Chapter-G2

ADDITIONAL CONSTRUCTION WORK SPLIT RESPONSIBILITIES

GENERAL

1.00.00

1.01.00 The following shall supplement the conditions already contained in the other parts of these specifications and documents and shall govern that portion of the work or this contract to be performed at site.

1.02.00 The Contractor upon signing of the contract shall, in addition to a Project Co-ordinator, nominate another responsible officer as his representative at site suitably designated for the purpose of overall responsibility and co-ordination of the works to be performed at site. Such person shall function from the site office of the Contractor during the pendency of contract.

REGULATION OF LOCAL AUTHORITIES AND STATUTES

2.00.00

2.01.00 The Contractor shall comply with all the rules and regulations of local authorities during the performance of his field activities. He shall also comply with the Minimum Wages Act, 1948 and the Payment of Wages Act (both of the Government of India) and the rules made thereunder in respect of any employee or workman employed or engaged by him or his sub-Contractor.

2.02.00 All registration and statutory inspection fees, if any, in respect of his work pursuant to this contract shall be to the account of the Contractor. However, any registration, statutory inspection fees lawfully payable under the provisions of the any statutory laws and its amendments from time to time during erection in respect of the plant equipment ultimately to be owned by the Employer, shall be to the account of the Employer. Should any such inspection or registration need to be re-arranged due to the fault of the Contractor or his Sub-contractor, the additional fees to such inspection and/or registration shall be borne by the Contractor.

EMPLOYER'S LIEN ON EQUIPMENT

3.00.00

3.01.00 The Employer shall have lien on all equipment including those of the Contractor brought to the site for the purpose of erection, testing and commissioning of the plant. The Employer shall continue to hold the lien on all such equipment throughout the period of contract. No material brought to the site shall be removed from the site by the Contractor and/or his Sub-contractors without the prior written approval of the Project Manager.

~~INSPECTION, TESTING AND INSPECTION CERTIFICATES~~

4.00.00

4.01.00 ~~The provisions of the clause entitled Inspection, Testing and Inspection Certificates under General Technical Requirements in Chapter-G1 shall also be applicable to the erection portion of the works. The Project Manager shall have the right to re-inspect any equipment though previously inspected and approved by him at the Contractor's works, before and after the same are erected at site. If by the above inspection, the Project Manager rejects any equipment, the Contractor shall make good for such rejections either by~~

~~replacement or modification/ repairs as may be necessary to the satisfaction of the Project Manager. Such replacements will also include the replacements or re-execution of such of those works of other Contractors and/or agencies, which might have got damaged or affected by the replacements or re-work done to the Contractor's work.~~

ACCESS TO SITE AND WORKS ON SITE

5.00.00

5.01.00 Suitable access to and possession of the Site shall be afforded to the Contractor by the Employer in reasonable time.

5.02.00 The works so far as it is carried out on the Employer's premises, shall be carried out at such time as the Employer may approve and the Employer shall give the Contractor reasonable facilities for carrying out the works.

5.03.00 In the execution of the works, no person other than the Contractor or his duly appointed representative, Sub-contractor and workmen, shall be allowed to do work on the site, except by the special permission, in writing of the Project Manager or his representative.

CONTRACTOR'S SITE OFFICE ESTABLISHMENT

6.00.00

6.01.00 The Contractor shall establish a site office at the site and keep posted an authorised representative for the purpose of the Contract. Any written order or instruction of the Project Manager or his duly authorised representative, shall be communicated to the said authorised resident representative of the Contractor and the same shall be deemed to have been communicated to the Contractor at his legal address.

DISCIPLINE OF WORKMEN

7.00.00

7.01.00 The Contractor shall adhere to the disciplinary procedure set by the Project Manager in respect of his employees and workmen at site. The Project Manager shall be at liberty to object to the presence of any representative of employee of the Contractor at the site, if in the opinion of the Project Manager such employee has mis-conducted himself or is incompetent or negligent or otherwise undesirable and then the Contractor shall remove such a person objected to and provide in his place a competent replacement.

CONTRACTOR'S FIELD OPERATION

8.00.00

8.01.00 The Contractor shall keep the Project Manager informed in advance regarding his field activity plans and schedules for carrying out each part of the works. Any review of such plan or schedule or method of work by the Project Manager shall not relieve the Contractor of any of responsibilities towards the field activities. Such reviews shall also not be considered as an assumption of any risk or liability by the Project Manager or the Employer or any of his representatives and no claim of the Contractor will be entertained because of the failure or inefficiency of any such plan or schedule or method of work reviewed. The Contractor shall be solely responsible for the safe ty, adequacy and efficiency of plant and equipment and his erection methods.

8.02.00 The Contractor shall have the complete responsibility for the conditions of the work-site including the safety of all person employed by him or his Sub-contractor and all the properties under his custody during the performance of the

work. This requirement shall apply continuously till the completion of the Contract and shall not be limited to normal working hours. The construction review by the Project Manager is not intended to include review of Contractor's safety measures in, or of near the work-site, and their adequacy or otherwise.

PHOTOGRAPHS AND PROGRESS REPORT

9.00.00

9.01.00 The Contractor shall furnish three (3) prints each to the Project Manager of progress photographs of the work done at site. Photographs shall be taken as and when indicated by the Project Manager or his representative. Photographs shall be adequate in size and number to indicate various stages of erection. Each photograph shall contain the date, the name of the Contractor and the title of the photograph.

9.02.00 The above photographs shall accompany the monthly progress report detailing out the progress achieved on all erection activities as compared to the schedules. The report shall also indicate the reasons for the variance between the scheduled and actual progress and the action proposed for corrective measures, wherever necessary.

MAN-POWER REPORT

10.00.00

10.01.00 The Contractor shall submit to the Project Manager, on the first day of every month, a man hour schedule for the month, detailing the man hours scheduled for the month, skill-wise and area-wise.

10.02.00 The Contractor shall also submit to the Project Manager on the first day of every month, a man power report of the previous month detailing the number of persons scheduled to have been employed and actually employed, skill-wise and the areas of employment of such labour.

PROTECTION OF WORK

11.00.00

11.01.00 The Contractor shall have total responsibility for protecting his works till it is finally taken over by the Project Manager. No claim will be entertained by the Employer or the Project Manager for any damage or loss to the Contractor's works and the Contractor shall be responsible for complete restoration of the damaged works to original conditions to comply with the specification and drawings. Should any such damage to the Contractor's Works occur because or other party not being under his supervision or control, the Contractor shall make his claim directly with the party concerned. If disagreement or conflict or dispute develops between the Contractor and the other party or parties concerned regarding the responsibility for damage to the Contractor's Works the same shall be resolved as per the provisions of the Clause 7.0 above entitled "Co-operation with other Contractors." The Contractor shall not cause any delay in the repair of such damaged Works because of any delay in the resolution of such disputes. The Contractor shall proceed to repair the Work immediately and no cause thereof will be assigned pending resolution of such disputes.

EMPLOYMENT OF LABOUR

12.00.00

12.01.00 The Contractor will be expected to employ on the work only his regular skilled employees with experience of his particular work. No female labour shall be employed after darkness. No person below the age of eighteen years shall be

	employed.
12.02.00	All travelling expenses including provisions of all necessary transport to and from site, lodging allowances and other payments to the Contractor's employees shall be the sole responsibility of the Contractor.
12.03.00	The hours of work on the Site shall be decided by the Employer and the Contractor shall adhere to it. Working hours will normally be eight (8) hours per day - Monday through Saturday.
12.04.00	Contractor's employees shall wear identification badges while on work at Site.
12.05.00	In case the Employer becomes liable to pay any wages or dues to the labour or any Government agency under any of the provisions of the Minimum Wages Act, Workmen Compensation Act, Contact Labour Regulation Abolition Act or any other law due to act of omission of the Contractor, the Employer may make such payments and shall recover the same from the Contractor's bills.
13.00.00	**FACILITIES TO BE PROVIDED BY THE CONTRACTOR**
13.01.00	Tools, tackles and scaffoldings The Contractor shall provide all the construction equipments, tools, tackles and scaffoldings required for pre-assembly, erection, testing and commissioning of the equipments covered under the contract. He shall submit a list of all such materials to the Project Manager before the commencement of pre-assembly at site. These tools and tackles shall not be removed from the site without the written permission of the Project Manager.
13.02.00	**First-aid** The Contractor shall provide necessary first-aid facilities for all his employees, representatives and workmen working at the site. Enough number of Contractor's personnel shall be trained in administering first-aid.
13.03.00	**Cleanliness**
13.03.01	The Contractor shall be responsible for keeping the entire area allotted to him clean and free from rubbish, debris etc. during the period of contract. The Contractor shall employ enough number of special personnel to thoroughly clean his work-area at least once in a day. All such rubbish and scrap material shall be stacked or disposed in a place to be identified by the Project Manager. Materials and stores shall be so arranged to permit easy cleaning of the area. In areas where equipment might drip oil and cause damage to the floor surface, a suitable protective cover of a flame resistant, oil proof sheet shall be provided to protect the floor from such damage.
13.03.02	Similarly the labour colony, the offices and the residential areas of the Contractor's employees and workmen shall be kept clean and neat to the entire satisfaction of the Project Manager. Proper sanitary arrangements shall be provided by the Contractor, in the work-areas, office and residential areas of the Contractor.
14.00.00	**LINES AND GRADES**

All the works shall be performed to the lines, grades and elevations indicated on the drawings. The Contractor shall be responsible to locate and lay-out the Works. Basic horizontal and vertical control points will be established and marked by the Project Manager at site at suitable points. These points shall be used as datum for the works under the contract. The Contractor shall inform the Project Manager well in advance of the times and places at which he wishes to do work in the area allotted to him so that suitable datum points may be established and checked by the Project Manager to enable the Contractor to proceed with his works. Any work done without being properly located may be removed and/or dismantled by the Project Manager at Contractor's expense.

FIRE PROTECTION

15.00.00

15.01.00 The work procedures that are to be used during the erection shall be those which minimise fire hazards to the extent practicable. Combustible materials, combustible waste and rubbish shall be collected and removed from the Site at least once each day. Fuels, oils and volatile or flammable materials shall be stored away from the construction and equipment and materials storage areas in safe containers. Untreated canvas, paper, plastic or other flammable flexible materials shall not at all be used at Site for any other purpose unless otherwise specified. If any such materials are received with the equipment at the site, the same shall be removed and replaced with acceptable material before moving into the construction or storage area.

15.02.00 Similarly corrugated paper fabricated cartons etc. will not be permitted in the construction area either for storage or for handling of materials. All such materials used shall be of water-proof and flame resistant type. All the other materials such as working drawings, plans, etc. which are combustible but are essential for the works to be executed shall be protected against combustion resulting from welding sparks, cutting flames and other similar fire sources.

15.03.00 All the Contractor's supervisory personnel and sufficient number of workers shall be trained for fire-fighting and shall be assigned specific fire protection duties. Enough of such trained personnel must be available at the site during the entire period of the contract.

15.04.00 The Contractor shall provide enough fire protection equipment of the types and number for the warehouses, office, temporary structures, labour colony area, etc. Access to such fire protection equipment, shall be easy and kept open at all time.

SECURITY

16.00.00

The Contractor shall have total responsibility for all equipment and materials in his custody stores, loose, semi-assembled and/or erected by him at site. The Contractor shall make suitable security arrangements including employment of security personnel to ensure the protection of all materials, equipment and works from theft, fire, pilferage and any other damages and loss. All materials of the Contractor shall enter and leave the project site only with the written permission of the Project Manager in the prescribed manner.

CONTRACTOR'S AREA LIMITS

17.00.00

The Project Manager will mark-out the boundary limits of access roads,

parking spaces, storage and construction areas for the Contractor and the Contractor shall not trespass the areas not so marked out for him. The Contractor shall be responsible to ensure that none of his personnel move out of the areas marked out for his operations. In case of such a need for the Contractor's personnel to work out of the areas marked out for him the same shall be done only with the written permission of the Project Manager.

CONTRACTOR'S CO-OPERATION WITH THE EMPLOYER

18.00.00 In case where the performance of the erection work by the Contractor affects the operation of the system facilities of the Employer, such erection work of the Contractor shall be scheduled to be performed only in the manner stipulated by the Project Manager and the same shall be acceptable at all times to the Contractor. The Project Manager may impose such restrictions on the facilities provided to the Contractor such as electricity, water, etc. as he may think fit in the interest of the Employer and the Contractor shall strictly adhere to such restrictions and co-operate with the Project Manager. It will be the responsibility of the Contractor to provide all necessary temporary instrumentation and other measuring devices required during start-up and operation of the equipment systems which are erected by him. ~~The Contractor shall also be responsible for flushing and initial filling of all the oil and lubricants required for the equipment furnished and erected by him~~, so ~~as to make such equipment ready for operation~~. ~~The Contractor shall be responsible for supplying such flushing oil and other lubricants unless otherwise specified elsewhere in documents and specifications.~~

PRE-COMMISSIONING TRIALS AND INITIAL OPERATIONS

19.00.00 The pre-commissioning trials and initial operations of the equipment furnished and erected by the Contractor shall be the responsibility of the Contractor ~~as detailed in relevant clauses in Technical Specification~~. The Contractor shall provide, in addition, test instruments, calibrating devices, etc. and labour required for successful performance of these trials. If it is anticipated that the above test may prolong for a long time, the Contractor's workmen required for the above test shall always be present at Site during such trials.

MATERIALS HANDLING AND STORAGE

20.00.00

20.01.00 All the equipment furnished under the Contract and arriving at site shall be promptly received, unloaded and transported and stored in the storage spaces by the Contractor.

20.02.00 Contractor shall be responsible for examining all the shipment and notify the Project Manager immediately of any damage, shortage, discrepancy etc. for the purpose of Project Manager's information only. The Contractor shall submit to the Project Manager every week a report detailing all the receipts during the week. However, the Contractor shall be solely responsible for any shortages or damage in ~~transit~~, handling and/or in storage and erection of the equipment at site. Any demurrage, wharfage and other such charges claimed by the transporters, railways etc. shall be to the account of the Contractor.

20.03.00 The Contractor shall maintain an accurate and exhaustive record detailing out the list of all equipment received by him for the purpose of erection and keep such record open for the inspection of the Project Manager.

20.04.00	All equipment shall be handled very carefully to prevent any damage or loss. No bare wire ropes, slings, etc. shall be used for unloading and/or handling of the equipment without the specific written permission of the Project Manager. The equipment stored shall be properly protected to prevent damage either to the equipment or to the floor where they are stored. The equipment from the store shall be moved to the actual location at the appropriate time so as to avoid damage of such equipment at site.
20.05.00	All electrical panels, controls gear, motors and such other devices shall be properly dried by heating before they are installed and energised. Motor bearings, slip rings, commutators and other exposed parts shall be protected against moisture ingress and corrosion during storage and periodically inspected. Heavy rotating parts in assembled conditions shall be periodically rotated to prevent corrosion due to prolonged storage.
20.06.00	All the electrical equipment such as motors, generators, etc. shall be tested for insulation resistance at least once in three months from the date of receipt till the date of commissioning and a record of such measured insulation values maintained by the Contractor. Such records shall be open for inspection by the Project Manager.
20.07.00	The Contractor shall ensure that all the packing materials and protection devices used for the various equipments during transit and storage are removed before the equipment are installed.
20.08.00	The consumables and other supplies likely to deteriorate due to storage must be thoroughly protected and stored in a suitable manner to prevent damage or deterioration in quality by storage.
20.09.00	All the materials stored in the open or dusty location must be covered with suitable weather-proof and flameproof covering material wherever applicable.
20.10.00	If the materials belonging to the Contractor are stored in areas other than those earmarked for him, the Project Manager will have the right to get it moved to the area earmarked for the Contractor at the Contractor's cost.
20.11.00	The Contractor shall be responsible for making suitable indoor storage facilities to store all equipment which require indoor storage. Normally, all the electrical equipments such as motors, control gear, generators, exciters and consumables like electrodes, lubricants etc. shall be stored in the closed storage space . The Project Manager, in addition, may direct the Contractor to move certain other materials, which in his opinion will require indoor storage, to indoor storage areas which the Contractor shall strictly comply with.
21.00.00	**CONSTRUCTION MANAGEMENT**
21.01.00	The field activities of the various contractors executing different contracts for the project, will be coordinated by the Project Manager and the Project Manager's decision shall be final in resolving any disputes or conflicts between the Contractor and other Contractors and tradesmen of the Employer regarding scheduling and co- ordination of work. Such decision by the Project Manager shall not be a cause for extra compensation or extension of time for the Contractor. The Project Manager shall hold weekly meetings of all the Contractors working

21.02.00 at Site, at a time and place to be designated by the Project Manager. The Contractor shall attend such meetings and take notes of discussions during the meeting and the decisions of the Project Manager and shall strictly adhere to those decisions in performing his Works. In addition to the above weekly meeting, the Project Manager may call for other meeting either with individual contractors or with selected number of contractors and in such a case the Contractor if called, will also attend such meetings.

21.03.00 Time is the essence of the Contract and the Contractor shall be responsible for performance of his works in accordance with the specified construction schedule. If at any time, the Contractor is falling behind the schedule, he shall take necessary action to make good for such delays by increasing his work force or by working overtime or otherwise accelerate the progress of the work to comply with the schedule and shall communicate such actions in writing to the Project Manager, satisfying that his action will compensate for the delay. The Contractor shall not be allowed any extra compensation for such action.

21.04.00 The Project Manager shall however not be responsible for provision of additional labour and/or materials or supply or any other services to the Contractor except for the co-ordination work between various Contractors as set out earlier.

22.00.00 **FIELD OFFICE RECORDS**

The Contractor shall maintain at his site office up-to-date copies of all drawings, specifications and other contract documents and any other supplementary data complete with all the latest revisions thereto. The Contractor shall also maintain the continuous record of all changes to the above contract documents, drawings, specifications, supplementary data, etc. effected at the field. On completion of his total assignment under the contract, the Contractor shall incorporate all such changes on the drawings and other project engineering data to indicate 'as installed' conditions of the equipment furnished and erected under the contract. Such drawings and project engineering data shall be submitted to the Project Manager in required number of copies.

23.00.00 **CONTRACTOR'S MATERIALS BROUGHT ON TO SITE**

23.01.00 The Contractor shall bring to site all equipment, components, parts, materials, including construction equipment, tools and tackles for the purpose of the works under intimation to the Project Manager. All such goods shall, from the time of their being brought vest in the Employer, but may be used for the purpose of the works only and shall not on any account be removed or taken away by the Contractor without the written permission of the Project Manager. The Contractor shall nevertheless be solely liable and responsible for any loss or destruction thereof and damage thereto.

23.02.00 The Employer shall have a lien on such goods for any sum or sums which may at any time be due or owing to him by the Contractor, under, in respect of or by reasons of the contract. After giving a fifteen (15) days notice in writing of his intention to do so, the Employer shall be at liberty to sell and dispose off any such goods, in such manner as he shall think fit including public auction or private treaty and to apply the proceeds in or towards the satisfaction of such sum or sums due as aforesaid.

23.03.00 After the completion of the works, the Contractor shall remove from the site under the direction of the Project Manager the materials such as construction equipment, erection tools and tackles, scaffolding etc. with the written permission of the Project Manager. If the Contractor fails to remove such materials, within fifteen (15) days of issue of a notice by the Project Manager to do so then the Project Manager shall have the liberty to dispose off such materials as detailed under clause 23.02.00 above and credit the proceeds thereto to the account of the Contractor.

24.00.00 **PROTECTION OF PROPERTY AND CONTRACTOR'S LIABILITY**

24.01.00 The Contractor shall be responsible for any damage resulting from his operations. He shall also be responsible for protection of all persons including members of public and employees of the Employer and the employees of other Contractors and Sub-Contractors and all public and private property including structures, building, other plants and equipments and utilities either above or below the ground.

24.02.00 The Contractor will ensure provision of necessary safety equipment such as barriers, sign-boards, warning lights and alarms, etc. to provide adequate protection to persons and property. The Contractor shall be responsible to give reasonable notice to the Project Manager and the Employers of public or private property and utilities when such property and utilities are likely to get damaged or injured during the performance or his Works and shall make all necessary arrangements with such Employers, related to removal and/or replacement or protection of such property and utilities.

25.00.00 **PAINTING**

All exposed metal parts of the equipment including pipings, structures railings etc. wherever applicable, after installation unless otherwise surface protected, shall be first painted with at least one coat of suitable primer which matches the shop primer paint used, after throughly cleaning all such parts of all dirt, rust, scales, greases, oils and other foreign materials by wire brushing, scraping or sand blasting and the same being inspected and approved by the Project Manager for painting . Afterwards, the above parts shall be finished painted with two coats of allowed resin machinery enamel paints. The quality of the finish paint shall be as per the standards of ISI or equivalent and to be of the colour as approved by the Project Manager.

26.00.00 **INSURANCE**

In addition to the conditions covered under the Clause entitled "Insurance" in Section GCC, Conditions of Contract, the following provisions will also apply to the portion of work to be done beyond the Contractor's own or his subcontractor's manufacturing works.

26.01.00 **Workmen's Compensation Insurance**

This insurance shall protect the Contractor against all claims applicable under the workmen's Compensation Act, 1948 (Government of India). This policy shall also cover the Contractor against claims for injury, disability disease or death of his or his Sub-Contractor's employees, which for any reason are not covered under the Workmen's Compensation Act 1948. The liabilities shall not

be less than:

Workmen's Compensation	As per Statutory Provisions
Employee's liability	As per Statutory Provisions

Comprehensive Automobile Insurance

26.02.00 This insurance shall be in such a form to project the Contractor against all claims for injuries, disability, disease and death to members of public including the Employer's men and damage to the property of other arising from the use of motor vehicles during on or off the Site operations, irrespective of the Employership of such vehicles the liability covered shall be as herein indicated

Fatal Injury	:	Rs. 100,000/- each person
	:	Rs. 200,000/- each occurrence
Property Damage	:	Rs. 100,000/- each occurrence

Comprehensive General Liability Insurance

26.03.00

26.03.01 The insurance shall protect the Contractor against all claims arising from injuries, disabilities, disease or death of members of public or damage to property of others, due to any act or omission on the part of the Contractor, his agents, his employees, his representatives and Sub-Contractor, his agents, his employees, his representatives and Sub-Contractors or from riots, strikes and civil commotion. This insurance shall also cover all the liabilities of the Contractor arising out of the Clause entitled "Defence of Suits" in Section GCC, Conditions of Contract.

26.03.02 The hazards to be covered will pertain to all the works and areas where the Contractor, his sub-contractors , his agents and his employees have to perform work pursuant to the Contract.

26.03.03 The above are only illustrative list of Insurance covers normally required and it will be the responsibility of the Contractor to maintain all necessary insurance coverage to the extent both in time and amount to take care of all his liabilities either direct or indirect, in pursuance of the Contract.

UNFAVOURABLE WORKING CONDITIONS

27.00.00 The Contractor shall confine all his field operations to those works which can be performed without subjecting the equipment and materials to adverse effects during inclement weather conditions, like monsoon, storms, etc. and during other unfavourable construction conditions. No field activities shall be performed by the Contractor under conditions which might adversely affect the quality and efficiency thereof, unless special precautions or measures are taken by the Contractor in a proper and satisfactory manner in the performance of such Works and with the concurrence of the Project Manager. Such unfavourable construction conditions will in no way relieve the Contractor of his responsibility to perform the Works as per the schedule.

PROTECTION OF MONUMENTS AND REFERENCE POINTS

28.00.00 The Contractor shall ensure that any finds such as relic, antiquity, coins,

fossils, etc. which he may come across during the course of performance of his works either during excavation or elsewhere, are properly protected and handed over to the Project Manager. Similarly the Contractor shall ensure that the bench marks, reference points, etc., which are marked either with the help of Project Manager or by the Project Manager shall not be disturbed in any way during the performance of his works. If, any work is to be performed which disturb such reference, the same shall be done only after these are transferred to other suitable locations under the direction of the Project Manager. The Contractor shall provide all necessary materials and assistance for such relocation of reference points etc.

WORK & SAFETY REGULATIONS

29.00.00

As per annexure – I

FOREIGN PERSONNEL

30.00.00

30.01.00 The Contractor shall submit to the Employer data on all personnel he proposes to bring into India for the performance of the Works under the Contract, at least sixty (60) days prior to their departure to India. Such data will include for each person the name, his present address, his assignment and responsibility in connection with the works, and a short resume of his qualification, experience, etc. in relation to the work to be performed by him.

30.02.00 Any person unsuitable and unacceptable to the Employer shall not be brought to India. Any person brought to India, if found unsuitable or unacceptable by the Employer, the Contractor shall within a reasonable time make alternate arrangements for providing a suitable replacement and repatriation of such unsuitable personnel.

30.03.00 No person brought to India for the purposes of the works shall be repatriated without the consent of the Employer in writing, based on a written request from the Contractor for such repatriation giving reasons for such an action to the Project Manager. The Employer may give permission for such repatriation provided he is satisfied that the progress of work will not suffer due to such repatriation.

30.04.00 The cost of passports, visas and all other travel expenses to and from India, incurred by
the Contractor shall be to his account. The Employer will not provide any residential accommodation and/or furniture for any of the Contractor's personnel including foreign personnel and Contractor shall make his own arrangements for such facilities in the area allotted at Site, to him by the Employer for that purpose.

30.05.00 The Contractor and his expatriate personnel shall respect all Indian Acts, Laws, rules and regulations and shall not in any way interfere with Indian political and religious affairs and shall conform to any other rules and regulations which the Government of India, the Employer and the Project Manager may establish from time to time, on them. The Contractor's expatriate personnel shall work and live in close co-operation and coordination with their co-workers and the community and shall not engage themselves in any other employement neither part-time or full-time nor shall they take part in any local politics.

30.06.00 The Employer shall assist the Contractor, to the extent possible, in obtaining necessary permits to travel to India and back, by issue of necessary certificates and other information needed by the Government agencies.

31.00.00 **CODE REQUIREMENTS**

The erection requirements and procedures to be followed during the installation of the equipment shall be in accordance with the relevant Indian Boiler Regulations, ASME codes and accepted good project manageering practice, the Project Manager's drawings and other applicable Indian recognised codes and laws and regulations of the Government of India.

32.00.00 **FOUNDATION DRESSING & GROUTING**

32.01.00 The surfaces of foundations shall be dressed to bring the top surface of the foundations to the required level, prior to erection of equipment/equipment bases.

32.02.00 All the equipment bases and structural steel base plates, shall be grouted and finished as per these specifications unless otherwise recommended by the equipment manufacturer.

32.03.00 The concrete foundation surfaces shall be properly prepared by chipping, grinding as required to bring the type of such foundation to the required level, to provide the necessary roughness for bondage and to assure enough bearing strength. All laitance and surface film shall be removed and cleaned.

32.04.00 **Grouting Mix**

The Grouting mixture shall be composed of portland cement, sand and water. The portland cement to be used shall conform to ISI No. 269 or equivalent sand shall conform to ISI No. 383/2386 or equivalent. The grout proportions for flat bases where the grouting space does not exceed 35 mm shall be 50 kg bag of cement to 75 kg of sand. Only the required quantity of water shall be added so as to make the mix quaky and flowable and the mix shall not show excess water on top when it is being puddled in place. For thicker grout beds upto 65 mm, the amount of sand shall be increased to 105 Kg per bag of cement. Bases which are hollow and are to be filled full of grouting shall be filled to a level of 25 mm above the outside rim with a mortar mix in the volumetric proportions of one part of cement and 1.5 part sand and 1.5 part 6 mm granite gravel. An acceptable plasticiser may be added to the grout mixes in a proportion recommended by the plasticisers manufacturer. All such grouts shall be throughly, mixed for not less than five minutes in an approved mechanical mixer and shall be used immediately after mixing.

32.05.00 **Placing of Grout**

32.05.01 After the base has been prepared, its alignment and level has been checked/approved and before actually placing the grout, a low dam shall be set around the base at a distance that will permit pouring and manipulation of the grout. The height of such dam shall be at least 25mm above the bottom of the base. Suitable size and number of chains shall be introduced under the base before placing the grout, so that such chains can be moved back and forth to push the grout into every part of the space under the base.

32.05.02 The grout shall be poured either through grout holes it provided or shall be poured at one side or at two adjacent sides giving it a pressure head to make the grout move in a solid mass under the base and out in the opposite side. Pouring shall be continued until the entire space below the base is thoroughly filled and the grout stands at least 25 mm higher all around than the bottom of the base. Enough care should be taken to avoid any air or water pockets beneath the bases.

32.06.00 **Finishing of the Edges of the Grout**

The poured grout should be allowed to stand undisturbed until it is well set. Immediately thereafter, the dam shall be removed and grout which extends beyond the edges of the structural or equipment base plates shall be cut off, flushed and removed. The edges of the grout shall then be pointed and finished with 1:2 cement mortar pressed firmly to bond with the body of the grout and smoothed with a tool to present a smooth vertical surface. The work shall be done in a clean and scientific manner and the adjacent floor spaces, exposed edges of the foundations, and structural steel and equipment base plates shall be thoroughly cleaned of any spillage of the grout.

32.07.00 **Checking of Equipment After Grouting**

~~After the grout is set and cured,~~ the Contractor shall check and verify the alignment of equipments, alignment of shafts of rotating machinery, the slopes of all bearing pedestals, ~~centering of rotors with respect to their sealing bores, couplings~~, etc. as applicable and the like items to ensure that no displacement had taken place during grouting. The values recorded prior to grouting shall be used during such post grouting check- up and verifications. Such pre and post grout records of alignment details shall be maintained by the Contractor in a manner acceptable to the Project Manager.

33.00.00 **SHAFT ALIGNMENTS**

All the shafts of rotating equipment shall be properly aligned to those of the matching equipments to as perfect an accuracy as practicable. The equipment shall be free from excessive vibration so as to avoid overheating of bearings or other conditions which may tend to shorten the life of the equipment. All bearings, shafts and other rotating parts shall be thoroughly cleaned and suitably lubricated before starting.

34.00.00 **DOWELLING**

All the motors and other equipment shall be suitable dowelled after alignment of shafts with tapered machined dowels as per the direction of the Project Manager.

35.00.00 **CHECK OUT OF CONTROL SYSTEMS**

After completion of wiring,cabling furnished under separate specification and laid and terminated by the Employer, the Contractor shall check out the operation of all control systems for the equipment furnished and installed under these specifications and documents.

36.00.00 **COMMISSIONING SPARES**

It will be the responsibility of the Contractor to provide all commissioning

36.01.00 ~~spares including consumable spares like indicating lights/lamps, diodes, fuses recorder charts,ink pads/pens etc. required for initial operation till the equipment is declared by the Employer as having satisfactorily completed the Trial Operation. The Contractor shall have full responsibilities to supply all commissioning spares so that initial operation do not suffer for want of commissioning spares. All commissioning spares shall be deemed to be included in the scope of the Contract and the cost of the same shall be included in the bid price.~~

~~These spare will be received and stored by the Contractor atleast 3 months prior to the schedule date of commencement of trial operation of the respective equipment and utilised as and when required.~~

CABLING

37.00.00

37.01.00 All cables shall be supported by conduits or cable tray run in air or in cable channels. These shall be installed in exposed runs parallel or perpendicular to dominant surfaces with right angle turn made of symmertical bends for fittings. When cables are run on cable trays, they shall be clamped at a minimum intervals of 2000mm or otherwise as directed by the Project Manager.

37.02.00 Each cable, whether power or control, shall be porvided with a metallic or plastic tag of an approved type, bearing a cable reference number indicated in the cable and conduit list (prepared by the Contractor), at every 5 meter run or part thereof and at both ends of the cable adjacent to the terminations. Cable routing is to be done in such a way that cables are accessible for any maintenance and for easy identification.

37.03.00 Sharp bending and kinking of cables shall be avoided. The minimum radii for PVC insulted cables 1100 V grade shall be 15 D where D is the overall diameter of the cable. Installation of other cables like high voltage, coaxial, screened, compensating, mineral insulated shall be in accordance with the cable manufacturer's recommendations. Wherever cables cross roads and water, oil, sewage or gaslines, special care should be taken for the protection of the cables in designing the cable channels.

37.04.00 In each cable run some extra length shall be kept at a suitable point to enable one or two straight through joints to be made, should the cable develop fault at a later date.

37.05.00 Control cable terminations shall be made in accordance with wiring diagrams, using identifying codes subject to Project Manager's approval. Multicore control cable jackets shall be removed as required to train and terminate the conductors. The cable jacket shall be left on the cable, as far as possible, to the point of the first conductor branch. The insulated conductors from which the jacket is removed shall be neatly twined in bundles and terminated. The bundles shall be firmly but not tightly tied utilising plastic or nylon ties or specifically treated fungus protected cord made for this purpose. Control cable conductor insulation shall be securely and evenly out.

37.06.00 The connectors for control cables shall be covered with a transparent insulating sleeve so as to prevent accidental contact with ground or adjacent terminals and shall preferably terminate in Elmex terminals and washers. The insulating sleeve shall be fire resistant and shall be long enough to over pass

	the conductor insulation. All control cables shall be fanned out and connection made to terminal blocks and test equipment for proper operation before cables are corded together.

ANNEXURE-I

CORPORATE SAFETY DEPARTMENT

SAFETY CLAUSES IN GENERAL CONDITIONS OF CONTRACT

I. General	
i)	The contractor shall comply with all the requirements of "*The Building and Other Construction Workers (Regulation of Employment & Conditions of Service) Act*," 1996 and its Central Rule 1998 / State Rules and any other statutory requirements as applicable.
ii)	The Contractor shall follow NTPC Safety Rules as issued from time to time with respect to safety in construction & erection.
iii)	The contractor shall have the approved Safety, *Health and Environment (SHE)* Policy in respect of Safety and health of Building Workers and it shall be circulated widely and displayed at conspicuous place in Hindi and local language understood by the majority of the workers. A copy of the safety policy should be submitted to Engineer in charge.
iv)	The contractor shall submit the safety plan comprising of methods to implement the Safety Policy/ Rules, Risk assessment and ensuring Safety at work areas, Safety audits, inspections and its compliance, Supervision and responsibility to ensure Safety at various levels, Safety training to employees, review of Safety and accident analysis, ensure Health and Safety Procedures to prevent accidents to Engineer I/c for approval as per the format of Safety plan as annexed at Appendix – I.
v)	The Contractors shall ensure proper safety of all the workmen, materials, plant and equipment belonging to him or to the Employer or to others, working at the Site.
vi)	All equipments used in construction and erection by the contractor shall meet BIS / International Standards and where such standards do not exist, the Contractor shall ensure these to be absolutely safe. All equipments shall be strictly operated and maintained by the contractor in accordance with manufacturer's operation manual. The contractor should also follow Guidelines / Rules of the Employer in this regard.
vii)	The Contractors shall provide suitable latest Personal Protective Equipments of prescribed standard to all their employees and workmen according to the need. The Engineer I/c shall have the right to examine these safety equipments to determine their suitability, reliability, acceptability and adaptability. The contractor should also ensure these before their use at worksite.
viii)	The Contractor shall provide safe working conditions to all workmen and employees at his workplace including safe means of access, railings, stairs, and ladders, scaffolding, work platforms, toe boards etc. The scaffoldings shall be erected under the control and supervision of an experienced and competent person. For erection of scaffolds, access, work platforms etc. shall be good and the contractor shall use standard quality of material.
ix)	The Contractor shall follow and comply with all the Safety Rules, standards, code of practices of NTPC and relevant provisions of applicable laws pertaining to the safety of workmen, employees, plant and equipment as may be prescribed from time to time without any protest or contest or reservation. In case of any unconformity between statutory requirement and the Safety Rules of the Employer referred above, the latter shall be binding on the Contractor unless the statutory provisions are more stringent. As and when required he can refer / obtain copy of NTPC safety documents as stated above.

x)	The contractor shall have his own arrangements with nearby hospitals for shifting and treatment of sick and injured. The *medical examination of the workers* employed in hazardous areas shall be conducted as per Rule 223 0f The Building and Other Construction Worker (Regulation of Employment and Condition of Service) Central Rule 1998 Their health records shall be maintained accordingly and to be submitted to Engineer I/c when asked for. If any worker found suffering from occupational health hazard, the worker should be shifted to suitable place of working and properly treated under intimation to Engineer I/c. The medical fitness certificate to be submitted to Engineer (I/c).
xi)	*First Aid boxes* equipped with requisite articles as specified in the Rule 231 of The Building and Other Construction Worker (Regulation of Employment and Condition of Service) Central Rule 1998 shall be provided at construction sites for the use of workers. Training has to be provided on first aid to workmen & office bearers working at site.
	a. **Emergency Action Plan**
	The contractor shall prepare an emergency action plan approved by his competent authority to handle any emergency occurred during construction work. Regular mock drills shall be organized to practice this emergency plan. The Emergency Action Plan should be widely circulated to all the employees and suitable infrastructure shall be provided to handle the emergencies.
	b. **Scaffolding**
	The contractor shall take all precautions to prevent any accidental collapse of scaffolding or fall of persons from scaffolding. The contractor should ensure that scaffolding are designed by a competent person and it erection and repairs should be done under the expert supervision. The scaffolding shall meet the required strength and other requirements for the purpose for which the scaffold is erected. The material used for scaffold should conform to the BIS / International standards.
	c. **Opening**
	The contractor shall ensure that there is no opening in any working platform/any floor of the building, which may cause fall of workers or material. When ever an opening on a platform/any floor of the building is unavoidable, the opening should be suitably fenced and necessary measures for protection against falling objects or building workers from such platform are taken by providing suitable safety nets, safety belts or other similar means.
	d. **Explosives**
	The contractor shall take all precautions while handling, using, storing or transporting of all explosives. Before usage of any explosive necessary warning / danger signals be erected at conspicuous places to warn the workers and general public. The contractor should strictly ensure that all measures and precautions required to be complied for use, handling, storing or transportation of explosives under the rules framed under the Explosives Act, 1884.

II. Coffer Dam and Caissons

The contractor shall ensure that the cofferdam and caissons are of good construction and adequate strength. The cofferdam and caissons should be provided with adequate means for workers to reach safely at the top of such dams in the event of an in rush of water. The workers should be allowed to work in a cofferdam or caisson only after inspection and found safe by engineer (I/c). Such inspection report is to be maintained in a Register.

Where the workers are employed to work in a compressed air environment at the work site of coffer dam or caissons, a construction Medical Officer assisted by a Nurse or trained first aid attendant should be available at all the times during such work.

III. Fencing of Machinery

The contractor shall provide suitable fencing or guard to all dangerous and moving parts of machinery.

The contractor shall not allow any of the employees to clean, lubricate, repair, adjust or examine during machinery in motion, which may cause injury to the person.

IV. Carrying of Excessive Weight by a Worker

The worker shall not be allowed to lift by hand or carry over his head, back or shoulder more than the maximum limit set by the prescribed rules for the construction Workers.

V. Dangerous and Harmful Gases / Equipment

The contractor shall ensure that the workers are not exposed to any harmful gases during any construction activity including excavation, tunneling, confined spaces etc.

The contractor should not allow any worker to go into the confined space unless it is certified by Engineer (I/c) to be safe and fit for the entry to such work place. Proper record and work permits should be followed to carry out such works.

VI. Overhead Protection

The contractor shall ensure that any area exposed to risk of falling materials, articles or objects is roped off or cordoned off or otherwise suitably guarded from inadvertent entry of any person.

Wherever there is a possibility of falling of any material, equipment or construction workers while working at heights, a suitable and adequate safety net should be provided. The safety net should be in accordance with BIS Standards.

VII. Working at Heights

All working platforms, ways and other places of construction work shall be free from accumulations of debris or any other material causing obstructions and tripping.

Wherever workers are exposed to the hazard of falling into water, the contractor shall provide adequate equipment for saving the employees from drowning and rescuing from such hazards. The contractor shall provide boat or launch equipped with sufficient number of life buoys, life jackets etc. manned with trained personnel at the site of such work.

Every opening at elevation from ground level through which a building worker, vehicle, material equipment etc. may fall at a construction work shall be covered and/or guarded suitably by the contractor to prevent such falls.

Wherever the workers are exposed to the hazards of falling from height, the contractor shall provide full harness safety belts fitted with fall arresting systems to all the employees working at higher elevations and life line of 8 mm diameter wire rope with turn buckles for anchoring the safety belts while working or moving at higher elevations. Safety nets shall also be provided for saving them from fall from heights and such equipment should be in accordance with BIS standards.

Wherever there is a possibility of falling of any material, equipment or construction workers while working at heights, a suitable and adequate safety net should be provided. The safety net should be in accordance with BIS Standards.

The contractor shall provide standard prefabricated ladders on the columns where the workers are required to use them as an access for higher elevations till permanent staircase is provided. The workers shall be provided with safety belts fitted with suitable fall arresting system (Fall arrestors) for climbing/getting down through ladders to prevent fall from height.

VIII. Handling of Hazardous Chemicals

The Contractor will notify well in advance to the Engineer I/c of his intention to bring to the Site any container filled with liquid or gaseous fuel or explosive or petroleum substance or such chemicals which may involve hazards. NTPC shall have the right to prescribe the conditions, under which such container is to be stored, handled and used during the performance of the works and the Contract shall strictly adhere to and comply with such instructions. The Engineer I/c shall have the right at his sole discretion to inspect any such container or such construction plant / equipment for which material in the container is required to be used and if in his opinion, its use is not safe, he may forbid its use. No claim due to such prohibition shall be entertained by NTPC and NTPC shall not entertain any claim of the Contractor towards additional safety provisions / conditions to be provided for / constructed.

Further, any such decision of the Engineer I/c shall not, in any way, absolve the Contractor of his responsibilities and in case, use of such a container or entry thereof into the Site area is forbidden by NTPC, the Contractor shall use alternative methods with the approval of the NTPC without any cost implication to the NTPC or extension of work schedule.

Where it is necessary to provide and / or store petroleum products or petroleum mixtures and explosives, the Contractor shall be responsible for carrying-out such provision and / or storage in accordance with the rules and regulations laid down in Petroleum Act 1934, Explosives Act 1948, and Petroleum and Carbide of Calcium Manual published by the Chief Inspector of Explosives of India. All such storage shall have prior approval of the Engineer I/c. In case any approvals are necessary from the Chief Inspector (Explosives) or any statutory authorities, the Contractor shall be responsible for obtaining the same.

The Contractor shall be fully responsible for the safe storage of his and his Sub-contractor's radioactive sources in accordance with BARC/DAE (Bhabha Atomic Research Centre/ Department of Atomic Energy, Govt. of India) Rules and other applicable provisions. All precautionary measures stipulated by BARC/DAE in connection with use, the contractor would take storage and handling of such material.

The contractor shall provide suitable personal protective equipments to the workers who are handling the hazardous and corrosive substances including alkalis and acids.

As a precautionary measure the contractor should keep the bottles filled with distilled water in cupboard / Boxes near work place for emergency eye wash by worker exposed to such hazardous chemicals.

IX. Eye Protection

The contractor shall provide suitable personal protective equipment to his workmen depending upon the nature of hazards and ensure their usage by the workers engaged in operations like welding, cutting, chipping, grinding or similar operations which may cause injuries to his eyes.

X. Excavation

The contractor shall take all necessary measures during excavation to prevent the hazards of falling or sliding material or article from any bank or side of such excavation which is more than one and a half meter above his footing by providing adequate piling, shoring, bracing etc. against such bank or sides.

Adequate and suitable warning signs shall be put up at conspicuous places at the excavation work to prevent any persons or vehicles falling into the excavation trench. No worker should be allowed to work where he may be stuck or endangered by excavation machinery or collapse of excavations or trenches.

XI. Electrical Hazards

The contractor should ensure that all electrical installations at the construction work comply with the requirements of latest electricity acts / rules.

The contractor shall take all adequate measures to prevent any worker from coming into physical contact with any electrical equipment or apparatus, machines or live electrical circuits which may cause electrical hazards during the construction work. The contractor shall provide the sufficient ELCBs / RCCBs for all the portable equipments, electrical switchboards, distribution panels etc. to prevent electrical shocks.

The contractor should ensure use of single / double insulated hand tools or low voltage i.e., 110 volts hand tools.

The contractor should also ensure that all temporary electrical installations at the construction works are provided with earth leakage circuit breakers.

XII. Vehicular Traffic

The contractor should employ vehicle drivers who hold a valid driving license under the Motor Vehicles Act, 1988.

XIII. Lifting Appliances, Tools & Tackles, Lifting Gear And Pressure Plant & Equipment etc.

The contractor shall ensure all the lifting appliances, tools & tackles including cranes etc., lifting gear including fixed or movable and any plant or gear, hoists, Pressure Plant and equipment etc. are in good condition and shall be examined by competent person and only certified shall be used at sites. Periodical Examination and the tests for all lifting / hoisting equipment & tackles shall be carried out. A register of such examinations and tests shall be properly maintained by the Contractor and will be promptly produced as and when desired by the Engineer I/c or by the person authorized by him.

XIV. Excessive Noise, Vibration

The contractor shall take adequate measures to protect the workers against the harmful effect of excessive noise or vibration. The noise should not exceed the limits prescribed under the concerned rules, Noise Pollution (Regulation and Control) Rules, 2000.

XV. Electrical Installation

The Contractor shall not interfere or disturb electric fuses, wiring and other electrical equipment belonging to the Employer or other contractors under any circumstances, whatsoever, unless expressly permitted in writing by the Engineer I/c to handle such fuses, wiring or electrical equipment.

Before the Contractor connects any electrical appliances to any plug or socket belonging to the other contractor or the NTPC, he shall

Satisfy the Engineer I/C that the appliance is in good working condition;

Inform the Engineer I/C of the maximum current rating, voltage and phases of the appliances;

Obtain permission of the Engineer I/C detailing the sockets to which the appliances may be connected.

The Engineer I/C will not grant permission to connect until he is satisfied that:

The appliance is in good condition and is fitted with suitable plug; having earth connection with the body.

Wherever armored / metallic sheathed multi core cable is used, the same armored / sheathed should be connected to earth.

No repair work shall be carried out on any live equipment. The Engineer I/c must declare the equipment safe and a permit to work shall be issued by the NTPC / contractor as the case may be to carry out any repair / maintenance work. While working on electric lines / equipments whether live or dead, suitable type and sufficient quantity of tools will have to be provided by the contractor to electricians / workmen / Officers.

The contractor shall employ necessary number of qualified, full time Electricians / Electrical Supervisors to maintain his temporary electrical installation.

The installations are provided with suitable ELCBs and RCCBs wherever required.

XIX. Fire Protection

I The contractor shall provide sufficient fire extinguishers at place /s of work. The fire extinguishers shall be properly maintained as per relevant BIS Standards. The employees shall be trained to operate the fire extinguishers / equipment.

XX. Penalties

If the Contractor fails in providing safe working environment as per the Safety Rules of NTPC or continues the work even after being instructed to stop the work by the Engineer I/C as provided in Clause XVIII (1) above, the Contractor shall be penalized at the rate of Rs. 25,000/- per day or part thereof till the instructions are complied with and so certified by the Engineer I/C. However, in case of accident, the provisions contained in Sub-Clause XX (II) below shall also apply in addition to the penalties mentioned in this sub-clause.

If the Contractor does not take all safety precautions and / or fails to comply with the Safety Rules as prescribed by the Employer or under the applicable law for the safety of the plant and equipment and for the safety of personnel and the contractor does not prevent hazardous conditions which cause injury to this own employees or employees of other contractors, or NTPC's employees or any other person who are at the Site or adjacent thereto, the Contractor shall be responsible for payment of penalty to NTPC as per the following schedule:-

a)	Fatal injury or accident causing death	Penalty @10% of contract value or Rs. 5,00,000/- per person, which ever is less.	These are applicable for death to any person whosoever.
b)	Major injuries or accident causing 25% or more permanent disablement to workmen or employees	Penalty @ 2 1/2 % of contract value or Rs. 1,00,000/- per person which ever is less	These are applicable for injury to any person whosoever.

Permanent disablement shall have the same meaning as indicated in The Workmen's Compensation Act' 1923. The penalty mentioned above shall be in addition to the compensation payable to the workmen / employees under the relevant provisions of the Workmen's Compensation Act' 1923 and rules framed there under or any other applicable laws as applicable from time to time.

	XVI. Safety Organisation
I	The contractor employing more than 250 workmen whether temporary, casual, probationary, regular or permanent shall employ at least one full time safety officer exclusively to supervise safety aspects of the equipments and workmen, who will coordinate with the NTPC Safety Officer. Further requirement of safety officers, if any, shall be guided by Rule 209 of The Building and Other Construction Worker (Regulation of Employment and Conditions of Service) Central Rule 1998. In case the work is being carried out through subcontractor, the employees / workmen of the sub contractor shall also be considered as the contractor's employees/workmen for the above purpose.
II	In case of contractor deploying less than 250 workmen he should designate one of his Engr / supervisor or the contractor himself (if he is directly supervising the work) as safety officer in addition to his existing responsibilities. The Engr./ supervisor should get at least 2days safety training from any reputed organization or from NTPC before resuming the work. If already trained in past the declaration along with Trg. certificate to be furnished to NTPC safety officer. The name and address of such Safety Officer of the Contractor will be promptly informed in writing to the EIC with a copy to the Project Safety Officer before he starts work or immediately after any change of the incumbent is made during currency of the Contract.
	XVII. Reporting of Accident and Investigation
I	In case any accident occurs during the construction / erection or other associated activities undertaken by the Contractor thereby causing any near miss, minor or major or fatal injury to his employees due to any reason, whatsoever, it shall be the responsibility of the Contractor to promptly inform the same to the Engineer I/C, NTPC Safety Officer with a copy to NTPC Head of Project in the prescribed form and also to all the authorities envisaged under the applicable laws.
	XVIII. Right to stop Work
I	The Engineer I/C shall have the right at his sole discretion to stop the work, if in his opinion the work is being carried out in such a way that it may cause accidents and endanger the safety of the persons and / or property, and / or equipments. In such cases, the contractor shall be informed in writing about the nature of hazards and possible injury / accident and he shall comply to remove shortcomings promptly. The Contractor after stopping the specific work can, if felt necessary appeal against the order of stoppage of work to the Project Manager within 3 days of such stoppage of work and decision of the Project Manager in this respect shall be conclusive and binding on the Contractor.
II	The Contractor shall not be entitled for any damages / compensation for stoppage of work, {Sub-Clause XVIII (I)} due to safety reasons and the period of such stoppage of work shall not be taken as an extension of time for Completion of the Facilities and will not be the ground for waiver of levy of liquidated damages.

If any contractor worker found working without using the safety equipment like safety helmet, safety shoes, safety belts, etc. or without anchoring the safety belts while working at height the Engineer I/c / Safety Officer of NTPC shall have the right to penalize the contractor for Rs. 200/- per person per day and such worker shall be sent out of the workplace immediately and shall not be allowed to work on that day. Engineer I/c / Safety Officer of NTPC will also issue a notice in this regard to the contractor.

If two or more fatal accidents occur at same NTPC site under the control of contractor during the period of contract and he has
(1) not complied with keeping adequate PPEs in stock or
(2) defaulted in providing PPEs to his workmen
(3) not followed statutory requirements / NTPC safety rules
(4) been issued warning notice/s by NTPC head of the project on non observance of safety norms
(5) not provided safety training to all his workmen,
the contractor can be debarred from getting tender documents in NTPC for two years from the date of last accident.

The safety performance will also be one of the overriding criteria for evaluation of overall performance of the contractors by NTPC. The contractor shall submit the accident data including fatal / non-fatal accidents for the last 3 years where he has undertaken the construction activities Projects-wise along with the tender documents. This will also be considered for evolution of tender documents. If the information given by the contractor found incorrect, his contract will be liable to be terminated.

XXI. Award

If the Contractor's performance on safety front is found satisfactory i.e. without any fatal/reportable accident in the year of consideration; he may be considered for suitable award "ACCIDENT FREE SAFETY MERITORIOUS AWARD" as per scheme of the employer.

SAFETY PLAN

01.	Safety Policy of the Contractor to be enclosed	
02.	When was the Safety Policy last reviewed	
03.	Details of implementation procedure / methods to implement Safety Policy / Safety Rules	
04.	Name, Qualification, experience of Safety Officer	
05.	Review of Accidents Analysis Method, Methods to ensure Safety and Health	
06.	Unit executive responsible to ensure Safety at various levels in work area	
07.	List of employees trained in safety employed before execution of the job. Give the details of training	
08.	Safety Training Targets, Schedules, methods Adopting to providing safety training to all employees	
09.	Details of checklist for different jobs / work and responsible person to ensure compliance (copy of checklist to be enclosed)	
10.	Regular Safety Inspection Methods and Periodicity and list of members to be enclosed	
11.	Risk Assessment, Safety Audit by Professional Agencies, Periodicity	
12.	Implementation of Recommendations of Audit / Inspections. Procedures for implementation and follow up	
13.	Provision for treatment of injured persons at work site	
14.	Review of overall safety by top Management and Periodicity	
15.	System for Implementation of Statutory legislations	
16.	Issue of PPEs to employees, Periodicity / stock on hand etc.	