

## **Special Conditions of Contract**

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## **1. General**

The documents forming the Contract are to be taken as mutually explanatory of one another. If there is an ambiguity or discrepancy in the documents, the Employer shall issue necessary clarifications or instructions to the Contractor, and the order of precedence of the documents shall be as follows:

- I. Contract Agreement
- II. Letter of Award
- III. Bill of Quantities
- IV. GFC Drawings
- V. Technical Specifications
- VI. Special Conditions of Contract
- VII. Instructions to Tenderers
- VIII. General Conditions of Contract
- IX. Other

## **2. Scope of Work**

The scope of work covered in this contract will be as described in **Annexure - I to SCC**.

## **3. Scope of Supply**

The scope of supply covered in this contract will be as described in **Annexure -II to SCC**.

## **4. Time Schedule**

- 4.1. The work shall be executed strictly as per the Time Schedule mentioned in **Annexure - III to SCC**. The period of completion given includes the time required for mobilization & demobilization as well as testing, commissioning, rectifications, if any, re-testing, and completion in all respects as per the directions of the Engineer-in-Charge.

## **5. Statutory Approvals**

- 5.1. Obtaining statutory approvals (for both temporary and permanent works) during construction and upon completion, as required, and as defined in Contractor's Scope of Work in **Annexure-I to SCC**, shall be the responsibility of the Contractor. Contractor shall arrange the inspection of the works by the authorities and necessary co-ordination and liaison work in this respect.

The statutory approvals/ permissions (but not limited to the following) are required to be arranged by the contractor for the execution of works. In case the permissions/ approvals are arranged by the contractor in the name of employer, the fees paid for

obtaining such statutory approvals shall be reimbursed as per actuals by the employer on production of documentary evidence.

- (a) Permission for excavation
- (b) Labour registration
- (c) Temporary water, sewer and electricity connections.
- (d) NOC from electrical inspectorate.
- (e) NOC from Labour department.
- (f) Any other approvals from the statutory authorities that the Contractor may need to obtain in connection with his scope of work.

5.2 However, in addition to the above, the contractor shall render all possible support for submission and approval of various other statutory approvals required to be taken by the PMC/ Employer, including the following:

- (a) Application for obtaining the Occupation Certificate and to support checking by the authorities that the Building has been constructed in conformity with the sanctioned building plans;
- (b) Obtaining the Fire NOC;
- (c) Obtaining Permanent Water, Sewer and Electricity connections from the authorities;
- (d) Any other approval arising from the execution of works that may be required.

## **6. Site Organization and Construction Equipment**

### **6.1. Site Organisation:**

- (i) The contractor stands liable and responsible to provide adequately qualified, skilled, semi-skilled, and unskilled personnel on the work. The contractor shall deploy the minimum key Construction Personnel as specified in **Annexure-IV to SCC** and augment the same from time to time as decided by the Engineer-in-Charge depending upon the site requirements & the exigencies of work so as to complete all works within the contracted time schedule and the same shall be done without any additional cost to the Employer. In case the contractor fails to deploy the minimum required key personal, the recovery shall be effected as per details in **Annexure -IV**.

### **6.2. Construction Equipment**

To complete the work as per specifications and within the time schedule, the Contractor shall progressively deploy **Equipment & Machinery** as specified in **Annexure-V to SCC** as and when required and augment the same as decided and directed by the Engineer-in-Charge depending on the exigencies of the work so as to complete all works within the contracted time schedule and without any additional cost to the Employer. The Employer shall not supply any equipment, [except those mentioned in Clause 8](#).

## **7. Materials to be supplied by the Employer**

In continuation to Clause 31 of the GCC, the issue of materials lying at Site and listed in **Annexure-VI to SCC** shall be supplied by the Employer to the contractor against Payment as per rates depicted in **Annexure-VI** which includes GST. The contractor shall be responsible for the transportation, up-keep and watch and ward of the material after issue.

## **8. Tools and Equipment Lying at Site.**

- (i) The Employer shall not supply any Tools and Equipment lying at site as 'free issue' material.
- (ii) However, for the purpose of faster mobilization and timely project execution, if opted by the contractor, the tools and equipment already lying at site under Employer's Possession, will be offered to the Contractor for work execution at the rates as mentioned in **Annexure-VII**. The amount based on the mentioned Rates will be recovered by the Employer from the RA/ final bills of the contractor on a pro rata basis.
- (iii) It may be noted that the repair, operation and maintenance of the equipment so made available would be the responsibility of the contractor.
- (iv) The quality of work shall be as per bid document irrespective of the Employer's offered equipment supply. The responsibility of the quality of work that has been executed using the corresponding equipment solely lies with the Contractor, without any time and cost implications to the Employer.
- (v) On completion of the work, the contractor shall handover the possession of tools and equipment to the Engineer-in-Charge in working condition. In case of any damage to the tools and equipment, contractor shall repair the same before handing over to the Employer/ his representative.

## **9. Health Safety and Environment (HSE) Management**

In continuation with Clause 34 of the GCC, the HSE management at site shall be carried out in strict compliance to **Annexure - VIII to SCC**.

## **10. Office Accommodation to be arranged by the Contractor for the Engineer-in-Charge/ PMC/ TPIA/ Employer**

- (i) The Contractor to establish/ provide an Office at site, furnished with basic furniture, for the PMC/ TPIA/ Employer's personnel to the satisfaction of Engineer-in-charge. Minimum capacity of the number of persons and area shall be as per site requirements.
- (ii) The contractor shall maintain the aforesaid facilities for various site activities operational during the currency of the contract and till the contractual completion date including extensions (if any). Operation and maintenance cost on the above facilities shall be completely borne by the contractor.

**11. Maintenance of the Works**

- (i) The maintenance cost of the works executed shall be borne by the Employer after the offer of possession to the homebuyers or 6 months from the date of issue of the Completion Certificate, whichever is later.
- (ii) Contractor shall prepare and submit all Operation & Maintenance manuals as per “Good Engineering Practices” after completion of work, which shall be got approved from the Engineer- in-charge.

**12. Additional Special conditions of contract (Annexure-IX)**

Additional special project specific conditions are given in the **Annexure-IX**.

**Annexure - I**  
**(Special Conditions of Contract)**

**Scope of Work**

**The scope of work shall generally comprise of but not limited to the following:-**

1. Earth Work
2. Cement Concrete Work
3. RCC Work
4. Masonry Work
5. Steel Work
6. Flooring Work
7. Roofing Work
8. Finishing Work
9. Dismantling and Demolishing
10. Road Work
11. Waterproofing Works
12. Electrical Works

**NOTE -For more details refer attached BOQ's.**

**Annexure - II**  
**(Special Condition of Contract)**

**Scope of Supply**

1. Scope of Supply shall be as specified in the technical section of the bidding document.
2. All material, equipment, consumables etc. required for successful completion of the works are to be supplied by the contractor.
3. All materials, equipment, labour & consumables required for successful completion of work as per the description of items in the Schedule of Rates shall be supplied by the Contractor and the cost of such supply shall be deemed to be included in the quoted rates without any additional liability on the Employer except for the material (if any) specifically covered under Employer's Scope of Supply.
4. The Equipment tools and tackles to facilitate construction and after final commissioning, Performance Guarantee, Test run shall be in Contractor's scope. The Contractor may arrange the same through purchase/ hire/ lease basis and such equipment, tools, tackles shall remain the property of the Contractor and it shall be removed from site after its requirement is over. No additional payment shall be made for mobilization and/or demobilization of such equipment, tools & tackles etc.

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**Annexure- III**  
**(Special Condition of Contract)**

**Time Schedule**

**Name of Work:** “Balance Civil & MEP Works at Nirvana Country-II Plotted , Gurugram, (Haryana)”

Sr. No.	Description	Time of Completion
1	“Balance Civil (ESS) & Electrical Works at Nirvana Country-II Plotted , Gurugram, (Haryana)” and Associated Works which include Finishes, Doors & Windows, Water-proofing, MEP Works etc.	<b>08 Months</b>

**Notes:**

1. Time of Completion shall be as defined in the NIT.
2. The Time indicated is for completing all the works in all respects as per specifications, codes, drawings and instructions of Engineer-in-Charge

## Annexure- IV (Special Conditions of Contract)

### Qualifications & Experience of Key Construction Personnel

1. Minimum Qualification, Experience & Numbers of Key Personnel to be deployed along with rate of recovery in case minimum staff not deployed:

Sr. No.	Category	Qualification & Experience	Nos.	Rate at which recovery shall be made per month form the contractor in the event of not fulfilling provision of clause 36
1.	Project Head	Degree in Engineering with minimum 15 years of relevant experience. He should have experience of supervising construction of Residential/ Commercial/ Institutional building complex and must have completed at least one major project from construction commencement till handover.	1	Rs 100000/- Rs One Lac Only
2.	Discipline Engineers	Degree in relevant Engineering Discipline with minimum 5 years' experience in Construction of commercial/ institutional building complex. Civil Engineer <b>OR</b> Diploma in relevant Engineering Discipline with minimum 10 years' experience in Construction of commercial/ institutional building complex. Diploma Engineer Civil Diploma Engineer Electrical	2     1 2	Rs 75000/- Rs Seventy five thousand Only
3.	QA/QC Engineer	Degree in Engineering with minimum 10 years' relevant experience <b>OR</b> Diploma in Engineering with minimum 15 Years' relevant experience.	To ensure the compliance of clause 33.0 Page 79	Rs 75000/- Rs Seventy five thousand Only
4.	Safety Officer	A recognized degree/ diploma or equivalent in any branch of engineering or technology. Also, had practical experience of working in a construction project site in supervisory capacity for a period of not less than 5-10 years. Possesses a degree or diploma in construction / industrial safety recognized by the Central / State Government.	1	Rs 50000/- Rs Fifty thousand Only

**2. Notes-**

- (i) The detail of manpower required to be deployed by the contractor during Construction for Completion of the work within schedule time is Indicative only. This should be corresponding to the scale and size of the Contract. The Contractor is required to augment the above list with additional numbers/categories of personnel as required and/or as directed by Engineer-in-Charge to carry out the works in working hours including night shifts and complete the work within the completion schedule.
- (ii) The Key Personnel identified above shall be well qualified & having adequate relevant experience as specified in document above. The other manpower shall also be qualified and experienced with their assigned work. The contractor shall submit the Detailed Manpower Deployment schedule along with the Bid.
- (iii) CVs of key persons proposed to be deployed shall be submitted to Engineer-in-Charge prior to their mobilization at site.

## **Annexure - V**

### **(Special Conditions of Contract)**

#### **Indicative List of Equipment & Machinery to be deployed by the Contractor**

<b>Sr. No.</b>	<b>Equipment</b>	<b>Minimum Capacity</b>	<b>Indicative Nos.</b>
1	Concrete Vibrator (Electrical / Pneumatic)	-	As required
2	DG Set	40 kVa	1
3	Water Pumps	nos.	As required
4	Bar Cutting Machine	nos.	As required
5	Bar Bending Machine	nos.	As required
6	Passenger & Material Hoist	nos.	As required
7	Stone Cutting Machine	Nos.	3
8	Stone polishing Machine	Nos.	3
9	HILTI Breaker	Nos.	3
10	Steel Scaffolding pipes , clamps and related accessories	-	As Required

The Equipment/ Machinery required to be mobilized by the contractor during Construction to Complete the work within schedule time is Indicative only. Contractor is required to augment the above list with additional numbers/categories as required and/or as directed by Engineer-In-Charge to carry out the works within the completion schedule.

**Annexure - VI**  
**(Special Conditions of Contract)**

**Material lying at site to be supplied by the Employer**

Sr. No.	Description	Unit	Rate in INR (Including GST)
1	Light Fixture 70 Watt	No's	2450

Rates of material available at site are mentioned as above. However, if no rate is mentioned for any material, the rate shall be worked out as per DSR rate with "plus" or "minus" percentage quoted by the bidder for such item in that tender. If the rate is not available in DSR, then the same shall be as per the market rate of new material (Non-Schedule Items) at the time of execution of the work.

**Annexure - VII**  
**(Special Conditions of Contract)**

**List of Plant & Equipment in possession of Employer, lying at Site  
along with rates to be recovered from the Contractor.**

**NOT APPLICABLE**

**Annexure - VIII**  
**(Special Conditions of Contract)**

**Health, Safety & Environment Management Plan**

## 1. SCOPE

This specification establishes the Health, Safety and Environment (HSE) management requirement to be complied by Contractors/Vendors including their sub-contractors/sub vendors during construction.

This specification is not intended to replace the necessary professional judgment needed to design & implement an effective HSE system for construction activities and the contractor is expected to fulfill HSE requirements in this specification as a minimum. It is expected that contractor shall implement best HSE practices beyond whatever are mentioned in this specification.

Requirements stipulated in this specification shall supplement the requirements of HSE Management given in relevant Act(s)/ Legislations, General Conditions of Contract (GCC), Special Conditions of Contract (SCC) and Technical Specifications. Where different documents stipulate different requirements, the most stringent shall apply.

## 2. REFERENCES

The document should be read in conjunction with following:

- General Conditions of Contract (GCC)
- Special Conditions of Contract (SCC)
- Building and other construction workers Act,
- Indian Factories Act
- Technical specifications
- Relevant State & National Statutory requirements.
- Operating Manuals Recommendation of Manufacturer of various construction Machineries

## 3. REQUIREMENTS OF HEALTH, SAFETY & ENVIRONMENTAL (HSE) MANAGEMENT SYSTEM TO BE COMPLIED BY CONTRACTORS

### 3.1 Management Responsibility

#### 3.1.1 HSE Policy & Objectives

The Contractor should have a documented and duly approved HSE policy & objectives to demonstrate commitment of their organization to ensure health, safety and environmental aspects in their line of operations.

#### 3.1.2 Management System

The HSE management system of the Contractor shall cover the HSE requirements & commitments to fulfil them, including but not limited to what have been specified under clauses 1.0 and 2.0 above. The Contractor shall obtain the approval of its site specific HSE Plan from Engineer in charge prior to commencement of any site works. Corporate as well as Site management of the Contractor shall ensure compliance of their HSE Plan at work sites in its entirety in true spirit.

#### 3.1.3 Indemnification

Contractor shall indemnify & hold harmless, Owner/PMC & their representatives, free from any and all liabilities arising out of fulfilment of HSE requirements or its consequences.



### 3.1.4 Deployment & Qualifications of Safety Personnel

The Contractor shall designate / deploy various categories of HSE personnel at site as indicated below in sufficient number. The Safety supervisors, Safety stewards/Observer etc. would facilitate the HSE tasks at grass root level for construction sites and shall assist Safety Officer /Engineers. Contractor shall appoint safety personnel as given below;

- 3.1.4.1 Safety Observer/Steward: Contractor shall depute one Safety Observer/Steward.
- 3.1.4.2 Safety Supervisor: In addition to above, contractor shall depute one Safety Supervisor for every 250 workers and additionally thereon.
- 3.1.4.3 Safety Engineer: In addition to above (i & ii), one safety engineer/ officer for every 1000 workers and additionally thereon.

a) Safety Steward/Observer

As a minimum, he shall possess class XII pass certificate and should have minimum two year of practical experience in construction work environment and should have adequate knowledge of the local language spoken by majority of the workers at the construction site.

b) Safety Supervisor

As a minimum, he shall possess a recognized graduation Degree or a Diploma in Engg. with minimum Two years of practical experience in construction work environment and should possess requisite skills to deal with construction safety related day-to-day issues.

c) Safety Officer / Safety Engineer

Safety Officer/Engineer should possess following qualification & experience:

- (i) Recognized degree in any branch of Engg. or Tech. or Architecture with practical experience of working in a building or other construction work in supervisory capacity for a period of not less than two years, **or** possessing recognized diploma in any branch of Engg. or Tech with practical experience of working in a building or other construction work in supervisory capacity for a period of not less than five years.
- (ii) Recognized degree or one year diploma in Industrial safety (from any reputed Indian Institutes).
- (iii) Preferably have adequate knowledge of the language spoken by majority of the workers at the construction site.

Alternately

- (i) Person possessing Graduation Degree in Science with Physics & Chemistry and degree or one year diploma in Industrial Safety (from any reputed Indian institutes) with practical experience of working in a building, plant or other construction works (as Safety Officer) for a period of not less than five years, may be considered as Safety Officer.

The Contractor shall verify & authenticate credentials of such safety personnel and furnish Bio-Data/Resume/Curriculum Vitae of the safety personnel as above for approval of Engineer in charge.

Imposition/ Realization of penalty shall not absolve the Contractor from his/her responsibility of deploying competent safety officer at site.

Adequate planning and deployment of safety personnel shall be ensured by the Contractor so that field activities do not get affected because of non-deployment of competent & qualified safety personnel in appropriate numbers.

### **3.1.5 Implementation, Inspection/Monitoring**

- a) The Contractor shall be fully responsible for planning, reporting, implementing and monitoring all HSE requirements and compliance of all laws & statutory requirements.
- b) The Contractor shall also ensure that the HSE requirements are clearly understood & implemented conscientiously by their site personnel at all levels at site.
- c) The Contractor shall ensure physical presence of their field engineers / supervisors, during the continuation of their contract works / site activities including all material transportation activities. Physical absence of experienced field engineers / supervisors of Contractor at critical work spot during the course of work may invite halting / stoppage of work.
- d) The Contractor shall regularly review inspection report internally and implement all practical steps / actions for improving the status continuously.
- e) Contractor skilled workmen like riggers, scaffold erectors, welders, crane operators etc. should have sufficient past experience and skill on the relevant job.
- f) The Contractor shall ensure important safety checks right from beginning of works at every work site locations. and to this effect format No. HSE-10 "Daily Safety Check List" shall be prepared by field engineer & duly checked by safety personnel for conformance.
- g) The Contractor shall carry out inspection to identify various unsafe conditions of work sites/machinery/equipments as well as unsafe acts on the part of workmen/supervisor/engineer while carrying out different project related works.
- h) Adequate records for all inspections shall be maintained by the Contractor and the same shall be furnished to Engineer in charge, whenever sought.
- i) As a general practice lifting tools/tackles, machinery, accessories etc. shall be inspected, tested and examined by competent person (approved by concerned State authorities) before being used at site

and also at periodical interval (e.g. during replacement, extension, modification, elongation/reduction of machine/parts, etc.) as per relevant statutes. Hydra, cranes, lifting machinery, mobile equipments/ machinery/ vehicles, etc. shall be inspected regularly by only competent / experienced personnel at site and requisite records for such inspections shall be maintained by contractor. Contractor shall also maintain records of maintenance of all other site machinery (e.g. generators, rectifiers, compressors, cutters, etc.) & portable tools/equipments being used at project related works (e.g. drills, abrasive wheels, punches, chisels, spanners, etc.).

- j) Site facilities /temporary. installations, e.g. batching plant, cement go down, DG-room, temporary electrical panels/distribution boards, fabrication yards, etc. and site welfare facilities, like labour colonies, canteen/pantry, rest-shelters, motor cycle/bicycle-shed, First-aid centers, urinals/toilets, etc. should be periodically inspected by Contractor.

### **3.1.6 Awareness and Motivation**

- a) The Contractor shall promote and develop awareness on Health, Safety and Environmental protection among all personnel working for the Contractor.
- b) The contractor shall display safety statistics board at all prominent location .Also shall provide dedicated notice board for displaying of safety alerts or any other safety related notices for awareness site workforces.
- c) Regular awareness programs and fabrication shop/work site meetings at least on monthly basis shall be arranged on HSE activities to cover hazards/risks involved in various operations during construction.
- d) Contractor to motivate & encourage the workmen & supervisory staff by issuing/ awarding them with tokens/ gifts/ mementos/ monetary incentives/ certificates etc. The motivational program shall be organized on regular basis.

### **3.1.7 Fire Prevention & First-Aid**

- a) The Contractor shall arrange suitable First-aid measures such as First Aid Box  
(Refer Appendix-B for details), stand-by Emergency Vehicle .Additionally separate ambulance. At least one fire extinguisher shall be placed at each location of DG Set, Hot works, electrical booth etc.
- b) The Contractor shall arrange installation of fire protection measures such as adequate number of steel buckets with sand & water and adequate number of appropriate portable fire extinguishers (Refer Appendix-C for details) to the satisfaction of Owner.
- c) The Contractor shall arrange EMERGENCY MOCK DRILL like fire, bomb threat, gas leakage, earth quake, etc. at each site at least once in three months, involving site workmen and site supervisory personnel & engineers.
- d) The contractor shall require to tie-up with the hospitals located in the neighborhood for attending medical emergency.

### 3.1.8 Documentation

The Contractor shall evolve a comprehensive, planned and documented system covering the following as a minimum for implementation and monitoring of the HSE requirements and the same shall be submitted for approval by owner.

- HSE Organogram
- Site specific HSE Plan
- Safety Procedures, forms and Checklist. Indicative list of HSE procedures is attached as Appendix :H
- Inspections and Test Plan

### 3.1.9 Audit

The Contractor shall submit an Audit Plan to Engineer in charge indicating the type of audits covering following as minimum:

- a) Internal HSE audits regularly on six monthly basis by engaging internal qualified auditors However, minimum two internal HSE audit will have to be conducted irrespective of time period of the contract.

All HSE shortfalls/ non-conformances on HSE matters brought out during review/audit, shall be resolved forthwith (generally within a week) by Contractor& compliance report shall be submitted to Engineer in charge.

In addition to above audits by contractor, the contractor's work shall be subjected to HSE audit by Engineer in charge at any point of time during the pendency of contract. The Contractor shall take all actions required to comply with the findings of the Audit Report and issue regular Compliance Reports for the same to Engineer in charge till all the findings of the Audit Report are fully complied.

Failure to carry-out HSE Audits& its compliance by Contractor, shall invite penalization.

### 3.1.10 Meetings

- i. The Contractor shall ensure participation of his top most executive at site (viz. Resident Construction Manager / Resident Engineer/ Project Manager / Site-in-Charge) in Safety Committee/HSE Committee meetings arranged by Engineer in charge usually on monthly basis or as and when called for. In case Contractor's top most executive at site is not in a position to attend such meeting, he shall inform Engineer in charge in writing before the commencement of such meeting indicating reasons of his absence and nominate his representative – failure to do so may invite very stringent penalization against the specific Contractor, as deemed fit as per Contract. The obligation of compliance of any observations during the meeting shall be always

time bound. The Contractor shall always assist Engineer in charge to achieve the targets set by them on HSE management during the project implementation.

- ii. In addition, the Contractor shall also arrange internal HSE meetings chaired by his top most executive at site on fortnightly basis and maintain records. Such internal HSE meetings shall essentially be attended by field engineers / supervisors including safety personnel of the Contractor and its associates. Records of such internal HSE meetings shall be maintained by the Contractor for review by Engineer in charge or for any HSE Audits.
- iii. Agenda of internal HSE meeting should broadly cover: -
  - a) Confirmation of record notes /minutes of previous meeting
  - b) Discussion on outstanding subjects of previous points / subjects, if any
  - c) Incidents / Accidents (of all types) at project site, if any
  - d) Current topics related to site activities / subjects of discussion
  - e) House keeping
  - f) Information / views / deliberations of members / site sub-contractors
  - g) Report from Owner / Client
  - h) Status of Safety awareness, Induction programs & Training programs The time frame for such HSE meeting shall be religiously maintained by one and all.

#### **3.1.11 Intoxicating drinks & drugs and smoking**

- a) The Contractor shall ensure that his staff members & workers (permanent as well casual) shall not be in a state of intoxication during working hours and shall abide by any law relating to consumption & possession of intoxicating drinks or drugs in force.
- b) The Contractor shall not allow any workman to commence any work at any locations of project activity who is/are influenced / effected with the intake of alcohol, drugs or any other intoxicating items being consumed prior to start of work or working day.
- c) Awareness about local laws on this issue shall form part of the Induction Training and compulsory work-site discipline.
- d) The Contractor shall ensure that all personnel working for him comply with “No-Smoking” requirements of the Owner as notified from time to time. Cigarettes, lighters, auto ignition tools or appliances as well as intoxicating drugs, dry tobacco powder, etc. shall not be allowed inside the project / plant complex.
- e) Smoking shall be permitted only inside smoking booths, if any, exclusively designated & authorized by the Engineer in charge.

#### **3.1.12 Penalty**

The Contractor shall adhere consistently to all provisions of HSE requirements. In case of non-compliances and also for repeated failure in implementation of any of the HSE provisions, Engineer in charge may impose stoppage of work without any cost & time implication to the Owner and/or impose a suitable penalty.

The amount of penalty to be levied against defaulted Contractor shall be up to a cumulative limit of 2.0% (Two percent) of the contract value.

This penalty shall be in addition to all other penalties specified elsewhere in the contract. The decision of imposing stop-work-instruction and imposition of penalty shall rest with Engineer in charge. The same shall be binding on the Contractor. Imposition of penalty does not make the Contractor eligible to continue the work in unsafe manner.

The amount of penalty applicable for the Contractor on different types of HSE violations is specified below:

<b>Sl. No.</b>	<b>Violation of HSE Norms</b>	<b>Penalty Amount</b>
1.	For not using personal protective equipment like Helmet, Safety Shoes, and other safety gadgets as	Rs.500/- per day/Item / Person
	Applicable as per nature of work.	
2.	Execution of work without deployment of requisite field engineer / supervisor at work spot	Rs.5,000/- per violation per day
3.	Unsafe electrical practices (not installing ELCB, using poor joints of cables, using naked wire without top plug into socket, laying wire/cables on the roads, electrical jobs by incompetent person, etc.)	Rs.5,000/- per item per day
4.	Working at height without full body harness, using non-standard/ rejected scaffolding and not arranging fall protection arrangement as required, like handrails, life-lines, Safety Nets etc.	Rs.10,000/ per - case per day
5.	No fencing/barricading of excavated areas / trenches.	Rs.5,000/- per occasion

6.	Absence of Contractor's RCM/SIC or his nominated representative (prior approval must be taken for each meeting for nomination) from site HSE meetings whenever called by Owner & failure to nominate his immediate deputy for such HSE meetings.	Rs.10,000/ per - meeting
7.	Poor House Keeping	Rs.5,000 /- per occasion per subject
8.	Failure to report & follow-up accident (including Near Miss) reporting system within specific timeframe.	Rs.20,000/ per - occasion
9.	Failure to deploy adequately qualified and competent Safety Officer	Rs.10,000/ per - day
10.	Any violation not covered above	To be decided by Engineer in charge

Note: Penalty amount deducted from the contractor shall be utilized by Engineer in charge for the promotion of the safety during the currency of the project.

The Contractor shall make his field engineers/supervisors fully aware of the fact that they keep track with the site workmen for their behavior and compliance of various HSE requirements. Safety lapses / defects of project construction site shall be attributable to the concerned job supervisor / engineer of the Contractor, (who remains directly responsible for safely executing field works). For repeated HSE violations, concerned job supervisor / engineer shall be reprimanded or appropriate action, as deemed fit, shall be initiated (with information to Engineer in charge) by the concerned Contractor.

Contractor shall initiate verbal warning shall be given to the worker/employee during his first HSE violation. A written warning shall be issued on second violation and specific training shall be arranged / provided by the Contractor to enhance HSE awareness/skill including feedback on the mistakes/ flaws. Any further violation of HSE stipulations by the erring individuals shall call for his forthright debar from the specific construction site. A record of warnings for each worker/employee shall be

maintained by the Contractor, like by punching their cards / Gate passes or by displaying their names at the Project entry gate. Warnings, penalizations, appreciations etc. shall be discussed in HSE Committee meetings by site Head of the Contractor.

### **3.1.13 Accident/ Incident investigation**

All accidents/incidents shall be informed to Engineer in charge at least telephonically by Contractor immediately and in writing within 24 hours on Format No. HSE-2 as applicable, by Contractor. Thereafter, a Supplementary Accident/Incident investigation Report on Format No. HSE-3 shall be submitted to Owner within 72 hours. Near Miss incident(s), Dangerous accidents/incident shall also be reported on Format No. HSE-4 within 24 hours. The accident/ incident shall be investigated by a team of Contractor's senior Site personnel (involving Site-in- Charge or at least by his deputy) for establishing root-cause and recommending corrective & preventive actions. Findings shall be documented and suitable actions taken to avoid recurrences shall be communicated to Engineer in charge. Engineer in charge shall have the liberty to independently investigate such occurrences and the Contractor shall extend all necessary help and cooperation in this regard. Engineer in charge shall have the right to share the content of this report with the outside world.

## **3.2 House Keeping**

The Contractor shall ensure that a high degree of housekeeping is maintained and shall ensure inter-alia; the followings:

- a) All surplus earth and debris are removed/disposed-off from the working areas to designated location(s).
- b) Unused/surplus cables, steel items and steel scrap lying scattered at different places within the working areas are removed to identify location(s).
- c) All wooden scrap, empty wooden cable drums and other combustible packing materials, shall be removed from work place to identified location(s).
- d) Roads shall be kept clear and materials like pipes, steel, sand, boulders, concrete, chips and bricks etc. shall not be allowed on the roads to obstruct free movement of men & machineries.
- e) Fabricated steel structural, pipes & piping materials shall be stacked properly.
- f) Water logging on roads shall not be allowed.



- g) No parking of trucks/trolleys, cranes and trailers etc. shall be allowed on roads, which may obstruct the traffic movement.
- h) Utmost care shall be taken to ensure over all cleanliness and proper upkeep of the working areas.
- i) Protective measures to be ensured with projected rebar by suitable means.
- j) Trucks carrying sand, earth and pulverized materials etc. shall be covered while moving within the plant area/ or these materials shall be transported with top surface wet.
- k) The contractor shall ensure that the atmosphere in plant area and on roads is free from particulate matter like dust, sand, etc. by keeping the top surface wet for ease in breathing.
- l) At least two exits for any unit area shall be assured at all times – same arrangement is preferable for digging pits/ trench excavation/ elevated work platforms/ confined spaces etc.
- m) Welding cables and the power cable must be segregated and properly stored and used. The same shall be laid away from the area of movement and shall be free from obstruction.
- n) Schedule for upkeep /cleaning of site to be firmed up and implemented on regular basis.

The Contractor shall carry-out regular checks (minimum one per fortnight) as per format No. HSE-11 for maintaining high standard of housekeeping and maintain records for the same. The Contractor shall provide supervisor for housekeeping exclusively for management of day-to-day housekeeping activities.

### **3.3 HSE Measures**

#### **3.3.1 Construction Hazards**

The Contractor shall ensure identification of all Occupational Health, Safety & Environmental hazards in the type of work he is going to undertake and enlist mitigation measures specially towards following activities;

- a) Working at height (+2.0 Mts height)
- b) Work in confined space,
- c) Deep excavations & trench cutting (depth > 2.0 mts.)
- d) Operation & Maintenance of Batching Plant.
- e) Shuttering / concreting (in single or multiple pour) for columns, parapets & roofs.
- f) Erection & maintenance of Tower Crane.

- g) Erection of structural steel members / roof-trusses / pipes at height more than 2.0 Mts. with or without crane.
- h) All lifts using 100T Crane plus mechanical pulling.
- i) Any lift exceeding 80% capacity of the lifting equipments (hydra, crane etc.).
- j) Laying of pipes (isolated or fabricated) in deep narrow trenches – manually or mechanically.
- k) Maintenance of crane / extension or reduction of crane-boom on roads or in yards.
- l) Erection of any item at >2.0 Mts. height using 100T crane or of higher capacity
- m) Work in Live Electrical installations / circuits
- n) Demolishing/ dismantling activities
- o) Welding/ gas cutting jobs at height (+2.0 Mts.)
- p) Lifting/placing roof-girders at height (+2.0 Mts.)
- q) Working in “Charged/Live” elect. Panels
- r) Erection/dismantling of scaffolding

The necessary HSE measures devices shall be put in place, prior to start of an activity & also shall be maintained during the course of works, by the Contractor.

### 3.3.2 Accessibility

- e) The Contractor shall provide safe means of access(in sufficient numbers) & efficient exit to any working place including provisions of suitable and sufficient scaffolding at various stages during all operations of the work for the safety of his workmen and Owner.
- f) The Contractor shall implement use of all measures including use of “life line”, “fall- arresters”, “retractable fall arresters”, “safety nets” etc. during the course of using all safe accesses & exits, so that in no case any individual remains at risk of slip & fall during their travel.
- g) A ladder or step- ladder must have a level and firm footing, in case of use of fixed ladders, sufficient foot hold and hand hold to be provided.
- h) The access to operating plant / project complex shall be strictly regulated. Any person or vehicle entering such complex shall undergo identification check, as per the procedures in force / requirement of Engineer in charge.
- i) Accessibility to ‘confined space’ shall be governed by specific system / regulation, as established at project site.

### 3.3.3 Personal Protective Equipment (PPEs)

- a) The Contractor workmen shall be permitted entry inside the project premises only with proper PPEs.
- b) The Contractor shall ensure that all their staff, workers and visitors including their sub- contractor(s) have been issued (records to be kept) & wear appropriate PPEs like nape strap type safety helmets preferably with head & sweat band with  $\frac{3}{4}$ " cotton chin strap, High ankle safety shoes with steel toe cap and antiskid sole, full body harness, protective goggles, gloves, ear muffs, respiratory protective devices, etc. All these gadgets shall conform to applicable IS Specifications. The Contractor shall implement a regular regime of inspecting physical conditions of the PPEs being issued / used by the workmen of their own & also its sub-agencies and the damaged / unserviceable PPEs shall be replaced forthwith.
- c) Engineer in charge may issue a comprehensive color scheme for helmets to be used by various agencies. The Contractor shall follow the scheme issued by the Engineer in charge and shall choose colour other than blue (for Owner and their representatives). All HSE personnel shall preferably wear dark green band on their helmet or green color safety helmet so that workmen can approach them for guidance during emergencies. HSE personnel shall preferably wear such dresses with fluorescent stripes, which are noticeable during night, when light falls on them.
- d) Florescent jackets with respective company logo to be worn by the contractor workmen with different color coding for categories like supervisor and workmen.
- e) An indicative list of HSE standards/codes is given under **Appendix-A**.
- f) Contractor shall ensure procurement & usage of following safety equipment's/ accessories (conforming to applicable IS mark) by their staff, workmen & visitors including their subcontractors all through the span of project construction.
  - i. PPEs (Helmet with company name/logo, Safety Goggles, Coverall, Ear-muff, Face Shield, Hand Gloves, High Ankle Safety Shoes, Gum Boot etc.)
  - ii. Barricading tape / warning signs
  - iii. Rechargeable Safety torch (flame-proof)
  - iv. Safety nets (with tie-chords)
  - v. Fall arresters
  - vi. Portable ladders (varying lengths)
  - vii. Life-lines (steel wire-rope, dia. not less than 8.0 mm)
  - viii. Full body double lanyard Safety harness with Rebar/ladder hook

- or scaffolding hook.
- ix. Retractable fall arresters (various length)
- x. Portable fire extinguishers of adequate capacity
- xi. Portable Multi Gas detector

#### 3.3.4 Working at height

- a) The Contractor shall issue permit for working (PFW) at height after verifying and certifying the checkpoints as specified in the attached permit (Format No. HSE-6). He shall also undertake to ensure compliance to the conditions of the permit during the currency of the permit including adherence of personal protective equipments. Contractor's Safety Officer shall verify compliance status of the items of permit document after implementation of action is completed by Contractor's execution / field engineers at work site.
- b) Such PFW shall be initially issued for one single shift or expected duration of normal work and extended further for balance duration, if required.
- c) Contractors are expected to maintain a register for issuance of permit and extensions thereof including preserving the used permits for verification during audits etc.
- d) The Contractor shall ensure that Full body harnesses with double lanyards conforming IS Specifications is used by all personnel while working at height. The life lines should have enough tensile strength to take the load of the worker in case of a fall. The harness should be capable of keeping the workman vertical in case of a fall, enabling him to rescue himself.
- e) The Contractor shall ensure that a proper Safety Net System is used wherever the hazard of fall from height is present. The safety net, preferably a knotted one with mesh ropes conforming to relevant IS specifications shall have a border rope & tie cord of minimum 12mm dia. The Safety Net shall be located not more than 6.0 meters below the working surface extending on either side upto sufficient margin to arrest fall of persons working at different heights.
- f) In case of accidental fall of person on such Safety Net, the bottom most portion of Safety Net should not touch any structure, object or ground.
- g) Beam Clamps may be used for construction of localized temporary working platforms

sheds for welding booths etc. at height in all types of steel structure due to faster installation and requirement of less scaffolding materials.

- h) Hanging Platform, manufactured by Standard HSE equipment vendors must be encouraged for painting of Buildings etc.
- i) All the tools used at height (like spanner, screw driver etc.) shall be provided with securing arrangement like back-pack/waist pouch to prevent accidental slippage from worker hand.
- j) The Contractor shall install temporary lightening arrester in tall structures during construction to save human life and to avoid damage to equipment's & machineries. During the possibility of a thunderstorm, all the work at height where a person can be exposed to lightning shall be stopped.

### 3.3.5 Scaffoldings& Barricading

- a) Suitable steel scaffoldings only shall be provided to workmen for all works that cannot be safely done from the ground or from solid construction except such short period work that can be safely done using ladders or man-basket. When a ladder is used, an extra workman shall always be engaged for holding the ladder. The ladder shall be inspected before use for cracked or split stiles, missing, broken, loose or damaged rungs & splinters. The ladder shall be of adequate length to enable it to extend to at least 1.0m above the landing place or working point. Metallic ladders shall be only used as access.
- b) The Contractor shall ensure that the scaffolds used during construction activities shall be strong enough to take the designed load. Only metallic scaffold boards shall be allowed to use. Steel tubes shall be free from cracks, splits, Surface flaws & other defects. All couplers & fittings shall be properly oiled and maintained.
- c) All scaffolds shall be inspected by a safety officer. He shall paste a GREEN tag on each scaffold found safe and a RED tag on each scaffold found unsafe. Scaffolds with GREEN tag only shall be permitted to be used and Scaffolds with RED ones shall immediately be made inaccessible.
- d) The Contractor shall ensure positive barricading (indicative as well as protective) of the excavated, radiography, heavy lift, high pressure hydrostatic & pneumatic testing and other such areas. Sufficient warning signs shall be displayed along the barricading areas.
- e) Scaffolding shall be constructed using foot seals or base plates only.

Base plates shall be used below each standard on surface. Sole plate of timber shall be used beneath the base plate to achieve greater load distribution.

### 3.3.6 Electrical installations

- a) All electrical installations/ connections shall be carried out as per the provisions of latest Indian codes/standard.
- b) All temporary electrical installations / facilities shall be regularly checked by the licensed/competent electricians of the Contractor.

The Contractor shall meet the following requirements:

- a. Ensure that electrical systems and equipment including tools & tackles used during construction phase are properly selected, installed, used and maintained as per provisions of the latest revision of the Indian Electrical/ applicable international regulations.
- b. Shall deploy qualified & licensed electricians.
- c. All switchboards / welding machines shall be kept in well-ventilated & covered shed/ with rain shed protection. The shed shall be elevated from the existing ground level to avoid water logging inside the shed. Installation of electrical switch board must be done taking care of the prevention of shock and safety of machine.
- d. No flammable materials shall be used for constructing the shed. Also flammable materials shall not be stored in and around electrical equipment / switchboard. Adequate clearances and operational space shall be provided around the equipment.
- e. Fire extinguishers and insulating mats shall be provided in all power distribution centres.
- f. Temporary electrical equipment shall not be employed in hazardous area without obtaining safety permit.
- g. Proper housekeeping shall be done around the electrical installations.
- h. All temporary installations shall be tested before energizing, to ensure proper earthing, bonding, suitability of protection system, adequacy of

feeders/cables etc.

- i. All welders shall use hand gloves irrespective of holder voltage.
- j. Multilingual (Hindi, English and local language) caution boards, shock treatment charts and instruction plate containing location of isolation point for incoming supply, name & telephone No. of contact person in emergency shall be provided in substations and near all distribution boards / local panels.
- k. ELCB tester /test meter shall be used for testing the ELCBs operation. ELCBs testing shall be carried out by using ELCB tester on monthly basis but in specific cases like heavy rain as decided by owner/EIC. Record of the testing shall be maintained.
- l. Regular inspection of all installations at least once in a month.

The following features shall also be ensured for all electrical installations during construction phase by the contractor:

- a. Each installation shall have a main switch with a protective device, installed in an enclosure adjacent to the metering point. The operating height of the main switch shall not exceed 1.5 M. The main switch shall be connected to the point of supply by means of armoured cable.
- b. The outgoing feeders shall be double or triple pole switches with fuses / MCBs. Loads in a three phase circuit shall be balanced as far as possible and load on neutral should not exceed 20% of load in the phase.
- c. The installation shall be adequately protected against overload, short circuit and earth leakage by the use of suitable protective devices. Fuses wherever used shall be HRC type. Use of rewirable fuses shall be strictly prohibited. ELCB/RCCB (Residual Current Circuit Breaker) must be fitted with all Electrical installation. The earth leakage device shall have an operating current not exceeding 30 mA.
- d. All connections to the hand tools / welding receptacles shall be taken through proper switches, sockets and plugs.
- e. All single phase sockets shall be minimum 3 pin type only. All unused sockets shall be provided with socket caps.

- f. Only 3 core (P+N+E) overall sheathed flexible cables with minimum conductor size of 1.5 mm<sup>2</sup> copper shall be used for all single phase hand tools.
- g. Only metallic distribution boxes with double earthing shall be used at site. No wooden boxes shall be used.
- h. All power cables shall be terminated with compression type cable glands. Tinned copper lugs shall be used for multi-strand wires / cables.
- i. Cables shall be free from any insulation damage.
- j. Minimum depth of cable trench shall be 750 mm for MV & control cables and 900 mm for HV cables. These cables shall be laid over a sand layer and covered with sand, brick & soil for ensuring mechanical protection. Cables shall not be laid in waterlogged area as far as practicable. Cable route markers shall be provided at every 25 M of buried trench route. When laid above ground, cables shall be properly cleated or supported on rigid poles of atleast 2.1 M high. Minimum head clearance of 6 meters shall be provided at road crossings.
- k. Underground road crossings for cables shall be avoided to the extent feasible. In any case no underground power cable shall be allowed to cross the roads without pipe sleeve.
- l. All cable joints shall be done with proper jointing kit. No taped/temporary joints shall be used.
- m. An independent earthing facility should preferably be established within the temporary installation premises. All appliances and equipment shall be adequately earthed. In case of armored cables, the armour shall be bonded to the earthing system. IS: 3043 Code for earthing practices shall be followed at project site.
- n. All cables (green colour) and wire rope used for earth connections shall be terminated through tinned copper lugs.
- o. In case of local earthing, earth electrodes shall be buried near the supply point and earth continuity wire shall be connected to local earth plate for further distribution to various appliances. All insulated wires for earth connection shall have insulation of greencolour.



- p. Separate core shall be provided for neutral. Earth / Structures shall not be used as a neutral in any case.
- q. ON/OFF position of all switches shall be clearly designated / painted for easy isolation in emergency.

### 3.3.7 Ergonomics and tools & tackles

- a) The Contractor shall assign to his workmen, tasks commensurate with their qualification, experience and state of health.
- b) All lifting tools, tackles, equipment, trailers, trucks/dumpers, accessories including cranes shall be tested periodically by competent authority for their condition and load carrying capacity. Valid test & fitness certificates from the applicable authority shall be submitted to Engineer in charge for their review/acceptance before the lifting tools, tackles, equipment, trailers, trucks/dumpers, accessories and cranes are used. Third party inspection certificate is mandatory for all lifting tools & tackles before put into use.
- c) Load testing of Cranes by competent person must be made mandatory after each modification/alteration of crane configuration/change in boom length. All heavy equipments including cranes must be maintained in good condition & record of such maintenance shall be maintained.
- d) The contractor shall not be allowed to use defective equipment or tools not adhering to safety norms.
  - i. Tower Crane, Crane, Hydra mobile Crane (F-15 or equivalent), Hydraulic Rig & Boom  
Lift shall be inspected on fortnightly basis as per Format No. HSE-20, HSE-21, HSE- 22, HSE-23 & HSE-24.
  - ii. **The Contractor shall deploy experienced operator & may arrange training program for operators of hydra mobile crane, crane, excavator, mobile machinery, Tower Crane, etc. at site by utilizing services from renowned manufacturers.**
  - iii. Hydra mobile crane (F-15 or equivalent) having steering control mechanism shall be permitted at construction site only for the purpose of loading/unloading. However, continuous rigger availability during marching of hydraulic crane at site shall be ensured by contractor.

### **3.3.8 Occupational Health**

- a) The contractor shall identify all operations that can adversely affect the health of its workers and issue & implement mitigation measures.
- b) The Contractor shall arrange Medical Camps at regular intervals at work sites and labor colonies to assess health condition of workers.
- c) The Contractor shall ensure vaccination of all the workers including their families if residing at site, during the course of entire project span.

### **3.3.9 Hazardous substances**

- a) Hazardous, inflammable and/or toxic materials such as solvent coating, thinners, anti- termite solutions, water proofing materials shall be stored in appropriate containers preferably with lids having spillage catchment trays and shall be stored in a good ventilated area. These containers shall be labeled with the name of the materials highlighting the hazards associated with its use and necessary precautions to be taken.
- b) The work place shall be checked prior to start of activities to identify the location, type and condition of any asbestos materials which could be disturbed during the work. In case asbestos material is detected, usage of appropriate PPEs by all personnel shall be ensured.

### **3.3.10 Slips, trips & falls**

- a) The contractor shall establish a regular cleaning and basic housekeeping programme that covers all aspects of the workplace to help minimize the risk of slips, trips & falls. The contractor shall take positive measures like keeping the work area tidy, storing waste in suitable containers & harmful items separately, keeping passages, stairways, entrances & exits especially emergency ones clear, cleaning up spillages immediately and replacing damaged carpet/ floor tiles, mats & rugs at once to avoid slips, trips & falls.

### **3.3.11 Demolition/ Dismantling**

- a) The contractor shall adhere to safe demolishing/ dismantling practices at all stages of work to guard against unsafe working practices.

- b) Before carrying out any demolition/dismantling work, the contractor shall take prior approval of Engineer in charge and generate the Format No.HSE-9.

### **3.3.12 Road Safety**

- a) The Contractor shall ensure adequately planned road transport safety managementsystem.
- b) The vehicles shall be fitted with reverse warning alarms & flashing lights / fog-lights and usage of seat belts shall be ensured.
- c) The Contractor shall also ensure a separate pedestrian route for safety of the workers and comply with all traffic rules & regulations, including maintaining speed limit of 20 KMPH or indicated by owner for all types of vehicles / mobile machinery. The maximum allowable speed shall be adhered to.
- d) In case of an alert or emergency, the Contractor must arrange clearance of all the routes, roads, access.
- e) Dumpers, Tippers, etc. shall not be allowed to carry workers within the site and also to & from the labour colony to & from project sites.
- f) The Contractor shall not deploy any such mobile machinery / Equipments, which do not have competent operator and / or experienced banks-man/signal-man. Such machinery/equipments shall have effective limit-switches, reverse-alarm, front & rear-end lights etc. and shall be maintained in good working order.
- g) The Contractor shall not carry-out maintenance of vehicles / mobile machinery occupying space on project / plant roads and shall always arrange close supervision for such works.
- h) Contractor's shall arrange /install visible road signs, diversion boards, caution boards, etc. on project roads for safe movement of men and machinery.

### **3.3.13 Welfare measures**

Contractor shall, at the minimum, ensure the following facilities at work sites:

- a) A crèche at site where 10 or more female workers are having children below the age of 6 years.
- b) Adequately ventilated / illuminated rooms at labour camps & its hygienic up-keeping.
- c) Reasonable canteen facilities at site and in labour camps at appropriate location depending upon site conditions. Contractor shall

make use of “industrial” variety of LPG cylinder & satisfactory illumination at the canteens. Necessary arrangement for efficient disposal of wastes from canteens & urinals /toilets shall also be made and regular review shall be made to maintain the ambience satisfactorily hygienic & shall also comply with all applicable statutory requirements.

- d) Adequately lighted & ventilated Rest rooms at site (separate for male workers and female workers).
- e) Provision for suitable mobile toilets to be made available by Contractor for remote/scattered job locations.
- f) Urinals, Toilets, drinking water, washing facilities, adequate lighting at site and labour camps.
- g) The contractor at periodic interval shall arrange to prevent mosquito breeding by fumigation/spraying of insecticides at workplace/fabrication yard.

#### **3.3.14 Environment Protection**

Contractor shall ensure proper storage and utilization methodology of materials that are detrimental to the environment. Where required, Contractor shall ensure that only the environment friendly materials are selected and emphasize on recycling of waste materials, such as metals, plastics, glass, paper, oil & solvents. The waste that cannot be minimized, reused or recovered shall be stored and disposed of safely. In no way, toxic spills shall be allowed to percolate into the ground. The contractor shall not use the empty areas for dumping the wastes.

The contractor shall strive to conserve energy and water wherever feasible.

The contractor shall ensure dust free environment at workplace by sprinkling water on the ground at frequent intervals. The air quality parameters for poisonous gases, toxic releases, harmful radiations, etc. shall be checked by the contractor on daily basis and whenever need arises.

The contractor shall not be allowed to discharge chemicals, oil, silt, sewage, sillage and other waste materials directly into the controlled waters like surface drains, streams, rivers, ponds. A discharge plan shall be submitted to Engineer in charge for approval.

#### **3.3.15 Rules & Regulations**

All persons deployed at site shall be knowledgeable of and comply with the environmental laws, rules & regulations relating to the hazardous

materials, substances and wastes. Contractor shall not dump, release or otherwise discharge or dispose off any such materials without the express authorization of Engineer in charge. An indicative list of Statutory Acts & Rules relating to HSE is given under Appendix-D.

### **3.3.16 Weather Protection**

Contractor shall take appropriate measures to protect workers from severe storms, rain, solar radiations, poisonous gases, dust, etc. by ensuring proper usage of PPEs like Sun glasses, Sun screen lotions, respirators, dust masks, etc. and rearranging/ planning the construction activities to suit the weather conditions. Effective arrangement (without creating inconvenience to project facilities & permanent installations) for protecting workmen from hailstorm, drizzle in the form of temporary shelter shall be made at site.

### **3.3.17 Communication**

All persons deployed at the work site shall have access to effective means of communication so that any untoward incident can be reported immediately and assistance sought by them.

All health & safety information shall be communicated in a simple & clear language easily understood by the local workforce.

For information to all, typical subjects that should be communicated are: -  
Inside the company (Top to down)

- a. Quality Policy
- b. HSE Policy contents
- c. Environment Policy
- d. HSE Objectives
- e. Safety Cardinal Rules
- f. HSE Target – reached or missed
- g. Praises & Warnings to personnel for HSE Management
- h. Safety Walk Through Reports and safety defects / shortfalls (by management)
- i. HSE Audit results
- j. Revised Statutory Health & Safety provisions, if any
- k. H & S publicity
- l. Suggestions

Inside the Company (Bottom to up)

- a. Complaints
- b. Compliances on safety defects / shortfalls

- c. Suggestions
- d. Proposals for changes & improvements
- e. HSE Reports (including near-miss reports)

### **3.3.18 Confined Space Entry**

The contractor shall generate a work permit (Format No. HSE -7) before entering a confined space. People, who are permitted to enter into confined space, must be medically examined. All necessary precautions mentioned therein shall be adhered to. An attendant shall be positioned outside a confined space for extending help during an emergency. Effective communication shall be maintained between personnel in confined space and outside by combination of visual/voice or portable radio. Compressed gas cylinders shall not be taken into confined space. Entry Register for confined space to be maintained with the name and time of entry/exit.

### **3.3.19 Excavation**

The Contractor shall obtain permission from competent authorities prior to excavation wherever required.

The Contractor shall locate the position of buried utilities (water line, cable route, etc.) by referring to project in consultation with Engineer in charge. The Contractor shall start digging manually to locate the exact position of buried utilities & thereafter use mechanical means.

The Contractor shall keep soil heaps at least 1.5 M away from edge or a distance equal to depth of pit (whichever is more)

All excavated pits greater than 10 Sq.M plan area and depth more than 1.5M shall have at least two access routes for ingress and egress. Also, additional access routes shall be provided such that distance between any two access routes shall not be more than 20M.

The Contractor shall maintain sufficient “angle of repose” during excavation – shall also provide slope or suitable bench as decided by Owner.

The Contractor shall arrange “battering” or “benching” wherever required for preventing collapse of edge of excavations.

The Contractor shall identify & arrange de-watering pump or well-point system to prevent earth collapse due to heavy rain / influx of underground water.

The Contractor shall arrange protective fencing/ hard barricading with warning signal around excavated pits, trenches, etc. along with minimum 2 (two) entries, exits / escape ladders.

The Contractor must avoid “underpinning” / under-cutting to prevent collapse of chunk of earth during excavation

The Contractor shall use “stoppers” to prevent over-run of vehicle wheels at the edge of excavated pits / trenches.

The Contractor shall arrange strengthening of “shoring” & “strutting” proactively to avoid collapse of earth / edges due to vehicular movement in close proximity of excavated areas / pits/ trenches, etc.

### 3.4

#### Tool Box Talks (TBT)

Contractor shall conduct daily TBT with workers prior to start of work and shall maintain proper record of the meeting. A record shall be maintained in a format suggested by Engineer in charge.

The Contractor shall conduct TBT before start of every morning or evening shift or night shift activities, for alerting the workers on specific hazards and their appropriate dos & don'ts. The Contractor shall provide sufficient rests to the site workmen and their foremen to avert fatigue & thereby endangering their lives during the course of site works.

### 3.5

#### Training & Induction Programme

- a) Initial induction of workers into Construction oriented activities and appraising them about the methodology of works and how to carry-out safely and the same should not be inter mixed with Tool Box Talks or HSE Training. In this regard careful action should be made & maintained for imparting HSE induction to every individual, irrespective of his task/designation/level of employment, whereas, HSE Training should be imparted to specific person/group of people who are to carry-out that specific task more than once – for

example, Riggers must be trained for working at heights, welders must be trained for work in confined space, fitters/carpenters, masons must be trained for work at heights, etc.

- b) Contractor shall conduct Safety induction programme on HSE for all his workers and maintain records. The Gate Pass shall be issued only to those workers who successfully qualify the Safety induction programme.
- c) The Contractor shall brief the visitors about the HSE precautions which are required to be taken before their proceeding to site and make necessary arrangements to issue appropriate PPEs like Aprons, hard hats, ear-plugs, goggles & safety shoes etc., to his visitors. The Contractor shall always maintain relevant acknowledgement from

visitor on providing him brief information on HSE actions.

- d) Contractor shall ensure that all his personnel possess appropriate training to carry out the assigned job safely. The training should be imparted in a language understood by them and should specifically be trained about
- Potential hazards to which they may be exposed at their workplace
  - Measures available for prevention and elimination of these hazards
- The topics during training shall cover, at the minimum: -
- Why safety should be considered during work - explanation
  - Education about hazards and precautions required
  - Employees' duties & responsibilities
  - Emergency and evacuation plan
  - HSE requirements during project activities
  - Fire fighting and First-Aid
  - Use of PPEs
  - Occupational health issues – dos & don'ts
  - Local laws on intoxicating drinks, drugs, smoking in force
  - Common environmental subjects – lighting, ventilation, vibration, smoke/fumes etc.
- e) Records of the training shall be kept and submitted to Engineer in charge.

## DETAILS OF HSE MANAGEMENT SYSTEM BY CONTRACTOR

### **On Award of Contract**

The Contractor shall submit a comprehensive Health, Safety and Environmental Plan or programme for approval by Engineer in charge prior to start of work. The Contractor shall participate in the pre-start meeting with Engineer in charge to finalize HSE Plans which shall include the following:

- HSE policy & Objectives
- Job procedure to be followed by the Contractor for construction activities including handling of equipments, scaffolding, electric installations, etc. describing the risks involved, actions to be taken and methodology for monitoring each activity. Indicative list of procedures is enclosed as Annexure-H
- PMC/Owner review/audit requirement.
- Organization structure along with responsibility and authority, on HSE activities.



- Administrative & disciplinary steps involving implementation of HSE requirements
- Emergency evacuation plan/ procedures for site and labour camps
- Procedures for reporting & investigation of accidents and near misses.
- HSE Inspection
- HSE Training programme at project site
- HSE Awareness programme at project site
- Reference to Rules, Regulations and statutory requirements.
- HSE documentation viz reporting, analysis & record keeping.

#### A. IS CODES ON HSE

#### APPENDIX-A (Sheet 1 of 2)

SP: 53	Safety code for the use, Care and protection of hand operated tools.
IS: 838	Code of practice for safety & health requirements in electric and gas welding and cutting operations
IS: 1179	Eye & Face precautions during welding, equipment etc.
IS: 1860	Safety requirements for use, care and protection of abrasive grinding wheels. IS: 1989 (Pt -II) Leather safety boots and shoes
IS: 2925	Industrial Safety Helmets
IS: 3016	Code of practice for fire safety precautions in welding & cutting operation. IS: 3043 Code of practice for earthing

IS: 3764      Code of safety for excavation work

IS: 3786      Methods for computation of frequency and severity rates for industrial injuries and classification of industrial accidents

IS: 3696      Safety Code of scaffolds and ladders

IS: 4083      Recommendations on stacking and storage of construction materials and components at site

IS: 4770      Rubber gloves for electrical purposes

IS: 5121      Safety code for piling and other deep foundations

IS: 5216 (Pt-I) Recommendations on Safety procedures and practices in electrical works

IS: 5557      Industrial and Safety rubber lined boots

IS: 5983      Eye protectors

IS: 6519      Selection, care and repair of Safety footwear

IS: 6994 (Pt-I)      Industrial Safety Gloves (Leather & Cotton Gloves)

IS: 7293      Safety Code for working with construction Machinery

IS: 8519      Guide for selection of industrial safety equipment for body protection

IS: 9167      Ear protectors

IS: 11006      Flash back arrestor (Flame arrestor)

IS: 11016      General and safety requirements for machine tools and their operation

IS: 11057      Specification for Industrial safety nets

IS: 11226      Leather safety footwear having direct moulded rubber sole

IS: 11972      Code of practice for safety precaution to be taken when entering a sewerage system

IS: 13367      Code of practice-safe use of cranes

IS: 13416      Recommendations for preventive measures against hazards at working place

**B. INTERNATIONAL STANDARDS ON HSE**

Safety Glasses	:	ANSI Z 87.1, ANSI ZZ 87.1, AS 1337, BS 2092, BS 1542, BS 679, DIN 4646/
58311 Safety Shoes	:	ANSI Z 41.1, AS 2210, EN 345
Hand Gloves	:	BS 1651
Ear Muffs	:	BS 6344, ANSI S 31.9
Hard Hat	:	ANSI Z 89.1/89.2, AS 1808, BS 5240, DIN 4840
Goggles	:	ANSI Z 87.1
Face Shield	:	ANSI Z 89.1
Breathing Apparatus	:	BS 4667,
NIOSH Welding & Cutting	:	ANSI Z49.1
Safe handling of compressed:P-1		(Compressed Gas Association Gases in cylinders 1235 Jefferson Davis Highway, Arlington VA 22202 - USA)
Full body harness	:	EN-
361 Lanyard	:	EN-354
Karabiner	:	EN-362 and EN-12275

## DETAILS OF FIRST AID BOX

SL. NO.	DESCRIPTION	QUANTITY
1.	Small size Roller Bandages, 1 Inch Wide (Finger Dressing small)	6 Pcs.
2.	Medium size Roller Bandages, 2 Inches Wide (Hand & Foot Dressing)	6 Pcs.
3.	Large size Roller Bandages, 4 Inches Wide (Body Dressing Large)	6 Pcs.
4.	Large size Burn Dressing (Burn Dressing Large)	4 Pkts.
5.	Cotton Wool (20 gms packing)	4 Pkts.
6.	Antiseptic Solution Dettol (100 ml.) or Savlon	1 Bottle
7.	Mercurochrome Solution (100 ml.) 2% in water	1 Bottle
8.	Ammonia Solution (20 ml.)	1 Bottle
9.	A Pair of Scissors	1 Piece
10.	Adhesive Plaster (1.25 cm X 5 m)	1 Spool
11.	Eye pads in Separate Sealed Pkt.	4 pcs.
12.	Tourniquet	1 No.
13.	Safety Pins	1 Dozen
14.	Tinc. Iodine/ Betadine (100 ml.)	1 Bottle
15.	Polythene Wash cup for washing eyes	1 No.
16.	Potassium Permanganate (20 gms.)	1 Pkt.
17.	Tinc. Benzoine (100 ml.)	1 Bottle
18.	Triangular Bandages	2 Nos.
19.	Band Aid Dressing	5 Pcs.
20.	Iodex/ Moov (25 gms.)	1 Bottle
21.	Tongue Depressor	1 No.
22.	Boric Acid Powder (20 gms.)	2 Pkt.
23.	Sodium Bicarbonate (20 gms.)	1 Pkt.
24.	Dressing Powder (Nebasulf) (10 gms.)	1 Bottle
25.	Medicinal Glass	1 No.
26.	Duster	1 No.
27.	Booklet (English& Local Language)	1 No. each
28.	Soap	1 No.

29.	Toothache Solution	1 No.
30.	Vicks (22 gms.)	1 Bottle
31.	Forceps	1 No.
32.	Snake –Bite Lancet	1No.
33.	Note Book	1 No.
34.	Splints	4 Nos.
35.	Lock	1 Piece
36.	Life Saving/Emergency/Over-the counter Drugs	As decided at site

-----  
Box size: Suitable size first aid box to be used for first aid items  
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Note : The medicines prescribed above are only indicative. Equivalent medicines can also be used.

A prescription, in this regard, shall be required from a qualified Physician.

## TYPE OF FIRES VIS-À-VIS FIRE EXTINGUISHERS

Fire Extinguisher Fire ↓	→ Water	Foam	CO <sub>2</sub>	Dry Powder	Multi purpo se (ABC)
Originated from paper, clothes, wood	?	?	can control minor surface fires	can control minor surface fires	?
Inflammable liquids like alcohol, diesel, petrol, edible oils, bitumen	x	?	?	?	?
Originated from gases like LPG, CNG, H <sub>2</sub>	x	X	?	?	?
Electrical fires	x	X	?	?	?

LEGEND : ? : CAN BE USED

x : NOT TO BE USED

**Note:** Fire extinguishing equipment must be checked atleast once a year and after every use by an authorized person. The equipment must have an inspection label on which the next inspection date is given. Type of extinguisher shall clearly be marked on it.

**List of Statutory Acts & Rules Relating to HSE**

- The Indian Explosives Act and Rules
- The Motor Vehicle Act and Central Motor Vehicle Rules
- The Factories Act and concerned Factory Rules
- The Petroleum Act and Petroleum Rules
- The Workmen Compensation Act
- The Gas Cylinder Rules and the Static & Mobile Pressure Vessels Rules
- The Indian Electricity Act and Rules
- The Indian Boiler Act and Regulations
- The Water (Prevention & Control & Pollution) Act
- The Water (Prevention & Control of Pollution) Cess Act
- The Mines & Minerals (Regulation & Development) Act
- The Air (Prevention & Control of Pollution) Act
- The Atomic Energy Act
- The Radiation Protection Rules
- The Indian Fisheries Act
- The Indian Forest Act
- The Wild Life (Protection) Act
- The Environment (Protection) Act and Rules
- The Hazardous Wastes (Management & Handling) Rules
- The Manufacturing, Storage & import of Hazardous Chemicals Rules
- The Public Liability Act
- The Building and Other Construction Workers (Regulation of Employment and Condition of Service) Act
- Other statutory acts Like EPF, ESIS, Minimum Wages Act.

LIST OF PROCEDURES (MINIMUM) TO BE FORMING PART OF HSE PLAN:-

- A. HSE Management Procedures:
- HSE Objectives & Performance
  - HSE Training and Competence (including Induction)
  - HSE Motivation & Award Scheme
  - HSE Audits
  - HSE Emergency Management
  - HSE Incidents Reporting and Management
  - First Aid & Management
  - Roles, Responsibility, accountabilities and Authorities
- B. Job procedures/Safe Operating procedures
- Setting Up Site & Signages
  - Working at Height
  - Confined Space Entry
  - Permit to Work
- Housekeeping
- Transportation of materials including Manual Handling
  - Earthmoving Operations & excavation
  - Scaffolding
  - Fire Prevention/Protection
  - Hazardous Substance handling & Storage
  - Personal Protective Equipment



## ACCIDENT / INCIDENT REPORT

(To be submitted by Contractor after every Incident / Accident within 24 hours to Owner)

**Report No.:**\_\_\_\_\_ **Date:**\_\_\_\_\_

**Project site:**\_\_\_\_\_ **Name of work:** \_\_\_\_\_

**Contractor's name:**\_\_\_\_\_ **Contractor's Job Engineer (name)** \_\_\_\_\_

<b>Non-disabling injury (Non-LTA)</b>	Hospitalized but resumed duty before end of 48 hrs	
<b>Disabling injury (other LTA)</b>	Hospitalized & failed to resume duty within next 48 hrs	
<b>Fatal (LTA):</b>	Death / Expiry	
<b>First Aid case (non LTA)</b>	Resume duty after first aid	

**Name of the injured:**\_\_\_\_\_ **Father's name of victim:** \_\_\_\_\_

**Sub Contractor's Name:** .....

**Gate Pass No.:** .....**Age:**\_\_\_\_\_ **Yrs. Victim's medical fitness exam. (Pre-empl.) date:-** \_\_

**Date & time of Accident / Incident:** \_\_\_\_\_ **Names of**

**Witnesses:** (1\_ (2)\_\_\_\_ (3)\_\_\_\_\_ **Profession of victim:**

Bar bender		Carpenter		Meson	
Fitter		Helper		Gas cutter	
Grinder		Welder		Electrician	
Driver		Rigger		M/c. operator	
Engineer		Manager		Other/specify	

### Qualification

No formal education		Non-Matriculate		Matriculate	
Graduate		Post- grad		Other/specify	

### Job Experience

NIL		Less than 2 yrs		2-5 yrs	
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5-10 yrs		11-15 yrs		15 years and above	
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**Location where the incident happened:** \_\_\_\_\_

**Activity / Works that were continuing during incident / accident: -**

Excavation		Demolition		Concrete carrying	
Concrete pouring		Transportation of materials (manually)		Transportation of materials (mechanically)	
Work on or adjacent to water		Work at height (+2.0 mts)		Scaffold preparation	
Scaffold dismantling		Piling works		Welding	
Grinding		Gas-cutting		Pipe fit-ups & fabrication	
Structural fabrications		Machine works		Hydro-testing works	
Electrical works		Erection activities		Other/specify	

**What exactly the victim was doing just before the incident / accident? .....**

.....

.....

**Nature of injury:**

Bruise or Contusion		Abrasion (superficial wound)		Sprains or strains	
Cut or Laceration		Puncture or Open wound		Burn	
Inhalation of toxic or Poisonous fumes or gases		Absorption		Amputation	
Fracture		Other/specify			

**Parts of body involved in incident / accident**

Head		Face		Eyes	
Throat		Arm (above wrist)		Hand (including wrist)	
Fingers		Trunk (Abdomen / Back / Chest / Shoulder)		Throat	
Leg (above ankle)		Foot (incl. ankle)		Toes	
Multiple				Other/specify	

**Accident type:**

Struck against		Struck by		Fall from Elevation	
Fall on same level		caught in		caught under	
caught in between		Rubbed or abraded		Contact with (Electricity)	
Contact with (Temp./ extremes)		Contact with chemicals or oils		Vehicle accident	
Other/specify					

**Medical Aid provided:-** (indicate specific aids / treatment etc.)-

.....  
 .....

-----  
 Action taken to prevent recurrence of similar incident / accident: .....

.....  
 .....  
 .....  
 .....  
 .....  
 .....

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**Intimation to local authorities** (Dist. Collector / Local Police Station / ESI authority): Yes / No / NA. If yes, to whom

.....

Safety Officer  
 Manager (Signature and Name)  
 Stamp of Contractor

Site Head / Resident Construction  
 (Signature and Name)

**SUPPLEMENTARY INCIDENT / ACCIDENT INVESTIGATION REPORT**  
**TICK THE APPROPRIATE ONE AS APPLICABLE (furnish within 72 hours)**

Supplementary to Incident / Accident Report No.:(Copy enclosed)

**Report No.:**\_\_\_\_\_ **Date:**\_\_\_\_\_

**Project site:**\_\_\_\_\_ **Name of work:** \_\_\_\_\_

**Contractor's name:**\_\_\_\_\_ **Contractor's Job Engineer (name)** \_\_\_\_\_

<b>Non-disabling injury (Non- LTA)</b>	Hospitalized but resumed duty before end of 48 hrs.	
<b>Disabling injury (other LTA)</b>	Hospitalized & failed to resume duty within next 48 hrs.	
<b>Fatal (LTA):</b>	Death / Expiry	
<b>First Aid case (non LTA)</b>	Resume duty after first aid	

**Name of the injured:**\_\_\_\_\_ **Father's name of victim:** \_\_\_\_\_ **Sub**

**Contractor's Name:** .....

**Gate Pass No.:** ..... **Age:**\_\_\_\_\_ **Yrs. Victim's medical fitness exam. (Pre-empl.) date:-** \_

**Date & time of Accident / Incident:** \_\_\_\_\_

**Names of Witnesses:** (1)\_\_\_\_\_ (2)\_\_\_\_\_ (3)\_\_\_\_\_

**Profession of victim:**

Bar bender		Carpenter		Meson	
Fitter		Helper		Gas cutter	
Grinder		Welder		Electrician	
Driver		Rigger		M/c. operator	
Engineer		Manager		Other/specify	

Qualification

No formal education		Non-Matriculate		Matriculate	
Graduate		Post- grad		Other/specify	

**Job Experience**

NIL		Less than 2 yrs.		2-5 yrs.	
5-10 yrs.		11-15 yrs.		15 years and above	

**Location where the incident happened:** \_\_\_\_\_

\_\_\_\_\_

**Activity / Works that were continuing during incident / accident: -**

Excavation		Demolition		Concrete carrying	
Concrete pouring		Transportation of materials (manually)		Transportation of materials (mechanically)	
Work on or adjacent to water		Work at height (+2.0 mts)		Scaffold preparation	
Scaffold dismantling		Piling works		Welding	
Grinding		Gas-cutting		Pipe fit-ups & fabrication	
Structural fabrications		Machine works		Hydro-testing works	
Electrical works		Erection activities		Other/specify	

**What exactly the victim was doing just before the incident / accident? .....**

.....  
 .....

Particular of tools & tackles being used and condition of the same after incident/accident:

.....

**Description of Incident/Accident (How the incident was caused) : .....**

.....  
 .....  
 .....

**Nature of injury:**

Bruise or Contusion		Abrasion (superficial wound)		Sprains or strains	
Cut or Laceration		Puncture or Open wound		Burn	
Inhalation of toxic or Poisonous fumes or gases		Absorption		Amputation	
Fracture		Other/specify			

**Parts of body involved in incident / accident**

Head		Face		Eyes	
Throat		Arm (above wrist)		Hand (including wrist)	
Fingers		Trunk (Abdomen / Back / Chest / Shoulder)		Throat	
Leg (above ankle)		Foot (incl. ankle)		Toes	
Multiple				Other/specify	

**Accident type**

Struck against		Struck by		Fall from Elevation	
Fall on same level		caught in		caught under	
caught in between		Rubbed or abraded		Contact with (Electricity)	
Contact with (Temp./ extremes)		Contact with chemicals or oils		Vehicle accident	
Other/specify					

Name & Designation of person who provided First-Aid to the victim: \_\_\_\_\_

Name & Telephone number of Hospital where the victim was treated \_\_\_\_\_

Mode of transport used for transporting victim – Ambulance / Private car / Tempo

/ Truck / Others How much time taken to shift the injured person to Hospital \_\_\_\_\_

In case of FATAL incident, indicate clearly the BOCW  
Registration No. of the  
victim/Company.....

...

Comments of Medical Practitioner, who treated / attended the victim/injured  
(attached / described here) \_\_\_\_\_

What actions are taken for investigation of the incident, please indicate clearly –  
(Video film / Photography / Measurements taken etc ..... )

**Immediate cause** (Please tick the right applicable) –

Hazardous methods or procedures inadequately guarded		Poor housekeeping		Inadequate or improper PPE	
------------------------------------------------------	--	-------------------	--	----------------------------	--

Environmental hazards (excess noise/ space constraint/ inadequate Ventilation		improper illumination/Moving on oval surface		Working on dangerous equipment	
-------------------------------------------------------------------------------	--	----------------------------------------------	--	--------------------------------	--

Failure to secure		Horse-play		Failure to use PPE	
Inattention to surroundings		Improper use of hands & body-parts		By-passing safety devices	
Unsafe mixing or placement of tools & tackles		Bypassing standard procedures		Failure in communication	
Operating without authority		Improper use of equipment or tools & tackles		drug or alcoholic influence	
excessive haste		Others(specify)			

#### Basic cause

Over confidence		Impulsiveness		over-exertion	
Faulty judgement or poor understanding		Failing to keep attention constantly		Nervousness & Fear	
Fatigue		Defective vision		Ill health or sickness	
Slow reaction		Others (specify)			

#### Root cause

Inadequate Engg		Improper Design		Inadequate Planning & organization	
Inadequate knowledge		Inadequate skill		Inadequate training	
Inadequate supervision		Improper work procedure		Inadequate compliance with standard	
Substandard performance		Inadequate maintenance		Improper inspection	
Others (specify)					

Loss of man days and impact on site works, (if any) –

---

Remarks from Contractor's Safety Officer/ Engineer –

Was the victim performing relevant tasks for which he was engaged /employed?	Yes / No
Was the Supervisor present on work-site during the incident?	Yes /No
Have the causes of incident rightly identified?	Yes / No
Cause of Accident was_____	

Remedial measures recommended by **Safety Officer of Contractor** for avoiding similar incident in future

: .....

.....

.....

.....

.....

.....

.....

**Intimation to local authorities** (Dist. Collector / Local Police Station / ESI authority): Yes / No / NA. If yes, to whom

.....

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Safety Officer  
Manager (Signature and Name)

Site Head / Resident Construction  
(Signature and Name)  
Stamp of Contractor



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**NEAR MISS INCIDENT/ DANGEROUS OCCURRENCE SUGGESTED PROFORMA**  
(to be submitted within 24 hours)

- Near Miss : **Human injury escaped & no damage to property, equipment or interruption to work.**
- **Dangerous Occurrence:** Damage to property, equipment or interruption of work, but not resulting in personal injury/ illness, e.g. Fire incident, collapse of structure, crane failure, etc.

Report No.: \_\_\_\_\_

Name of Site: \_\_\_\_\_

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

Name of work: \_\_\_\_\_

Contractor: \_\_\_\_\_

Incident reported by :

Date & Time of Incident :

Location :

Brief description of incident

Probable cause of incident

Suggested corrective action

Steps taken to avoid recurrence

Yes ☐

No ☐

Safety Officer  
Manager (Signature and Name)  
Stamp of Contractor

Site Head / Resident Construction  
(Signature and Name)

FORMAT NO. : HSE-5 REV:-0  
**MONTHLY HEALTH, SAFETY & ENVIRONMENTAL (HSE) REPORT**

(To be submitted by each Contractor)

Actual work start Date: \_\_\_\_\_ Project: \_\_\_\_\_ Name of the Contractor: \_\_\_\_\_ Name of Work : \_\_\_\_\_

For the Month of: \_\_\_\_\_ Report No: \_\_\_\_\_

Status as on : \_\_\_\_\_ Job No : \_\_\_\_\_

ITEM		UPTO PREVIOUS MONTH	THIS MONTH	CUMULATIVE
1) Average number of Staff & Workmen (average daily headcount, not man days)				
2) Total Man-hours worked				
3) Number of Induction programmes conducted				
4) Number of HSE meetings organized at site				
5) Number of HSE awareness programmes conducted at site				
6) Number of Tool Box Talks conducted				
7) Number of Lost Time Accidents (LTA)	Fatal			
	Other LTA			
8) Number of Loss Time Injuries (LTI)	Fatalities			
	Other LTI			
9) Number of Non-Loss Time Accidents				
10) Number of First Aid Cases				
11) Number of Near Miss Incidents				
12) No. of unsafe acts/ practices detected				
13) No. of disciplinary actions taken against staff/ workmen				
14) Man-days lost due to accidents				
15) LTA Free man-hours i.e. LTA free man-hours counted from the Last LTA (enter date: )				
16) Frequency Rate (No. of LTA per 2 lacs man-hours worked)				
17) Severity Rate (No. of man days lost per 2 lacs man-hours worked)				
18) Loss Time Injury Frequency (No. of LTI per 2 lacs man-hours worked)				
19) No. of activities for which HIRAC completed				
20) No. of incentives/ awards given				
21) No. of occasions on which penalty imposed by Owner				

22) No. of Audits conducted			
23) No. of pending NCs in above Audits			
24) Compensation cases raised with Insurance			
25) Compensation cases resolved and paid to workmen			
26) No of Vehicular Accident cases			
27) No of fire/Explosion cases			
28) Whether workmen compensation policy taken		Yes	No
29) Whether workmen compensation policy is valid		Yes	No
30) Whether workmen registered under ESI Act, as applicable		Yes	No
31) Whether HIRAC Register prepared and updated		Yes	No
32) Whether Environment Aspect Impact Register prepared and updated		Yes	No
33) Whether Legal Register prepared and updated		Yes	No
Remarks, if any			

Date: Prepared by Safety Officer  
(Signature and Name)

Approved by Site Head / Resident Construction Manager  
(Signature and Name)

**PERMIT FOR WORKING AT HEIGHTS (ABOVE 2.0 METER)**

Permit No. .... Name of Main Contractor .....

Name of work executing agency / sub agency / vendor: .....

Date ..... Exact Location of work .....

Nature of work ..... Duration of work (from) ..... (to) .....

Number of workers covered within this permit .....

(List enclosed with name & gate pass numbers.)

Sl.No.	Items / Subjects	Status of compliance (Yes / No)	
1	Work areas / Equipments inspected		
2	Work area cordoned off		
3	Adequate lighting is provided		
4	Precautions against public traffic taken		
5	Concerned persons in & around have been alerted & cautioned		
6	Hazards / risks involved in routine / non-routine task assessed and control measures have been implemented at specific task		
7	ELCB provided for electrical connection & found working		
8	Ladder safely attached / fixed		
9	Scaffoldings are checked and TAGs are found used correctly		
10	Working platforms are provided and are found sound / safe for use		
11	Safe access & egress arrangements (e.g. ladders, fall arresters, life-lines etc.) are satisfactorily incorporated		
12	a. Openings on platform / floors are effectively cordoned / covered		
	b. Safety Nets are provided wherever required		
13	Use of following safety gadgets by people working at area under this permit, is checked and found satisfactory - Safety helmet  Safety harness (full body) with double lanyard Safety Shoes Safety gloves Safety goggles		
14	Housekeeping of work area found satisfactorily tidy / clean & clear		
15	Adequate measures have been taken for works being continued at the ground level, when simultaneous works are permitted overhead at that very location.		
16	Materials are not thrown from heights on to ground		
17	Medical examination of workers are made & found satisfactory		
18	Responsible job engineer / supervisor found physically present at work spot for overall administration of work as well as safety of people.		

Above items have been checked & compliance has been found in place. Hence work is permitted to start / continue at the above-mentioned location. Work shall not start till identified lapses are rectified.

Additional Precautions, if any .....  
.....

Work Permit issued by	Verification By
Contractor Engineer/RCM	Contractor Safety Officer

AT THE END OF THE DAY/WORK:  
All works at height are completed & workmen have returned safely from work location at (time)..... (date) .....

(Sig. Contractor Engineer)

### CONFINED SPACE ENTRY PERMIT

Project site \_\_\_\_\_ Name of the work \_\_\_\_\_ Name \_\_\_\_\_ of  
 Contractor \_\_\_\_\_ Exact location of work \_\_\_\_\_ Sr. No. \_\_\_\_\_ Date \_\_\_\_\_  
 Nature of work \_\_\_\_\_

<b>Safety Requirements POSITIVE ISOLATION OF THE VESSEL IS MANDATORY</b>							
<b>(A) Has the equipment been ?</b>							
Y NR  <input type="checkbox"/> <input type="checkbox"/> Isolated from power/steam/air isolated from liquid or gases <input type="checkbox"/> <input type="checkbox"/> depressurized &/or drained <input type="checkbox"/> <input type="checkbox"/> blanked/ blinded/ disconnected	Y NR  <input type="checkbox"/> <input type="checkbox"/> water flushed &/or steamed <input type="checkbox"/> <input type="checkbox"/> Man ways open & ventilated <input type="checkbox"/> <input type="checkbox"/> cont. inert gas flow arranged <input type="checkbox"/> <input type="checkbox"/> adequately cooled	Y NR  <input type="checkbox"/> <input type="checkbox"/> radiation sources removed <input type="checkbox"/> <input type="checkbox"/> proper lighting provided <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					
<b>(B) Expected Residual Hazards</b>							
<input type="checkbox"/> <input type="checkbox"/> lack of O <sub>2</sub> <input type="checkbox"/> <input type="checkbox"/> corrosive chemicals <input type="checkbox"/> <input type="checkbox"/> heat/ steam / frost <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> combustible gas/ liquid <input type="checkbox"/> <input type="checkbox"/> pyrophoric iron / scales <input type="checkbox"/> <input type="checkbox"/> high humidity <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> H <sub>2</sub> S / toxic gases <input type="checkbox"/> <input type="checkbox"/> electricity / static <input type="checkbox"/> <input type="checkbox"/> ionizing radiation <input type="checkbox"/> <input type="checkbox"/>					
<b>(C) Protection Measures</b>							
<input type="checkbox"/> <input type="checkbox"/> gloves <input type="checkbox"/> <input type="checkbox"/> protective clothing <input type="checkbox"/> <input type="checkbox"/> grounded air duct/blower /AC <input type="checkbox"/> <input type="checkbox"/> Fire fighting arrangements <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> ear plug / muff <input type="checkbox"/> <input type="checkbox"/> dust / gas / air line mask attendant with SCBA/air mask <input type="checkbox"/> <input type="checkbox"/> safety harness & lifeline <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> goggles / face shield personal gas alarm rescue equipment/team communication equipment <input type="checkbox"/> <input type="checkbox"/>					
Authorization / Renewal (It is safe to enter the confined space)							
	No. of persons allowed	Name of persons allowed	Signature		Time		Signature
			Contractor's Supervisor	Contractor's Safety Officer	From	To	

<p><b>Permit Closure :</b></p> <p>(A) Entry      <input type="checkbox"/> was closed      <input type="checkbox"/> stopped      <input type="checkbox"/> will continue on ...</p> <p>(B) <input type="checkbox"/> Site left in a safe condition <input type="checkbox"/> Housekeeping done</p> <p>(C) Multilock <input type="checkbox"/> removed      <input type="checkbox"/> key transferred</p> <p><input type="checkbox"/> Ensured all men have come out <input type="checkbox"/> Man-ways</p> <p>barricadedRemarks, if any:</p>							

**DEMOLISHING/DISMANTLING WORK PERMIT**

Project : Sr. No. :  
 Name of the work : Date :  
 Name of contractor : Job No.:

Name of sub-contractor : No. of workers to be engaged:  
*(List enclosed with name & gate pass numbers.)*

Line No./ Equipment No./ Structure to be dismantled :

Location details of dismantling/ demolition with sketch : (clearly indicate the area)

**S. No.**

The following items have been checked & compliance shall be ensured during currency of the permit:

Item description	Done	Not Applicable
Services like power, gas supply, water, etc. disconnected	<input type="checkbox"/>	<input type="checkbox"/>
Dismantling/ Demolishing method reviewed &	<input type="checkbox"/>	<input type="checkbox"/>
approved Usage of appropriate PPEs ensured	<input type="checkbox"/>	<input type="checkbox"/>
Precautions taken for neighboring	<input type="checkbox"/>	<input type="checkbox"/>
structures First-Aid arrangements	<input type="checkbox"/>	<input type="checkbox"/>
made	<input type="checkbox"/>	<input type="checkbox"/>
Fire fighting arrangements ensured		
Precautions taken for blasting	<input type="checkbox"/>	<input type="checkbox"/>

(Contractor's Supervisor)

(Contractor's Safety Officer)

Permission is granted.

(Permit issuing authority-Client)

Name :  
 Date :

Completion report:

Dismantling/ Demolishing is completed on \_\_\_\_\_ Date at \_\_\_\_ Hrs.



Materials/ debris transported to identified location ☐

Tagging completed (as applicable) ☐

Services like power, gas supply, water, etc. ☐

restored (Permit issuing authority-Client)

CONTRACTOR's NAME

**HOUSEKEEPING ASSESSMENT& COMPLIANCE**

**(Sheet 1 of 2)**

Project : Sr. No. :  
 Name of the work : Date :  
 Name of contractor : Job No. :  
 Name of contractor : Fortnightly

Sl. No.	Subjects of Review	Satisfactory/ Yes	Non satisfactory/ No	Remarks	Action
1.	Cleanliness at the Main entry / access of site				
2.	Ground condition / floor areas free from water- logging / oil spillage				
3.	Ground & elevated floors free from rubbish / wastes / accumulated debris / scraps.				
4.	Manholes / openings are covered / fenced				
5.	Trenches are barricaded / walkways are in place				
6.	Drains are cleaned / not choked / not occupied by dumped materials				
7.	Sufficient CAUTION boards / instructions displayed				
8.	Construction machinery are maintained & parked in orderly manner.				
9.	Movement of site people are not obstructed because of dumping / storing of construction materials				
10.	Access / egress to Electrical Distribution Boards / Panels clear from wires / cables / earth-strips etc.				
11.	Electrical panel rooms / sheds / MCC / Control rooms / Substations etc. are clean & tidy and not used for storing dress / clothes, tiffin-box or bicycles.				
12.	Passage behind Elec. panels are free for access				

13.	Fire extinguishers / fire-buckets are accessible without any difficulty.				
14.	Stair-steps, platforms & landings are clear & tidy				
15.	Sheds / rooms & work areas have got sufficient illumination as well as ventilation				
16.	Cables / Wires / welding leads are routed / hanged appropriately & are not creating unsafe condition.				
17.	Stacking / storing of insulation materials or their packing.				
18.	Removal or cleanliness of left-over sand, concrete, brick-bats, insulation-materials, excess earth, wastes etc.				
19.	Storing / stacking of sand, metal chips, re-bars, steel pipes, valves, fittings etc.				
20.	One escape route at ground & minimum two escape routes at elevation available,				

(Sheet 2 of 2)

Sl. No.	Subjects of Review	Satisfactory/ Yes	Non satisfactory/ No	Remarks	Action
21.	Captions / Posters / Slogans on various safety instructions are displayed legibly in local language				
22.	Cable trenches are water-free or regular arrangement for taking out accumulated water exists.				
23.	Windows of rooms / offices are regularly cleaned				
24.	Facilities for cycle sheds, drinking water, washing, rest-rooms etc. are maintained in tidy manner.				
25.	Toilet, Urinals, Canteen / kitchen / pantry etc. are maintained & free from obnoxious smell.				
26.	Construction tools / tackles are stored systematically - the items are tagged / tested / certified by competent third party.				
27.	Sufficient numbers of Dust-bins / Waste-bins found at site and are regularly emptied.				

Additional remarks, if any -

.....  
 .....  
 .....

Inspected by  
Contractor Engineer

Verification By  
Contractor Safety Officer

### INSPECTION FOR SCAFFOLDING

Project : Sr. No. :  
 Name of the work : Date :  
 Name of contractor : Job No.:

(Sheet 1 of 2)

Sl. No	Description	Yes	No	N.A.	Action s taken
1	Whether work permit is obtained to take up work at height above 1.5 Mts?				
2	Whether atmospheric condition is "stormy" or "raining" and works at heights have been permitted?				
3	Whether steel pipes scaffoldings are used for units /off-site areas?				
4	Whether scaffolding has been erected on rigid/firm/leveled surfaces / ground? Whether "foot-seals" or "base-plates" are used beneath the up-rights (vertical steel pipes)				
5	Whether scaffold construction is as per IS specification with toe-board and hand-rails (top-rail as well as mid-rail)?				
6	Whether distance between two successive up-rights are less than 2.5 Mts (height of scaffold & load carrying capacity governs the distance between two uprights)				
7	Whether all uprights are extended at least 900 mm above the top most working platform (to enable fitting of handrails)?				
8	Whether vertical distance of two successive ledgers is satisfactory? ( <i>varying between 1.3 Mts. To 2.1 Mts</i> )				
9	Whether the peripheral areas of working at height are cordoned-off? (for avoiding accident to people arising out of dropped / deflected materials)				
10	Whether platform is provided? Is it safely approachable?				
11	Whether end of scaffold platform / board are extended beyond transoms? (125mm to 150 mm)				
12	Whether CE / IS approved quality and worthy conditioned full-body safety harness (with double lanyard & karabiners) are used while working at heights?				
13	Whether life-line of safety harness is anchored to an independent secured support capable of withstanding load of a falling person?				
14	Whether the area around the scaffold is cordoned off to prohibit the entry of unauthorized person / vehicle?				
15	Whether clamps used are of good condition, of adequate strength and free from defects?				
16	Whether ladder is placed at secured and leveled surface?				
17	Whether water-pass and oil-spills are avoided around the				

	scaffold structure?				
18	Whether ladder is extended 1.5mts. above the landing point at height?				
19	Whether more than one access/egress provided to the scaffold?				
20	Whether ladder used are of adequate length and overlapping of short ladders avoided?				
21	Whether metallic ladders are placed much away from near-by electrical transmission line?				
22	Whether rungs of ladder are inspected and found in good order?				
23	Whether fall-arresters provided on both the access/egress routes?				
24	Whether diagonal (cross) bracings are provided at regular interval on the scaffold?				
25	Whether working platform on the scaffold has been made free from "jolt" or "gap"?				
26	Whether tools or materials are removed after completion of the day's job at heights?				
27	Whether a valid Permit for Work (PFW) is obtained before taking up work over asbestos or fragile roof?				
28	Whether sufficient precaution is taken while working on fragile roof?				

(Sheet 2 of 2)

Sl. No	Description	Yes	No	N. A	Actions taken
29	Whether provision is made to arrange duck ladder, crawling board for working on fragile roof?				
30	Whether scaffold has been inspected by qualified civil engineers prior to their use?				
31	Whether the scaffolding has been designed for the load to be borne by the same?				
32	Whether the erection and dismantling of the scaffolding is being done by trained persons and under adequate supervision?				
33	Whether safety net with proper working arrangement and life-line has been provided?				
34	Whether TAGS (Green for acceptable and Red for incomplete/unsafe scaffolds) are used on scaffolds?				
35	Whether sufficient illumination is provided in and around the scaffold and access?				
36	Whether emergency rescue / response arrangements are made in place				

Inspected by  
Contractor Engineer

Verification By  
Contractor Safety Officer

(sheet 1 of 2)

**PERMIT FOR ERECTION / MODIFICATION & DISMANTLING OF SCAFFOLDING**

Project : Sr. No. :  
 Name of the work : Date :  
 Name of contractor : Job No.:  
 Nature of activities : Duration: From.....To.....

SL. No.	SUBJECTS / ITEMS	DONE	NOT DONE	REMARKS
1	Specific task of Erection / Modification / Dismantling of scaffolds, identified & TAGGED accordingly (before as well as after carrying-out jobs).			
2	People engaged in doing the job are identified & are certified by Job Engineer of Main Contractor as experienced / trained.			Names to be noted
3	Concerned persons are alerted by the Job Engineer of Main Contractor in connection with possible hazards & what the workmen MUST do / MUST not do.			
4	Verification by Job Engineer of Main Contractor made for confirming that all persons permitted to carry-out the jobs are making use of Helmet, Safety Shoes, Goggles, Gloves & Double lanyard safety harness and other relevant PPEs.			
5	Area of work is effectively cordoned-off / barricaded / illuminated.			
6	For taking-up / lowering down Scaffolding members / clamps / couplings etc. appropriate ropes / pulleys/ chains etc. have been arranged for use (not to throw any item) & the same have been verified as "fit for purpose".			
7	Items / members of scaffold, being lowered are removed from the area & stacked correctly.			
8	Ropes, chains, pulley blocks etc. being used for lifting or lowering scaffold items, are inspected by the Job Engineer & their certifications as well as physical conditions have been found O.K, before signing this PERMIT.			
9	Safety Net / Life-line / Fall Arresters etc. are arranged in position and Job Engineer has found working conditions favorable for activities to start.			
10	Scaffold erection or dismantling tasks are being supervised by Experienced Engineer / Competent person.			
11	Only competent & experienced people have been selected / engaged in Scaffolding erection, modification or dismantling tasks.			
12	Adequate & effective actions for traffic and movement of people around the cordoned-off area taken to avoid inadvertent incident			



1 3	Working platforms are protected with handrails & toe-boards.			
1 4	Access & Exit (for reach & escape) are safe for use by people.			
1 5	Tools, tackles to be used for above jobs are verified by job Engineers of Main contractor as genuinely good and tied-up at height (to prevent their fall).			
1 6	Site important Telephone Nos. are made known to everyone			
1 7	SOP (Safe Operating Procedure) for the specific task is made & followed too.			
1 8	Emergency vehicle has been arranged at work locations.			

- This permit for work shall be available at specific work location all the time.
- After completion of work, permit shall be returned to safety cell of main contractor, without fail.
- This Permit shall be issued maximum upto (Monday to Sunday).
- Additional Precautions, if any
- .....  
**ACCORD OF PERMISSION** (to be ticked) - **YES** (     ) / **NO** (     )

Inspected by  
Contractor Engineer

Verification By  
Contractor Safety Officer]

Everyday Site working conditions & performance of workmen shall be assessed / checked by Contractor Site Engr. and Safety Officer shall verify the same.

	Name / Sign.	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
Site Engr.								
Safety Off.								

**PERMIT FOR EXCAVATION**

(depth 2m and above)

Project :  
Name of the work :  
Name of contractor :  
Job Description :  
Size of excavation :

Sr. No. :  
Date :  
Job No.:  
Location:

(Sheet 1 of 2)

SL. NO.	Description of Item	COMPLIANCE STATUS			Remarks
		Yes	No	Not applicable	
1)	Suitable and sufficient risk assessments and method statements has been carried to ensure that the work shall be undertaken in accordance with specification and standard.				
2)	Are plans/details of underground services available and the same has been reviewed?				
3)	Has survey done to locate the services/obstacles etc.				
4)	Has the live services (electrical, water line, air line, telephone line, etc.) has been disabled for carrying out the job.				
5)	Is adequate barriers/fences to protect the excavation are in place?				
6)	Is Adequate warning signs are in place?				
7)	Is Assessment of ground conditions done and remedial action (if any) taken?				
8)	Safe access / egress (e.g. ramp / steps / ladders etc.) provided for site workmen & supervisors.				
9)	Is the excavation work being undertaken in proximity of structure, etc.? If Yes, its effect is considered?				
10)	Availability of competent person for supervising the excavation work?				
11)	Adequate safe arrangement to prevent collapse of edges (e.g. shoring / strutting / benching / sloping etc.) made at site.				
12)	Hard barricades (at least 1.0M away from edge & for excavation near site access roads) with warning signs/caution boards are provided				
13)	Accumulation / passage-ways of water at periphery of excavation / trench stopped/restricted.				
14)	Is the equipment being used for excavation has been checked for adequacy and is in good working condition				

	having all the safety features?				
15)	Age & fitness of workmen ensured by medical test before engagement in job ?				
16)	Arrangement of Monitoring of possible oxygen deficiency or obnoxious gases done & action taken?				

**PERMIT GRANTED -** Yes / No  
(List enclosed with name & gate pass numbers.)

Name & Signature of Site Engr.

Name & Signature of Area – In charge/RCM of

Contractor (Initiator)

Contractor (Issuing

authority) Verification by Contractor Safety Officer

**NOTES: -**

1. Slopes or benches for excavation beyond 2.0M depth shall be designed & approved by Contractor's site head.
2. Excavated earth to be kept at least 1.5M away from edges
3. Safety helmets, Safety shoes or gum-boots, gloves, goggles, Face shield, Safety Harness shall be essential PPEs.
4. Permit shall be made in **duplicate** and original shall be available at site of work.
5. Permit shall be issued for maximum **one week** only (Monday to Sunday)
6. After completion of works, permit shall be closed & preserved for record purpose

**GRANT OF PERMIT AND EXTENSIONS**

Sl. No.	Validity period From ___ To ___	Working Time From ___ To ___	Initiator (site Engr. of Main Contractor)	Issuing authority (Area In charge/RCM of Main Contractor)	Review by Owner (Remarks with date)
1.					
2.					
3.					
4.					
5.					
6.					
7.					

Additional safety instructions if any: - 1.

2.

3.

**Inspection of Tower Crane****Name of Contractor:****Project:****Name of Work:****Job No:****Vehicle Identification/Registration No:****Date:**

Sr. No.	Description	Observation	Remarks & Suggestions
1	Serial number plate & SWL marking		
2	Valid TPI Certificate		
3	Valid Insurance		
4	Safe access and egress are provided to the crane operator.		
5	Front glass of Operator cabin		
6	Operator crane cabin is provided with a locking mechanism so as to prevent unauthorised entry.		
7	A safety bar is fitted across the operator's cabin window where there is likelihood of the operator falling through it.		
8	Manufacturer Operating Manual and Maintenance Manual are made available.		
9	An updated Operation and Maintenance log book is available in the operator cabin.		
10	All mounting bolts are in good condition.		
11	Load chart provided		
12	SLI available		
13	Crane hooks have got smooth surface and no dent		
14	Hook-latch / Dog-clamp in hook is effective		
15	Over hoist limit switch		
16	Double body earthing of Tower Crane		
17	Jib angle indicator is provided (For Luffing Jib Tower Crane).		
18	Emergency stop button, which will terminate the operation of the crane engine, is installed in the operator cabin and correctly identified.		
19	Effective braking mechanisms for Hoisting, Derricking, Slewing, Trolley Travelling maintained:		
20	Trolley Travelling limiter to prevent over-travelling of trolley is		

	functional.		
21	Limit switches to prevent over-derricking and over-lowering of jib (For Luffing Jib Tower Crane) is functional.		
22	Slewing limiter to restrict slewing of crane is functional.		
23	Over load Limiter to prevent overloading of crane is functional.		
24	Load Moment Limiter to prevent over-turning moment is functional.		
25	Anti-collision devices are tested to stop the tower crane's operation such that the crane-to-crane interference must be maintained at not less than 3 m.		
26	Condition of boom		
27	Counter weight placement and pins		
28	Winches, pulleys and wire ropes are in good working condition.		
29	Colour coding		
30	Leakage in hydraulic cylinder		
31	Fire Extinguisher		
32	Tower crane is adequately grounded or protected against lightning.		
33	Wind anemometer is installed and is in good working condition.		
34	Aviation lamp is functional (Reqd. for 30mt and above)		
35	Pre Medical Check-up& Periodic Medical check-up (every 6 months) including vision test for Operator		
36	Safety Induction for Operator		
37	Others		

**Signature & Name of Operator:**

**Signature and name of Job Engineer**

**Signature & Name of Contractor's Safety Officer**

**FORMAT NO. : HSE-21 REV 0**

**Crane Inspection Checklist**

**Name of Contractor:**

**Project:**

**Name of Work:**

**Job No:**

**Vehicle Identification/Registration No:**

**Date:**

Sr. No.	Description	Observation	Remarks & Suggestions
1	Crane hooks have got smooth surface and no dent		
2	Hook-latch / Dog-clamp in hook is effective		
3	Over hoist limit switch		
4	Over Load Indicator		
5	Over Boom limit switch		
6	Boom angle indicator		
7	Colour coding		
8	Condition of boom		
9	Condition of wire rope		
10	Rope drum / sheaves are in good working condition		
11	Swing break & lock		
12	Swing Alarm		
13	Over hoist break & lock		
14	Boom break & lock (For Telescopic Boom)		
15	Leakage in hydraulic cylinder		
16	Condition of Outrigger (For Tyre Mounted Crane)		
17	Outrigger fully extended Marking (For Tyre Mounted Crane)		
18	Condition of Tyre (For Tyre Mounted Crane)		
19	Wheel chokes are present and are used whenever required (For Tyre mounted)		
20	Battery & lamps		
21	Moving & rotating parts guarded		
22	Load chart provided		



23	Reverse horn (For Tyre Mounted Crane)		
24	Body Condition of crane		
25	Front glass of Operator cabin		

26	Both side Mirror		
27	Number Plate (For Tyre Mounted Crane)		
28	Fire Extinguisher		
29	Horn		
30	Windshield and wipers		
31	Working of light & Indicator		
32	SLI		
33	Spark Arrestor( For Running Refinery/ Petrochemical/Chemical Plant)		
34	Foot-steps and hand-holds are in good working condition for exit /enter in to cabin		
35	TPI Certificate		
36	RC Document (For Tyre Mounted Crane)		
37	Fitness Certificate of Vehicle by authority		
38	Insurance		
39	PUC		
40	HMV License for Operator		
41	Pre Medical Check-up& Periodic Medical check- up (every 6 months) including vision test for Operator		
42	Safety Induction for Operator		
43	Others		

**Signature & Name of Operator:**

**Signature & Name of Contractor's Concern Engineer**

**Signature & Name of Contractor's  
Safety Officer**

**FORMAT NO. : HSE-22 REV 0**

**Hydra Crane Inspection Checklist**

**Name of Contractor:**

**Project:**

**Name of Work:**

**Job No:**

**Vehicle Identification/Registration No:**

**Date:**

<b>Sr. No.</b>	<b>Description</b>	<b>Observation</b>	<b>Remarks &amp; Suggestions</b>
1	Identification number of Hydra crane boldly scribed in front and rear end of machine		
2	Hydra Operator has got adequate document in support of his competency (i.e. HMV driving license, knowledge & training)		
3	Marking of SWL on hook position is clearly visible		
4	Test & examination of Hydra crane by statutory / competent authority is carried out & document is valid		
5	Colour Coding		
6	RC Document		
7	Fitness Certificate of Vehicle by authority		
8	Valid Insurance		
9	Valid PUC		
10	Pre Medical Check-up& Periodic Medical check-up(every 6 months) including vision test for Operator		
11	Safety Induction for Operator		
12	Crane hooks have got smooth surface and no dent		
13	Hook-latch / Dog-clamp in hook is effective		
14	Over hoist limit switch		
15	Over Load Indicator		
16	SLI		
17	Condition of boom		
18	Condition of wire rope		
19	Rope drum / sheaves are in good working condition		
20	Leakage in hydraulic cylinder		
21	Tyre condition		
22	Battery		

23	Moving & rotating parts guarded		
24	Break		
25	Parking Break		
26	Front horn		
27	Reverse horn		
28	Hydra cabin body and frame of machine is in good order		
29	Both side Mirror		
30	Fire Extinguisher		
31	Front glass pane of the Hydra operator's cabin is clean & clear (i.e. not cracked / damaged / broken)		
32	Windshield and wipers condition		
33	Working of front & back lights, turn Indicators, parking lights & fog lamps		
34	Spark Arrestor (For Running Refinery/ Petrochemical/ Chemical Plant)		
35	Wheel chokes are present and are used whenever required		
36	Foot-steps and hand-holds are in good working condition for exit /enter in to cabin		
37	Others		

**Signature & Name of Operator**

**Signature & Name of  
Contractor's Concern  
Engineer**

**Signature & Name of Contractor's Safety Officer**

**Hydraulic Rig Inspection Checklist**

**Name of Contractor:**

**Project:**

**Name of Work:**

**Job No:**

**Vehicle Identification/Registration No:**

**Date:**

Sr. No.	Description	Observation	Remarks & Suggestions
1	Control panel is clean & all buttons/switches are clearly visible (no paint over spray, etc.)		
2	All switch & mechanical guards are in good condition and properly installed		
3	All Safety Indicator lights work		
4	Drive controls function properly & accurately labelled (up, down, right, left, forward, back)		
5	Motion alarms are functional		
6	Safety decals are in place and readable		
7	Any defects such as cracked welds, fuel leaks, hydraulic leaks, damaged control cables or wire harness, etc.		
8	Braking devices are operating properly		
9	Winches, pulleys and wire ropes are in good working condition.		
10	Function of interlocks and limit switch		
11	The manufacturer's operations manual (in all languages of the operators)		
12	Oil level, Hydraulic Oil Level, Fuel Level, Coolant Level		
13	Battery Charge		
14	Outriggers in place or functioning. Associated alarms working		
15	Moving & rotating parts guarded		
16	Load chart provided		
17	Fire Extinguisher		
18	Spark Arrestor, if operated by using fuel ( For Running Refinery/ Petrochemical/ Chemical Plant)		

19	Serial number plate		
20	SLI		
21	TPI Certificate		
22	Colour Coding		
23	Insurance		
24	Pre Medical Check-up & Periodic Medical check-up (every 6 months) including vision test for Operator		
25	Safety Induction for Operator		
26	Others		

**Signature & Name of Operator:**

**Signature & Name of Contractor's Concern Engineer**

**Signature & Name of Contractor's Safety Officer**

**Boom Lift Inspection Checklist****Name of Contractor:****Project:****Name of Work:****Job No:****Vehicle Identification/Registration No:****Date:**

<b>Sr. No.</b>	<b>Description</b>	<b>Observation</b>	<b>Remarks &amp; Suggestions</b>
1	Operating and emergency controls are in proper working condition, EMO button or Emergency Stop Device		
2	Functional upper drive control interlock (i.e. foot pedal, spring lock, or two hand controls)		
3	Emergency Lowering function operates properly		
4	Lower operating controls successfully override the upper controls		
5	Both upper and lower controls are adequately protected from inadvertent operation.		
6	Control panel is clean & all buttons/switches are clearly visible (no paint over spray, etc.)		
7	All switch & mechanical guards are in good condition and properly installed		
8	All Safety Indicator lights work		
9	Drive controls function properly & accurately labelled (up, down, right, left, forward, back)		
10	Motion alarms are functional		
11	Safety decals are in place and readable		
12	Guardrails and anchor points are in place, and in good condition		
13	Work platform & extension slides are clean, dry, & clear of debris		
14	Work platform extension slides in and out freely with safety locking pins in place to lock setting on models with extension platforms.		
15	Any defects such as cracked welds, fuel leaks, hydraulic leaks, damaged control cables or wire harness, etc.		
16	Braking devices are operating properly		
17	The manufacturer's operations manual is stored on AWP (in all languages of the operators)		
18	Oil level, Hydraulic Oil Level, Fuel Level, Coolant Level		
19	Battery Charge		

20	Outriggers in place or functioning. Associated alarms working		
21	Tyres and wheels are in good condition, with adequate air pressure if pneumatic		
22	Wheel chokes are present and are used whenever required		
23	Moving & rotating parts guarded		
24	Load chart provided		
25	Fire Extinguisher		
26	Spark Arrestor, if operated by using fuel (For Running Refinery/ Petrochemical/ Chemical Plant)		
27	Serial number plate with Load capacity		
28	TPI Certificate		
29	Colour Coding		
30	Insurance		
31	Pre Medical Check-up& Periodic Medical check-up (every 6 months) including vision test for Operator		
32	Safety Induction for Operator		
33	Others		

**Signature & Name of Operator:**

**Signature & Name of Contractor's Concern Engineer**

**Annexure- IX**  
**(Special Conditions of Contract)**

**Additional Special Conditions of Contract**

- (i) The guidelines of NGT, Environment department and local administration issued from time to time will be strictly followed by contractor.
- (ii) The hours for execution of work will be restricted from 8.00 AM to 6.00 PM with a break from 1.00 PM to 2.00 PM
- (iii) The use of passenger lift will not be permitted for man and material transport. (If Any)
- (iv) Treatment of TMT Steel is mandatory at the starting of the Project.
- (v) Barricading construction area is also mandatory.
- (vi) The Contractor shall ensure that the work is got executed from the approved applicator using approved brands of Asian Paints or Berger Paints or Nerolac or Dulux as the case may be and provide manufacture's Test certificate and counter corporate guarantee from management for a period of 6 years.
- (vii) Subject to contractor's acceptance, In Case Unitech is unable to make payments to the contractor in lieu of the work done, Unitech may exercise the option of offering the unsold inventory of the project at current rates, discounted by 10%, on that particular day.

**(viii) Payment terms for MEP related works will be as under:**

**1. For items involving Erection only:-**

- (a) 90% on Erection of material at site & acceptance by Engineer -in -Charge.
- (b) 10% on testing, commissioning of the material and acceptance thereof by the Engineer- in - Charge.

**2. For items involving Supply & Erection:**

- (a) 60% on supply of material at site & acceptance by Engineer in Charge.
- (b) 30% on Erection of material at site and acceptance by Engineer in Charge.
- (c) 10% on testing, commissioning of the material and acceptance thereof by the



Engineer in Charge.

**Note: Clause 3.0 of GCC will be applicable on above.**

- (ix) Client reserves the right to increase/ decrease the Scope of Work, including addition/ deletion of number of floors/ towers/ buildings in the project resulting in increase/ reduction of value of Tender/ Contract, at any time after the acceptance of the tender or during the progress of work. The Engineer-in-charge shall inform the Contractor in writing to that effect without assigning any reasons and the Contractor shall be bound to act accordingly in the matter.

The Contractor shall have no claim of any compensation or otherwise, whatsoever, on account of any accrued profit, loss of profit or advantage which he might have derived from the execution of works in full as per original scope but which he did not derive as a consequence of the increase/ reduction of part of works.