Condition of brakes and accessories		
2	Functioning of brake with load		
3	Oil level and condition		
4	Gear box and motor		
5	Coupling bolts and nuts		
6	Condition of wire rope		
7	Anchorage of drum and wire rope		
8	Pawl arrangement for locking		
9	Condition of diversion pulleys, idlers pulleys and fleet angle		
10	Limit Switches		
11	Electrical connection, earthing and insulation		
	<b><u>C. UNLOADING PLATFORM:</u></b>		
1	Area Barricaded		
2	Stability		
3	Sagging		
4	Any Over loading		
5	Hand railing		
6	Staging		
	<b><u>D. OTHERS</u></b>		
1	Is the person authorized/experienced to Operate?		
2	Does the person at unloading point use Safety belt?		
3	Is the bucket overloaded?		
4	Is the Signaling Man present?		
5	Is the work permit Obtained?		

Signature of Contractor Site In-charge

Signatures of C&W Safety Officer/ Rep.

Print Name: \_\_\_\_\_

Print Name: \_\_\_\_\_

### **CHECKLIST FOR SCAFFOLDING**

Project: \_\_\_\_\_ Project number: \_\_\_\_\_

Name of Contractor: \_\_\_\_\_ Trade: \_\_\_\_\_

<b>SI #</b>	<b>Description</b>	<b>Observation Yes/No/ NA</b>	<b>Remarks &amp; Recommendations</b>
1	Does the site has a practice of providing suitable and sufficient scaffolds so that the work could be safely done at a height?		
2	Is site engaging suitable/ properly trained/ experienced workmen for constructing / dismantling / shifting scaffolding works?		
3	Are scaffold platforms designed / constructed with a minimum safety factor of four?		
4	Is there a safe means of access to the working platform?		
5	Are scaffold structures on a solid base avoiding pavements& manhole covers?		
6	Is the scaffolding structure free from excavation pit / proper distance is maintained?		
7	Is verticality of the structure being properly maintained?		
8	Are ties for scaffold structure properly maintained (vertical as well as horizontal position)?		
9	Is there a provision of toe boards/guard rails and are they secured?		
10	Whether planks used for working platforms are wooden /metallic?		
11	If wooden plank, whether thickness is maintained as per standard or not, viz. a. For 1.5 M span       -1.5" thick b. For 2.6 M span       -2.0" thick		
12	Is there a system of inspecting scaffolds by a competent person at least once a week and also after every prolonged interruption in the work?		
13	Is there a system of inspecting materials of scaffolds on each occasion before erection?		
14	Is there a system of inspecting scaffolds at every spell of bad weather/ heavy wind condition?		
15	Is over hang of the working platform restricted to less than 50 mm/ four times the thickness of the board?		
16	Is their awareness among workmen on the importance of load distribution on a given working platform?		

17	Is there a check for the condition and correct usage of fittings for scaffolds?		
18	Is the width of a working platform properly maintained according to usage, viz. a) Minimum 600 mm for footing and not for deposit of materials. b) Minimum 800 mm for footing and deposit of materials. c) Minimum 1050 mm when used for heavier loads or to support higher platforms.		
19	Are all the materials stored on the platforms properly secured or not?		
20	Whether planks are tied using proper binding wires?		
21	Are openings in working platform kept safely covered / fenced?		
22	Are the scaffolds being erected on firm and level surface?		
23	Does the height of mobile scaffolds exceed four times the smaller base dimension?		
24	Are all materials stacked on platform properly secured while in motion?		
25	Is the safety rule: Not to ride on a scaffold while in motion, violated.		
26	Is there a system of checking for obstructions before the tower is moved?		
27	Are suitable / correct lifting tackles (wire rope/ chains/ shackles) selected for suspension & used?		
28	Are all the suspension gears correctly spaced and connected?		
29	Is there a system of using manila rope/coir rope for suspension at any place where such rope would be liable to damage by heat/flames/sharp edges etc.		
30	Are all precautionary measures taken to prevent contact between arc welding apparatus and suspension ropes?		
31	Is there a provision of guardrails and toe boards?		
32	Is hanging platform secured?		
33	Is there a provision of anchoring safety belts- lanyards to be tied to guy ropes?		

EHS Manager/ Site Safety Officer

Contractor Site Safety In-charge

**SAFETY INSPECTION REPORT**

Project: \_\_\_\_\_ Report No.: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Contractor: \_\_\_\_\_

Number of non-conformities observed (as per details below): \_\_\_\_\_

**Details of Non-Conformities observed:**

The following non-conformances with reference to project EHS guidelines were observed during routine EHS round of the project site;

<b>Sl. #</b>	<b>Description of non-conformity</b>	<b>Target date</b>
1		
2		
3		
4		

**Note:**

Please take serious note of the above listed non-conformities and initiate corrective action immediately, so as to remove the non-conformity by the Target dates indicated above, failing which C&W shall proceed with imposition of penalty for the observed non-conformities.

C&W Safety Representative

**Contractor’s Corrective Action Response (To be filled by contractor):**

All the above listed non-conformities have been rectified. The work is now being executed in compliance with EHS guidelines and applicable Safety Standards. The disposition of the non-conformances is listed as under;

<b>Sl#</b>	<b>Disposition Description</b>	<b>Status</b>
1		
2		
3		
4		

Contractor’s Site In-Charge

Contractor’s Safety Representative

Dated: \_\_\_\_\_

Copy to: C&W Project Manager

<b>PROJECT NAME AND LOCATION:</b>	<b>TASK:</b>	<b>SCHEDULED ON:</b>	<b>PTP No.:</b>
<b>CONTRACTOR:</b>			<b>SUBMITTED ON:</b>

SI#	Activity Description	Potential Hazard	Preventive Action	Contingency Plan
				<p>Briefly describe the contingency plan in case the preventive actions associated with potential hazards fail to yield results and Accident/ Incident still happens. Contingency plan must list the immediate contact number of Security, Emergency, Safety representative.</p>

 To be resubmitted

 Reviewed

Prepared By:  
Safety officer (Contractor)

Approved By:  
Site In charge(Contractor)

Signature: C&W Safety Officer