

TENDER SPECIFICATION
No. BHE/PW/PUR/RATE CONTRACT-GEO/642

FOR

**RATE CONTRACT FOR GEO- TECHNICAL INVESTIGATION AND
TOPOGRAPHICAL SURVEY FOR VARIOUS FORTH-COMING
POWER PROJECTS IN INDIA**

AT

**M.P., CHHATTISGARH, MAHARASTRA, GUJARAT & GOA WITHIN
BHEL POWER SECTOR WESTERN REGION**

PART- I
TECHNICAL BID

**(SPECIAL & GENERAL CONDITIONS OF CONTRACT,QR,
NIT ETC)**

Book No.



BHARAT HEAVY ELECTRICALS LIMITED
(A GOVERNMENT OF INDIA UNDERTAKING)
POWER SECTOR - WESTERN REGION
SHREEMOHINI COMPLEX
345-KINGSWAY, NAGPUR 440 001

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LEGEND:

#: ATTACHED AT THE END OF TENDER SPECS. PART-I.

@: ISSUED AS SEPARATE BOOKLET AS PART-II.

NOTE: Bidders must Visit BHEL web site www.bhel.com for NIT, Qualifying Requirement of this work(QR), GCC etc. Further all corrigenda, addenda, amendments and clarifications to Tender Specifications will be hosted in this web page. Bidders shall keep themselves updated with all such amendments.

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVERNMENT OF INDIA UNDERTAKING)
POWER SECTOR - WESTERN REGION

SHREEMOHINI COMPLEX

345-KINGSWAY, NAGPUR 440 001

PH No. 0712-3048600-604; FAX: 0712-3048605, 698 & 699

Document Issue Details

TENDER SPECIFICATION No. BHE/PW/PUR/RATE CONTRACT-GEO /642

NAME OF THE WORK: RATE CONTRACT FOR GEO- TECHNICAL INVESTIGATION AND TOPOGRAPHICAL SURVEY FOR VARIOUS FORTH-COMING POWER PROJECTS IN INDIA AT MADHYAPRADESH, CHHATTISGARH, MAHARASTRA, GUJARAT & GOA WITHIN BHEL POWER SECTOR WESTERN REGION

EARNEST MONEY DEPOSIT: RS 1.00LAKHS , FOR DETAIL,PLEASE REFER SECTION-15 OF SPECIAL CONDITIONS OF CONTRACT

***Last date & time for offer submission:* Please see Notice Inviting Tender.**

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING PART-I AND PART- II ARE ISSUED TO:

M/s.

.....

PLEASE NOTE: THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

Sr. Manager (Purchase)

Place: Nagpur

Date:

Bharat Heavy Electricals Limited
(A Government of India undertaking)
Power Sector - Western Region
345-Kingsway, Nagpur 440 001

Procedure for Submission of Sealed Tenders & General Instructions to Bidders

The bidder must submit their tenders as required in two parts in separate sealed covers prominently super scribed as part-I technical bid and part-II price bid and also indicating on each of the covers the tender specification number and due date and time as mentioned in the tender notice.

Part-I (Technical Bid) Cover-I:

Excepting Rate Schedule, all other schedules, data sheets, supporting documents and details called for in the specification shall be enclosed in part-I "Technical Bid" only.

EARNEST MONEY DEPOSIT (EMD)

EMD shall be included in the Technical Bid. **EMD shall be paid by bidders only in the manner specified in Section-15 Special Conditions of Contract.** No other mode of payment of EMD shall be acceptable. Provisions under clause no. 1.4 of the General Conditions of Contract shall not be applicable for this tender.

Bidder may also opt to deposit "One Time EMD" of Rs. 2.0 lacs with this office (BHEL:PSWR:Nagpur) which will enable them to participate in the present and all the future tender enquiries in respect of Erection and Commissioning services issued from this office. Interested bidders may send their explicit consent for converting the present EMD into an "One Time EMD" in their offer.

Bidders who have already submitted such "One Time EMD" are exempted from submission of any EMD for this tender. However, bidder shall furnish details of payment of the "One Time EMD" in his offer including the Check List furnished herein.

Part-II (Price Bid) Cover-II:

All indications of price shall be given in this part-II "Price Bid". **EMD shall not be included in this cover.**

These two separate covers-I and II (part-I and part-II) shall together be enclosed in a third envelope (cover-III) along with requisite EMD as indicated earlier and this sealed cover shall be super scribed and submitted to Senior Manager (Purchase) at the above-mentioned address on or before the due date as indicated.

The qualified bidder will be intimated separately about the status of their offer.

Bidders are requested to make specific note of the following conditions:

BHEL:PS WR

TS NO : BHE/PW/PUR/RATE CONTRACT-GEO/642 4

SIGN OF BIDDER WITH SEAL

Contractor should have adequate resources including major T&P at his disposal for this job.

Contractor should have sound financial stability.

Bidder should meet quality requirement regarding workmanship, deployment of personnel, erection tools and necessary inspection, measurement & testing instruments.

All information as called for in various appendices and clauses of tender specification should be furnished in completeness. Please refer the checklist.

Clarification on Tender Specifications, if any, shall be obtained by the bidder before submitting their offer.

Offers must be submitted without any deviation.

Offers received with any deviation or without relevant information as described above are liable to be rejected. **Price bids received in the form other than specified in Part-II (price bid) are liable to be rejected.**

Bidder must sign & stamp all pages of this tender specification as an acceptance of tender conditions.

Bidder shall note that their offer will be considered subject to the approval of BHEL's customer.

PROJECT INFORMATION

INTENT OF THIS TENDER IS TO FINALIZE A RATE CONTRACT FOR TECHNICAL INVESTIGATION AND TOPOGRAPHICAL SURVEY FOR VARIOUS FORTH-COMING POWER PROJECTS IN INDIA IN THE STATE OF MADHYAPRADESH, CHHATTISGARH, MAHARASTRA, GUJARAT & GOA WITHIN THE WORK AREA OF BHEL POWER SECTOR WESTERN REGION. AS SOON AS THE ORDER IS PLACED ON BHEL BY ANY CUSTOMER, BHEL PSWR IN TERN ISSUE A “**LETTER OF AWARD**” TO THE QUALIFIED AGENCY TO CARRY OUT THE SOIL TESTING & SURVEY WITHOUT FURTHER WASTE OF TIME. THE EXACT SITE INFORMATION SHALL BE GIVEN AT THE TIME OF PLACING LOA. HOWEVER, THE SITES WILL BE IN THE STATE OF MADHYAPRADESH, CHHATTISGARH, MAHARASTRA, GUJARAT & GOA ONLY. A SEPARET LOA SHALL BE PLACED FOR EACH SITE AS PER THE AGREED RATE, TERMS & CONDITION.

Check List			
(Vide Para 1.3 Of Section-I of General Conditions Of Contract)			
1	Name of the Bidder with Postal Address for Correspondence		
2	Name of Contact Person with Telephone & Fax No.	Mr./Ms Tel No. Fax No.	
3	Nature of the firm	PROPRIETARY / PARTNERSHIP / LIMITED CO.	
4	Details of EMD Please Indicate whether 1) One Time EMD or, 2) Only for this Tender	DD No. DD Date..... Name of Bank..... Amount: Rs.....	
5	Validity of Offer (BHEL's Requirement: 180 days from Last Date of tender submission)	Validity _____ days	
6	Mobilization Time (Please refer Section- 11 of SCC)	Mobilization Time _____	
7	Whether any conditions stipulated?	Yes (vide Document reference:	No
		Bidder to note that tender with conditions unacceptable to BHEL shall be rejected.	
8	Bidder has visited the project site and acquainted with the site conditions	Yes	No
9	Details of concurrent jobs are furnished	Yes	No
10	Headquarters organization is furnished	Yes	No
11	Proposed site organization is furnished	Yes	No
12	Names and particulars of directors/partners are furnished	Yes	No
13	Financial status of the firm (Annexure 'A' of GCC) is furnished	Yes	No
14	Audited Profit & Loss Account for preceding three years is furnished	Yes	No

Check List			
(Vide Para 1.3 Of Section-I of General Conditions Of Contract)			
15	Latest Certificate by Bidder's Banker for Overdraft & BG Limits is Furnished (Certificate shall not be older than six months from the Last Date for offer submission)	Yes	No
16	Copy of IT Return of last three financial years along with copy of PAN Card are Furnished	Yes	No
17	Month-wise Manpower Deployment Plan is furnished	Yes	No
18	Analysis of Total Quoted Rates quoted is furnished	Yes	No
19	Month-wise deployment plan for major T&P is furnished	Yes	No
20	Whether all the pages of the Tender Specification documents are read, understood and signed	Yes	No
21	Power of Attorney enclosed in favour of person making offer	Yes	No
22	Bidder has familiarized himself with all Relevant Local Laws & Local Conditions	Yes	No
23	Safety Requirement of this work in a Running plant Premises has been understood.	Yes	No
24	Erection and Commissioning programme furnished	Yes	No
25	List of Jobs completed in last seven years is furnished	Yes	No
26	Whether copies of detailed Work Orders (with BOQ) and Completion Certificates in support of above furnished	Yes	No
27	Whether contractor has left any job unfinished? If so, give reasons.	Yes	No
28	Whether any client has terminated the contractor's work before completion? If so, furnish reasons for the same	Yes	No

Note: strike off or tick '**yes**' or '**no**', as applicable

BIDDERS MUST SUBMIT ALL NECESSARY DOCUMENTS AS BEING ASKED IN ABOVE CHECK LIST.

Date:

Signature of Bidder

Declaration by Bidder's Authorized Signatory

I hereby certify that all the information and data furnished by me with regard to this tender specification No. BHE/PW/PUR/RATE CONTRACT-GEO-TECH/542 are true and complete to the best of my knowledge. I have gone through the specification, conditions and stipulations in detail and agree to comply with the requirements and intent of the specification. I further certify that I am duly authorized representative of the under mentioned bidder and a **valid power of attorney to this effect is also enclosed.**

Authorized representative's Signature with date

Name and Address

CERTIFICATE OF NO-DEVIATION

Tender Specification No. BHE/PW/PUR/RATE CONTRACT-GEO/642

I/WE, M/s

HEREBY CERTIFY THAT NOTWITHSTANDING ANY CONTRARY INDICATIONS/ CONDITIONS ELSEWHERE IN OUR OFFER DOCUMENTS, I/WE HAVE NEITHER SET ANY TERMS AND CONDITIONS NOR THERE IS ANY DEVIATION TAKEN FROM THE CONDITIONS OF BHEL'S TENDER SPECIFICATIONS, EITHER TECHNICAL OR COMMERCIAL, AND I/WE AGREE TO ALL THE TERMS AND CONDITIONS MENTIONED IN BHEL'S TENDER SPECIFICATION WITH ASSOCIATED AMENDMENTS, CLARIFICATIONS etc.

DATE:

SIGNATURE OF THE BIDDER

CERTIFICATE CONFIRMING KNOWLEDGE OF SITE CONDITIONS

We, M/s

hereby declare and confirm that we have a broad idea about all the indicated states within the India as mentioned in BHEL's Tender Specification BHE/PW/PUR/RATE CONTRACT-GEO/642 and acquainted with site conditions. We further confirm that the above information is true and correct and we shall not be eligible for any additional payment of any nature due to lack of knowledge or non-familiarization of site conditions/ local prevailing condition.

BIDDER'S NAME AND ADDRESS

SIGNATURE & OFFICIAL SEAL OF
BIDDER'S AUTHORISED SIGNATORY

PLACE:

DATE:

Section-3

Offer of the Bidder

To,
Sr. Manager (Purchase)
Bharat Heavy Electricals Limited
Power Sector - Western Region
Shreemohini Complex
345-Kingsway
Nagpur - 440 001

Dear Sir,

I/we hereby offer to carry out the work detailed in tender specification no. BHE/PW/PUR/RATE CONTRACT-GEO/642 issued by Bharat Heavy Electricals Limited, Power Sector-Western Region, Nagpur, in accordance with the terms and conditions thereof.

I/we have carefully perused the following documents connected with the above work and agree to abide by the same.

1. Instructions to bidders
2. General conditions of contract
3. Special conditions of contract
4. Other sections, appendices, schedules and drawings.

I/we have remitted herewith the Earnest Money Deposit (EMD) as stipulated in the tender specification and the details of EMD remittance are furnished in the checklist.

EMD shall be refunded should our offer not be accepted / **EMD need not be refunded and the amount may be treated as "one time EMD" for erection and commissioning tenders of BHEL-PSWR, Nagpur.** Should our offer be accepted, I/we further agree to deposit security deposit for the work as provided for in the tender specification within the stipulated time as may be indicated by BHEL, Power Sector-Western Region, Nagpur.

I/we further agree to execute all the works referred to in the said documents upon the terms and conditions contained or referred to therein and as detailed in the appendices annexed thereto.

Place:
Date:

Signature of Bidder:
Address:

Witnesses with their address

Signature

Name

Address

1.

SECTION - 4

SPECIAL CONDITIONS OF CONTRACT

4.0 SCOPE OF WORK:

CARRYING OUT GEO- TECHNICAL INVESTIGATION AND TOPOGRAPHICAL SURVEY FOR VARIOUS FORTH-COMING POWER PROJECTS IN INDIA AT M.P., CHHATTISGARH, MAHARASTRA, GUJARAT & GOA WITHIN BHEL POWER SECTOR WESTERN REGION

The detailed scope of work is furnished in the following listed documents

- 1) Technical Specification for Topographical Survey (Vol-II)**
- 2) Technical Specification for Geotechnical Investigation (Vol-II)**
- 3) Bill of Quantities (Vol. III)**

All the items in BOQ shall be read in conjunction with the relevant Technical Specification attached with this tender specification as **Volume II** and work shall be carried out accordingly. All the report shall be submitted in the prescribed proforma as mentioned in Technical specification including graphical representation, calculation, Log-sheets etc. & no extra claim shall be entertained on this account.

Agency has to get their Interim as well as Final report approved by **BHEL PEM New Delhi** as well as from BHEL respective **Customer/Consultant**. Final report shall be submitted in sufficient copy (in hard as well in soft form) as described elsewhere in this tender specification. Quoted Rate shall be inclusive of all the above aspect.

4 MODE OF OPERATION OF THIS RATE CONTRACT

The broad mechanism of operation of Rate Contract will be as follow.

4.1 First TWO work of two different sites will be awarded to L-1 (Lowest Bidder)

4.2 Other bidders L-2 onwards (i.e. other than L1 bidder) will be given opportunity to match the L-1 price/rate. Bidders who have given acceptance to L-1 rate will be considered for award of work on rotation basis.

4.3 BHEL reserves all rights to operate this contract as per our discretion.

4.4 THIS RATE CONTRACT SHALL BE VALID FOR A PERIOD OF ONE YEAR FROM THE DATE OF OFFER SUBMISSION. THIS RATE CONTRACT SHALL FURTHER EXTENDED IF REQUIRED WITH THE SAME TERMS AND CONDITION FOR SIX MONTH MORE .

SECTION-5

SPECIAL CONDITIONS OF CONTRACT

5.0 OBLIGATIONS OF THE CONTRACTOR (TOOLS, TACKLES, CONSUMABLES ETC.)

5.1 ACCOMMODATION, DRINKING WATER & LOCAL TRANSPORTATION FOR LABOUR / OTHER EMPLOYEES

BHEL/Client will **NOT** provide any space for labour colony. Contractor shall make his own arrangements for accommodation with necessary facilities such as drinking water, sanitation and lighting etc for his workmen and the staff. The electricity for labour accommodation shall be arranged by the contractor on his own. Also, the contractor has to make his own arrangement for transportation of his workmen and other employees. BHEL/client shall not provide any facility in this regard

5.1 TOOLS AND TACKLES

5.1.1

Contractor is required to provide all necessary Tools and Plants (T&P), measuring instruments and handling equipments for this scope of work. BHEL is not providing any T&P for this work.

5.1.2

The contractor shall provide all the necessary scaffolding materials, temporary structures and necessary safety devices etc, during execution of the work.

5.1.3

Timely deployment of adequate quantity of T&P is the responsibility of the contractor. The contractor shall be prepared to augment the T&P at short notice to match the planned programme and to achieve the milestones.

5.2.0 CONSUMABLES

5.2.1

The contractor shall provide all consumables required for carrying out the work covered under this scope of work excepting those which are specifically indicated as BHEL supply.

5.2.2

All consumables, to be procured and used for the work shall have prior approval of BHEL engineer in regard to brand and quality specification.

5.3 ACCOMMODATION, DRINKING WATER & LOCAL TRANSPORTATION FOR THE LABOUR / OTHER EMPLOYEES

- a) Development of the land and construction of labour colony, with arrangements of lighting, drinking water, and sanitation etc is in contractor's scope. As such BHEL will not provide any accommodation.
- b) Electricity for labour colony: contractor shall make arrangement for drawing and further distribution conforming to the statutory & safety requirements. The electricity for labour camp will be on chargeable basis at the prevailing rate of state electricity board.
- c) For drinking water contractor has to make his own arrangement including digging of bore-well if required.
- d) The contractor has to make his own arrangement for transportation of his workmen and other employees. BHEL/client shall not provide any facility in this regard.

5.4.0 FIELD OFFICE

5.4.1

Contractor shall make his own arrangements for field office and stores for accommodating necessary equipments, tools room for execution of the work. Only open space will be provided by BHEL/customer free of charges within the project premises at the available location.

5.4.2

On completion of work, all the temporary buildings, structures, etc shall be dismantled and levelled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event of his failure to do so, the same will be arranged to be removed and expenditure thereof will be recovered from the contractor. The decision of BHEL engineer in this regard shall be final. However, the scope of dismantling and levelling the area is limited only to the contractor's site office, yard and other spaces occupied by the contractor.

5.5.0 AREA LIGHTING

5.5.1

Contractor shall arrange adequate floodlights, hand lamps and area lighting. Provision of distribution lines for lighting from the single point to the required place with proper distribution boards, observing the safety rules laid down by the electrical authorities of the state shall be done by the contractor including all the materials like cables, fuses, switch boards etc

5.6.0 CONSTRUCTION POWER & WATER

No water and electric power shall be supplied to the contractor for the work. It shall be the contractor's responsibility to arrange for water and electricity required for the work and to arrange for diesel generators as required at his own cost. The quoted rates shall be inclusive of the same.

5.6.7 Construction Water

The contractor shall make his own arrangement for construction water & drinking water by drilling suitable bore wells or any other arrangement at his cost.

5.8 RESPONSIBILITIES WITH REGARD TO LABOUR EMPLOYMENT ETC.

5.8.1

Refer clause 2.8 of General Conditions of Contract in this regard.

5.8.2

Contractor shall also comply with the requirements of local authorities/ project authorities calling for police verification of antecedents of the workmen, staff etc.

5.8.3

BHEL / customer may insist for witnessing the regular payment to the labour. They may also like to verify the relevant records for compliance with statutory requirements. Contractor shall enable such facilities to BHEL / customer.

5.8.4

It is the responsibility of the contractor to arrange gate pass for all his employees, T&P etc for entering the project premises. Necessary coordination with customer officials is the responsibility of the contractor. Contractor to follow all the procedures laid down by the customer for making gate passes. Where permitted, by customer / BHEL, to work beyond normal working hours, the contractor shall arrange necessary work permits for working beyond normal working hours.

5.8.5

Contractor shall provide at different elevation suitable arrangement for urinal and drinking water facility with necessary plumbing & disposal arrangements including construction of septic tank. These installations shall be maintained in hygienic condition at all times.

5.8.6

If at any time during the execution of work, it is noticed that the work is suffering on account of non-availability/shortfall in provision of resources from the contractor's side BHEL will make suitable alternate arrangements at the risk and cost of contractor. The expenditure incurred with overheads thereby shall be recovered from the contractor.

5.9.0 TAXES, DUTIES, LEVIES

Refer to Clause 2.8.4 of General Conditions of Contract. Notwithstanding anything contained therein, the following provisions shall be applicable for this contract.

5.9.1

The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions or other charges which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.

However, provisions regarding Service Tax and Value Added Tax (VAT) on output services and goods shall be as per following clauses.

5.9.2 Service Tax & Cess on Service Tax

Service Tax and Cess on Service Tax as applicable on output Services are excluded from contractor's scope; therefore contractor's price/rates shall be **exclusive** of Service Tax and Cess on Output Services. In case, it becomes mandatory for the contractor under provisions of relevant act/law to collect the Service Tax & Cess from BHEL and deposit the same with the concerned tax authorities, such applicable amount will be paid by BHEL.

Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract.. Contractor has to mention in their RA Bill service tax registration number and remittance record of such tax immediately after depositing the tax with concerned authorities. Contractor shall obtain prior written consent from BHEL before billing the amount towards such taxes.

With introduction of Cenvat Credit Rules 2004, which came into force w.e.f. 10.09.2004, Excise Duty paid on Input Goods including Capital Goods and Service Tax paid on Input Services that are used for providing the output services can be taken credit of against the Service Tax payable on output services. However BHEL may opt for availing the abatement provision in which case cenvat credit may not be available on input duty.

5.9.3 VAT (Sales Tax /WCT)

As regards Value Added Tax (VAT) on transfer of property in goods involved in Works Contract (previously known as Works Contract Tax) applicable as per local laws, the price quoted by the contractor shall be **exclusive** of the same. Where such taxes are required to be paid by the contractor, this will be reimbursed on production of proof of payment made to the authorities by the Contractor. In any case the Contractor shall register himself with the respective Sales Tax authorities of the state and submit proof of such registration to BHEL along with the first RA bill. The contractor has to take all necessary steps to **minimize tax on input goods** by purchasing the materials from any registered dealer of the concerned state only. In case contractor opts for composition, it will be with the prior express consent of BHEL. Deduction of tax at source shall be made as per the provisions of law unless otherwise found exempted. In case tax is deducted at source as per the provisions of law, this is to be construed as an advance tax paid by the contractor and no reimbursement thereof will be made unless specifically agreed to.

5.9.4 Modalities of Tax Incidence on BHEL

Wherever the relevant tax laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor.

5.9.5 New Taxes/Levies

In case the Government imposes any new levy/tax on the output service/ goods/work after award of the contract, the same shall be reimbursed by BHEL at actual.

In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same **before opening of Price Bid**. Claim for any such impact after opening the Price Bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.

No reimbursement/recovery on account of increase/reduction in the rate of taxes, levies, duties etc. on input goods/services/work shall be made. Such impact shall be taken care of by the Price Variation/Adjustment Clause (PVC) if any. In case PVC is not applicable for the contract, Bidder has to make his own assessment of the impact of future variation if any, in rates of taxes/duties/ levies etc. in his price bid.

5.10 UBMISSION OF PERIODICAL REPORTS

Contractor shall submit periodical reports in respect of following aspects of operation:

- 1) Consumption of consumables like welding electrodes, gases and paints
- 2) Consumption of construction power
- 3) Availability and utilization of BHEL's Tools & Plants
- 4) Availability and utilization of contractor's Tools & Plants
- 5) Daily manpower reports
- 6) Daily progress reports of activities & incidents
- 7) Calibration reports
- 8) Records of wages payment
- 9) Any other report/record as may be specified by BHEL/client.

BHEL at site will suggest formats for these reports.

5.11

It is the responsibility of the contractor to arrange gate pass for all his employees, T&P etc. Necessary coordination with customer officials is the responsibility of the contractor. Contractor to follow all the procedures laid down by the customer for making gate passes. Where permitted, by customer/ BHEL, to work beyond normal working hours, the contractor shall arrange necessary work permit for working beyond normal working hours.

SECTION-6

SPECIAL CONDITIONS OF CONTRACT

6.0 CONTRACTOR'S OBLIGATION WITH REGARD TO EMPLOYMENT OF SUPERVISORY STAFF AND WORKMEN

6.1 SUPERVISORY STAFF AND LABOUR

6.1.1

The contractor shall supply all the skilled/unskilled labour for the work. BHEL reserves the right to decide on the suitability of the workers and other personnel who will be employed by the contractor. BHEL reserves the right to insist on removal of any employee of the contractor at any time if he is found to be unsuitable and the contractor shall forthwith remove him.

6.1.2

It is the responsibility of the contractor to engage his workmen in shifts and or on overtime basis for achieving the target set by BHEL. This target may be set to suit BHEL's commitments to its customer or to advance date of completion of events or due to other reasons. The decision of BHEL in regard to setting the targets will be final and binding on the contractor.

6.1.3

Contractor shall employ only qualified and experienced engineers/supervisors for this job. They shall have professional approach in executing the work having adequate knowledge and experience in the fields. Contractor shall give an organization chart indicating the staffing pattern.

6.2 INDUSTRIAL RELATIONS AND LABOUR LAWS

6.2.1

An industrial relations supervisor shall coordinate for the implementation of local labour laws, maintenance of records as required by contract labour (regulation and abolition act) and also coordinate with the local labour authorities. Contractor has to ensure minimum wages payment to their labours as per the rule of the state and they have to produce documentary evidence to that effect to BHEL.

6.2.2

Contractor shall provide the names and details of Engineer/ Supervisors at the time of mobilization to BHEL as per the proposed organization chart.

6.2.3

In case at any time the contractor is not in a position to deploy the required Engineers/Supervisors due to any reason, BHEL shall have the option to deploy their Engineers/supervisors. The expenditure incurred with overheads on this account will be recovered from the contractor's bills.

6.2.4

The contractor's supervisory staff shall execute the work in the most substantial and workmanlike manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. They shall be responsible to ensure that the assembly and workmanship conform to dimensions and tolerances given in the drawings/ instructions given by BHEL Engineer from time to time.

6.2.5

The supervisory staff employed by the contractor shall ensure proper outturn of work and discipline on the part of the labour put on the job by the contractor and in general, see that the works are carried out in a safe and proper manner and in coordination with other labour and staff employed directly by BHEL or other contractors of BHEL or BHEL's Client.

6.2.6

Contractor will deduct the necessary amount from his employees towards provident fund and contribute the equal amount as per Government of India rules. This amount will be deposited regularly to the Provident Fund Commissioner and an account code obtained. Contractor shall submit the above account code duly certified by PF Commissioner to BHEL project in-charge. Also all other employees' benefits are to be borne by the contractor as per statutory laws.

6.2.7

The contractor shall obtain independent Labour License under the Contract Labour (regulation and abolition) Act from the concerned authorities based on the certificate (form-V) issued by the principal employer/customer.

6.2.8

The contractor shall pay for all taxes, fees, license charges, local body clearance, duties, tools, royalty, commissions and other charges, Gate passes which may be leviable on account of his operation in executing the contract. In case BHEL is forced to make any such payments, BHEL shall have the right to recover the same from Contractor's bills.

SECTION-7

SPECIAL CONDITIONS OF CONTRACT

7.0 OBLIGATIONS OF BHEL

7.1 FACILITIES PROVIDED BY BHEL

7.1.1 SPACE FOR CONTRACTOR'S SITE OFFICE & STORES:

BHEL will provide open space free of charges for construction of office and stores by the Contractor.

7.1.2 CONSTRUCTION POWER AND WATER

Construction Power: Refer Section 5.

Water for Construction: As specified in section –5.

7.2 TOOLS & PLANTS

BHEL will NOT provide any Tools & Plants for this work.

7.3 CONSUMABLES AND MATERIALS

BHEL will NOT provide any Consumables and Materials for this work.

SECTION-8
SPECIAL CONDITIONS OF CONTRACT

- 8.0 Inspection / Quality Assurance / Quality Control / Statutory Inspection**
- 8.1** Various inspection/quality control/quality assurance procedures /methods at various stages of erection and commissioning will be as per BHEL quality control procedure/codes and other statutory provisions and as per BHEL engineer's instructions.
- 8.2** Preparation of quality assurance log sheets and protocols is within the scope of work/specification.
- 8.3** Total quality is the watchword of the work and contractor shall strive to achieve the quality standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and quality standards. Contractor shall provide for the services of quality assurance engineer.

SECTION-9

SPECIAL CONDITIONS OF CONTRACT

Safety, Occupational Health and Environmental Management

BHEL PSWR has been certified for Environmental Management under ISO 14001:1996 standard and Occupational Health & Safety under OHSAS 18001 by DNV. In order to comply with the above standards, it shall be the endeavour of BHEL and all its subcontractors to meet and implement the requirements by following the guidelines issued under Environmental, Occupational Health and Safety Management (EHS) manual a copy of which will be available with the BHEL Site-in-charge.

Contractor shall also enter into a "Memorandum of Understanding" as given in clause 9.9 in case of award of contract.

9.0 Responsibility of the Contractor in Respect of Safety of Men, Equipment, Material and Environment.

9.1 The Contractor shall:

9.1.1

Abide by the Safety Regulations applicable for the Site/Project and in particular as mentioned in the booklet "Safe Work Practices" issued by BHEL. Contractors are also to ensure that their employees and workmen use safety equipments as stipulated in the Factories Act (Latest Revision) during the execution of the work. Failure to use safety equipment as required by BHEL Engineer will be a sufficient reason for issuance of memo, which shall become part of Safety evaluation of the contractor at the end of the Project. Also all site work may be suspended if it is found that the workmen are employing unsafe working practice and all the costs/losses incurred due to suspension of work shall be borne by contractor. A comprehensive list of National Standards from which the contractor can draw references for complying with various requirements under this section is given under 9.10

9.1.2

Hold BHEL harmless and indemnified from and against all claims, cost and charges under Workmen's Compensation Act 1923 and 1933 and any amendment thereof and the contractor shall be solely responsible for the same.

9.1.3

Abide by the Procedure governing entry/exit of the contractor's personnel within the Customer/Client premises. All the contractors' employees shall be permitted to enter only on displaying of authorized Photo passes or any other documents as authorized by the Customer/Client.

9.1.4

Be fully responsible for the identity, conduct and integrity of the personnel/workers engaged by them for carrying out the contract work and ensure that none of them are ever engaged in any anti national activity

9.1.5

Prepare a signboard giving the following information and display it near work site:

- i) Name of Contractor
- ii) Name of Contractor Site-in-charge & Telephone number
- iii) Job Description in short
- iv) Date of start of job
- v) Date of expected completion
- vi) Name of BHEL Site-in-charge.

9.1.6

Abide by the rules and regulations existing during the contract period as applicable for the contractors at the Project premises.

9.1.7

Observe the timings of work as advised by BHEL Engineer-in-charge for carrying out the contract work.

9.2 **SPECIAL CONDITIONS**

9.2.1 **Safety**

9.2.1.1 **Safety Plan**

Before commencing the work, contractor shall submit a "safety plan" to the authorized BHEL official. The safety plan shall indicate in detail the measures that would be taken by the contractor to ensure safety to men, equipment, material and environment during execution of the work. The plan shall take care to satisfy all requirements specified hereunder.

The contractor shall submit "safety plan" before start of work. During negotiations, before placing of work order and during execution of the contract, BHEL shall have right to review and suggest modifications in the safety plan. Contractor shall abide by BHEL's decision in this respect.

9.2.1.2

The contractor shall take all necessary safety precautions and arrange for appropriate appliances and/or as per direction of BHEL or it's authorized person to prevent loss of human lives, injuries to men engaged and damage to property and environment.

9.2.1.3

The contractor shall provide to his work force and also ensure the use of Personnel Protection Equipment (PPE) as found necessary and/or as directed and advised by BHEL officials without which permission is liable to be denied.

- Safety helmets conforming to IS 2925/1984 (1990)
- Safety belts conforming to IS 3521/1989
- Safety shoes conforming to IS 1989 part-II /1986(1992)
- Eye and face protection devices conforming to IS 2573/1986(1991), IS 6994 (1973), part-I (1991), IS 8807/1978 (1991), IS 8519/1977(1991).
- Other job specific PPEs of standard ISI make as may be prescribed

9.2.1.4

All tools, tackles, lifting appliances, material handling equipment, scaffolds, cradles, cages, safety nets, ladders, equipment, etc used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorized BHEL official who shall have the right to ban the use of any item found to be unsafe.

9.2.1.5

All electrical equipment, connections and wiring for construction power, its distribution and use shall conform to the requirements of Indian Electricity Act and Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carryout all types of electrical works. All electrical appliances including portable electric tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed.

9.2.1.6

The contractor shall not use any hand lamp energized by electric power with supply voltage of more than 24 volts. For work in confined spaces, lighting shall be arranged with power source of not more than 24 volts.

9.2.1.7

The contractor shall adopt all fire safety measures as per relevant Indian Standards

9.2.1.8

Where it becomes necessary to provide and/or store petroleum products, explosives, chemicals and liquid or gaseous fuel or any other substance that may cause fire or explosion, the contractor shall be responsible for carrying out such provisions and/or storage in accordance with the rules and regulations laid down by the relevant government acts, such as petroleum act, explosives act, petroleum and carbides of calcium manual of the chief controller of explosives, Government of India etc. The contractor in all such matters shall also take prior approval of the authorized BHEL official at the site.

9.2.1.9

Proper means of access must be used e.g. ladders, scaffolds, platforms etc. No makeshift access such as oil drums or pallets shall be used. Design of these will be in accordance with relevant standards and certified by competent persons before use.

9.2.1.10

Temporary arrangements made at Site for lifting, platforms, approach access etc should be properly designed and approved before being put to use.

9.2.1.11

All excavations and openings must be securely and adequately fenced/barricaded and warning signs erected when considered necessary as per relevant code of practice.

9.2.1.12

No persons shall remove guardrails, covers or protective devices unless authorized by a responsible supervisor and alternative precautions have been taken

9.2.1.13

Access ways, means of escape and fire exits shall be clearly marked, kept clear and unobstructed at all times

9.2.1.14

Only authorized persons holding relevant license will drive and operate site plant and equipments e.g. cranes, dumpers, excavators, transport vehicles etc

9.2.1.15

Only authorized personnel are allowed to repair, commission electrical equipments.

9.2.1.16

Gas Cylinders shall be handled and stored as per Gas Cylinders Rules and relevant safe working practices

9.2.1.17

All wastes generated at Site shall be segregated and collected in a designated place so as to prevent spillage/contamination/scattering at Site, until the waste is lifted for disposal to designated disposal area as advised by BHEL official.

9.2.1.18

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The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working when natural day light is not adequate for clear visibility.

9.2.1.19

The contractor shall train adequate number of workers/supervisors for administering "FIRST AID". List of competent first aid administrators should be prominently displayed.

9.2.1.20

The contractor shall display at strategic places and in adequate numbers the following in fluorescent markings

- Emergency telephone numbers
- Exit, Walkways
- Safe working load charts for wire ropes, slings, D shackles etc
- Warning signs

9.2.1.21

The contractor shall be held responsible for any violation of statutory regulations (local, state or central) and BHEL instructions that may endanger safety of men, equipment, material and environment in his scope of work or other contractors or agencies. Cost of damage, if any, to life and property arising out of such violation of statutory regulations and BHEL instructions shall be borne by the contractor.

9.2.1.22

In case of a fatal or disabling injury/accident to any person at construction sites due to lapses by the contractor, the victim and/or his/her dependents shall be compensated by the contractor as per statutory requirements. However, if considered necessary, BHEL shall have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.

9.2.1.23

In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover cost of such damages from payments due to the contractor after holding an appropriate enquiry.

9.2.1.24

In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have the right to recover cost of such delay from payments due to the contractor after notifying the contractor suitably and giving him opportunity to present his case.

9.2.1.25

If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given a reasonable opportunity to do so, and/or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorized BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.

BHEL will have an Emergency Response Plan for each Project Site in consultation with the Owner as the case may be, detailing the procedure for mobilization of personnel and equipment, and defining the responsibilities of the personnel indicated, in order to prepare for any emergency that may arise in order to ensure the priorities of

- Safeguard of life
- Protect assets under construction or neighbouring
- Protect environment
- Resumption of normal operations as soon as the emergency condition is called off

All Contractors shall also be part of the Emergency response Plan and the personnel so nominated shall be aware of their duties and responsibilities in an emergency response situation.

9.2.1.27

At least 5% Contractors supervisors and workmen shall undergo training in administering 'First Aid'. The trained persons should represent for all categories of work and for all areas of work. Adequate number of trained persons should be available for each shift. These first aides shall be included in the emergency response team. Contractor employees and workmen are encouraged to participate in first aid training programmes whenever organized by BHEL.

9.2.2 OCCUPATIONAL HEALTH

9.2.2.1

Specific occupational health hazards will be identified through the hazard evaluation processes in consultation with BHEL engineers and the necessary prevention/ reduction/ elimination methods implemented.

9.2.2.2

All personnel working in an activity with a potential risk to health shall be made aware of all those risks and the actions they must take to reduce/control/eliminate the risk

9.2.2.3

Safety coordinator shall conduct periodic checks to ensure that every group of workers engaged in similar activities are aware of potential risks to health and the actions required to be taken to mitigate the risk

9.2.2.4

In order to protect personnel from associated health hazards, the following main areas will be focused

- Issue of approved Personnel Protective Equipment
- Verification that the PPE are adequate/maintained and worn by all staff involved in operations that are potentially hazardous to their health
- Ensure that the personnel deployed are physically fit for the operation/work concerned
- Provide hygienic and sanitary working conditions

9.2.2.5

Contractor workers employees engaged in noise risk areas shall be issued with hearing protection aids and the use of the same will be enforced. Further, these workers will be educated on the hazards of noise

9.2.2.6

Contractor workers engaged in dust environment shall be issued with necessary dust protection aids and the use of the same shall be enforced

9.2.2.7

Workers engaged in exposure to bright light/rays as in welding or radiation shall be issued with eye protection devices and the use of the same shall be enforced

9.2.2.8

Adequate arrangements shall be made to provide safe drinking water

9.2.2.9

Health monitoring records on at least sample basis for contractor employees & workmen shall be maintained for persons engaged in specified categories of work. These shall include

- Noise induced hearing loss
- Lung Function test
- Ergonomic Test
- Eye Test for Welders, Grinders, Drivers etc

9.2.3.0 HYGIENE and HOUSEKEEPING

9.2.3.1

Good house keeping and proper hygiene is one of the key requirements of Occupational Health Safety and Environment management. Towards this the contractor shall encourage his workers and supervisors to maintain cleanliness in their area of work.

9.2.3.2

The Contractor shall arrange to place waste bins/chutes at convenient locations for the collection of scrap and other wastes. The bins shall be clearly marked and segregated for metal, non-metal, hazardous and non hazardous wastes.

9.2.3.3

BHEL may take up appropriate remedial measures at the cost of the contractors if the contractors fail in good house keeping and if there is an imminent risk of pollution

9.2.4 ENVIRONMENT MANAGEMENT

9.2.4.1

BHEL has a sound environmental management system, which is to be maintained and implemented by all the contractors. The system allows for project specific objectives to be set and developed sensitive to client requirements, applicable environmental legislation and BHEL's own objectives and policy. BHEL engineers will assess and monitor the environmental impact of their work and lay out objectives for their minimization. The contractors shall implement the objectives for continual improvement of environmental performance. BHEL shall regularly audit environmental impacts and their improvements.

9.2.4.2 WASTE MANAGEMENT

9.2.4.3.1

The objective of waste management is to ensure the safe and responsible disposal of waste, ensuring that it is correctly disposed of and being able to audit the process to ensure compliance.

9.2.4.3.2

Chemical wastes if any shall be collected separately and disposed of to BHEL designated refuse yard as per BHEL advice.

9.2.4.3.3

No dangerous chemicals, noxious waste products or materials will be disposed off on or off site without approval obtained through BHEL.

9.2.4.3.4

All disposal of wastes generated during construction shall be in accordance with all relevant legislation.

9.2.4.3.5

Acid and alkali cleaning wastes shall be neutralized to acceptable norms before disposal to the designated area.

9.2.4.3.6

All necessary measures shall be taken to ensure safe collection and disposal of waste oils. In particular to ensure the prevention of their discharge into surface waters, ground waters, coastal waters or drainages

9.3 SUPERVISION

9.3.1

Contractor must provide at least one full time on site safety coordinator when the manpower engaged is in excess of 50 for the contract activities in the premises. If the manpower is less than 50, the on site safety coordination responsibilities shall be assumed by any one of the contractor's other supervisory staff; however in both the cases, the contractor must specify in writing the name of such persons to the BHEL Engineer in Charge.

9.3.2

Contractor's safety coordinator or his supervisor responsible for safety as the case may be shall conduct at his work site, and document formal safety inspection and audits at least once in a week. Such documents are to be submitted to BHEL Engineer in Charge for his review and record.

Contractor, supervisor must attend all schedule safety meetings as would be intimated to him by the BHEL Engineer in Charge.

9.3.3

Before starting work under any contract, the contractor must ensure that a job specific safety procedures/field practices as required over and above the safety permit conditions are prepared and followed. He should also ensure that all supervisors and workers involved understand and follow this procedures /field practices.

9.3.4

Contractor must ensure that in his work site appropriate display boards are put displaying signs for site safety, potential hazards and precautions required.

9.4.0 **TRAINING & AWARENESS**

9.4.1

Contractor shall deploy experienced supervisors and other manpower who are well conversant with the safety and environment regulations of the Project. The electricians to be deployed on the job should have wireman license.

9.4.2

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All Supervisors & Workmen of the Contractor shall undergo Fire safety training/ demonstration whenever arranged by BHEL with the help of either Customer's Fire and Safety department or outside faculty so as to acquire knowledge of fire prevention and also to be able to make use of appropriate fire extinguishers.

9.4.3

Contractor must familiarize himself from BHEL Engineer in Charge about all known potential fire, explosion or toxic release hazards related to the contract. He in turn will ensure that same information has been passed to the supervisors and workmen

9.4.4

Contractor must ensure that all his supervisors are properly trained and each employee has received and understood from his supervisor necessary training and briefing about the safety requirement. Necessary document as a means to verify that employees have understood the training is to be maintained.

9.4.5

The contractor supervisors shall also give a small safety briefing to all the workmen under his charge before undertaking any new work and specially understand the safety requirements that are mandatory

9.5.0 **REPORTING**

9.5.1

The contractor shall submit report of all accidents, fires and property damage, dangerous occurrences to the authorized BHEL official immediately after such occurrence but in any case not later than twelve hours of the occurrence. Such report shall be furnished in the manner prescribed by BHEL and also to meet statutory requirement.

9.5.2

Any injury sustained by any of the contractor's employees within the Project premises must be reported to BHEL supervisor and FIRST AID should be immediately administered. The Contractor shall be responsible for keeping and maintaining proper records of Accidents to his personnel.

9.5.3

Contractor must arrange to immediately investigate, properly document and report any injury, accident or near miss involving any of his employees and take appropriate follow up action. He must furnish within 12 hours of the incident a written report to BHEL Engineer in charge and the Safety Section.

9.5.4

According to the Factory Act and the Employees state Insurance Act & regulation, any person sustaining any injury within the project premises and absenting himself from work for more than 46 hours, his accident report has to be sent to the respective Government Authorities. Therefore contractor shall inform the owner's representative such matter immediately for their needful action.

9.5.5

In addition, contractor shall submit periodic reports on safety to the authorised BHEL official from time to time as prescribed.

9.5.6

Before commencing the work, the contractor shall appoint/nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.

9.6 AUDIT REVIEW AND INSPECTION

9.6.1

BHEL shall conduct audit on the contractor performance and compliance with the project specific requirements of the Environment and Occupational Health & Safety Management systems. The programme of audit shall cover all activities under the contract but will focus particularly on high-risk activities. The Construction Manager shall decide the schedule of audit. The audit findings shall be communicated to the contractors and necessary remedial action as advised by BHEL Engineers shall be under taken within the stipulated time.

9.6.2

Inspections shall be carried out regularly by the contractors and by BHEL Engineers on activities, facilities, equipment and documentation, to cover the following aspects.

- Compliance with procedures and systems
- Availability, condition and use of PPE
- Condition of maintenance tools, equipments, facilities
- Availability of fire fighting equipments and its condition
- Use of fire fighting equipments and first aid kit
- Awareness of occupational health hazard
- Awareness of safe working practices
- Presence of quality supervision
- Housekeeping

The Safety coordinator shall visit and inspect work sites daily. All unsafe acts, unsafe conditions that have imminent potential for causing harm/injury/damage will be immediately corrected. He shall maintain a daily logbook giving details of unsafe acts or conditions observed and the corrective action taken and recommendations for preventing recurrence. Adequacy of corrective actions will be verified

The contractor shall take remedial measures as per the findings of each inspection
Besides the above, the contractor shall be required to carry out the following inspections.

SN	Equipment	Scope of inspection	Inspection by	Schedule
1	Hand tools	To identify unsafe/defective tool	User	Daily
2	Power tools	To identify unsafe/defective tool	User	Daily
3	Fire Extinguishers	To check pressure and any defect	User / Safety Coordinator	Daily Every month
4	Lifting equipment/tackles	To check for defects and efficacy of brakes	User Third party	Daily Every Year
5	PPE	To check for defects	User	Daily

9.7 **NON COMPLIANCE:-**

9.7.1

NONCONFORMITY OF SAFETY RULES AND SAFETY APPLIANCES WILL BE VIEWED SERIOUSLY AND THE BHEL HAS RIGHT TO IMPOSE FINES ON THE CONTRACTOR AS UNDER **for every instance of violation noticed:**

Sl. No	Instance of Violation	Fine (in Rs)
01	Not Wearing Safety Helmet	50/-
02.	Not wearing Safety Belt	100/-
03.	Grinding Without Goggles	50/-
04.	Not using 24 V Supply For Internal Work	500/-
05.	Electrical Plugs Not used for hand Machine	100/-
06.	Not Sliding property	200/-
07.	Using Damaged Sling	200/-
08.	Lifting Cylinders Without Cage	500/-
09.	Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.	200/-
10.	Not Removing Small Scrap From Platforms	200/-
11.	Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting	200/-
12.	Not Maintaining Electric Winches Which are Operated Dangerously	500/-
13.	Improper Earthing Of Electrical T&P	500/-
	Major Accident or Accidents causing partial loss of earning to the victim	50,000/- per victim
14	Fatal Accident or Accidents causing permanent loss of earning to the victim	1,00,000/- per victim

Any other non-conformity noticed not listed above will also be fined as deemed fit by BHEL. The decision of BHEL engineer is final on the above. The amount will be deducted from running bills of the contractor. The amount collected above will be utilised for giving award to the employees who could avoid accident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.

9.8

CITATION:-If safety record of the contractor in execution of the awarded job is to the satisfaction of safety department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion of the job

9.9 Memorandum of Understanding
After Award Of Work, Contractors Are Required To Enter Into A Memorandum Of Understanding As Given Below:

Memorandum of Understanding

BHEL, PSWR is committed to Health, Safety and Environment Policy (EHS Policy) as given in the booklet titled " Safe Working Practices" issued to all contractors.

M/s _____ do hereby also commit to the same EHS Policy while executing the Contract Number _____

M/s _____ shall ensure that safe work practices not limited to the above booklet are followed by all construction workers and supervisors. Spirit and content therein shall be reached to all workers and supervisors for compliance.

BHEL will be carrying out EHS audits twice a year and M/s _____ shall ensure to close any non-conformity observed/reported within fifteen days.

Signed by authorized representative of M/s-----

Name :

Place & Date:

9.10

Comprehensive list of National Standards for reference and use wherever applicable in the execution of Civil, Erection and Commissioning Contracts.

IS No	YEAR	Amd upto	DESCRIPTION
IS 10204	1982		PORTABLE FIRE EXTINGUISHERS MECHANICAL FOAM TYPE
IS 10245	1994		SPECIFICATION FOR BREATHING APPARATUS
IS 10291	1982		SAFETY CODE FOR DRESS DRIVERS IN CIVIL ENGINEERING WORKS
IS 10658	1983		HIGHER CAPACITY DRY POWDER FIRE EXTINGUISHERS (TROLLEY MOUNTED)
IS 10662	1992		COLOUR TELEVISION
IS 10667	1983		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR PROTECTION OF FOOT AND LEG
IS 11037	1984		ELECTRONIC FAN REGULATORS
IS 11057	1984		INDUSTRIAL SAFETY NETS
IS 11451	1998		RECOMMENDATION FOR SAFETY AND HEALTH REQUIREMENT RELATING TO OCCUPATION EXPOSURE TO ASBESTOS
IS 1169	1967		PEDESTAL FANS
IS 1179	1967		SPECIFICATION FOR EQUIPMENT FOR EYE AND FACE PROTECTION DURING WELDING
IS 11833	1986		DRY POWDER FIRE EXTINGUISHERS FOR METAL FIRES
IS 11972	1987		CODE OF PRACTICE FOR SAFETY PRECAUTION TO BE TAKEN WHEN ENTERING A SEWAGE SYSTEM
IS 1287	1986		ELECTRIC TOASTER
IS 13063	1991		STRUCTURAL SAFETY OF BUILDINGS ON SHALLOW

IS No	YEAR	Amd upto	DESCRIPTION
			FOUNDATIONS ON ROCKS
IS 13385	1992		SPECIFICATIONS FOR FIRE EXTINGUISHERS 50 LITRE WHEEL MOUNTED WATER TYPE (GAS CARTRIDGES)
IS 13386	1992		SPECIFICATIONS FOR FIRE EXTINGUISHERS 50 LITRE MECHANICAL FOAM TYPE
IS 13415	1992		CODE OF SAFETY FOR PROTECTIVE BARRIERS IN AND AROUND BUILDINGS
IS 13416	1992		RECOMMENDATIONS FOR PREVENTIVE MEASURES AGAINST HAZARDS AT WORKING PLACE PART 1 TO PART 5
IS 13430	1992		CODE OF PRACTICE FOR SAFETY DURING ADDITIONAL CONSTRUCTION AND ALTERATION TO EXISTING BUILDINGS
IS 13849	1993		PORTABLE FIRE EXTINGUISHERS DRY POWDER TYPE (CONSTANT PRESSURE)
IS 1446	1985		CLASSIFICATION OF DANGEROUS GOODS (FIRST REVISION)
IS 1476	1979		REFRIGERATORS
IS 1641	1988		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): GENERAL PRINCIPLES OF FIRE GRADING AND CLASSIFICATION
IS 1642	1989		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS- DETAILS OF CONSTRUCTION
IS 1643	1988		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): EXPOSURE HAZARD
IS 1646	1997		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): ELECTRICAL INSTALLATIONS
IS 1904	1986		CODE OF PRACTICE FOR DESIGN AND CONSTRUCTION OF FOUNDATIONS IN SOIL
IS 1905	1987		STRUCTURAL SAFETY OF BUILDINGS MASONARY WALLS
IS 2082	1985		ELECTRICAL GEYSERS
IS 2171	1985		PORTABLE FIRE EXTINGUISHERS DRY POWDER TYPE (CARTRIDGE)
IS 2309	1989		PRACTICE FOR THE PROTECTION OF BUILDINGS AND ALLIED BUILDINGS AGAINST LIGHTENING
IS 2312	1967		EXHAUST FANS
IS 2361	1994		SPECIFICATION FOR BUILDING GRIPS - FIRST REVISION
IS 2418	1977		TUBULAR FLUORSCENT LAMPS IS 2418 (FT-1)
IS 2750	1964		STEEL SCAFFOLDINGS
IS 2762	1964		SAFE WORKING LOADS IN KGS FOR WIRE ROPE SLINGS
IS 2878	1986		FIRE EXTINGUISHERS CARBON DIOXIDE TYPE (PORTABLE AND TROLLEY MOUNTED)
IS 2925	1984		SPECIFICATION FOR INDUSTRIAL SAFETY HELMETS
IS 3016	1982		CODE OF PRACTICE FOR FIRE PRECAUTIONS IN WELDING AND CUTTING OPERATIONS- FIRST REVISION
IS 3315	1974		DESERT COOLERS
IS 3521	1989		INDUSTRIAL SAFETY BELTS AND HARNESS
IS 368	1983		IMMERSION WATER HEATERS
IS 3696	1991		SAFETY CODE OF SCAFFOLDS AND LADDERS PART 1 TO 2
IS 3737	1996		LEATHER SAFETY BOOTS FOR WORKERS IN HEAVY METAL INDUSTRIES
IS 374	1979		CEILING FANS INCLUDING REGULATORS
IS 3764	1992		EXCAVATION WORK - CODE OF SAFETY

IS No	YEAR	Amd upto	DESCRIPTION
IS 3786	1983		METHOD FOR COMPUTATION OF FREQUENCY AND SEVERITY RATES FOR INDUSTRIAL INJURIES AND CLASSIFICATION OF INDUSTRIAL ACCIDENTS
IS 3935	1966		CODE OF PRACTICE FOR COMPOSITE CONSTRUCTION
IS 4014	1967		CODE OF PRACTICE FOR STEEL TUBULAR SCAFFOLDING
IS 4081	1986		SAFETY CODE FOR BLASTING AND RELATED DRILLING OPERATIONS
IS 4082	1977	1996	STACKING AND STORAGE OF CONSTRUCTION MATERIALS AND COMPONENTS AT SITE
IS 4130	1991		DEMOLITION OF BUILDINGS - CODE OF SAFETY PART 1 TO 2
IS 4138	1977		SAFETY CODE FOR WORKING IN COMPRESSED AIR (FIRST REVISION)
IS 4155	1966		GLOSSARY OF TERMS RELATING TO CHEMICAL AND RADIATION HAZARDS AND HAZARDOUS CHEMICALS
IS 4209	1967		CODE OF SAFETY FOR CHEMICAL LABORATORY
IS 4250	1980		FOOD MIXERS
IS 4262	1967		CODE OF SAFETY FOR SULFURIC ACID
IS 4756	1978		SAFETY CODE FOR TUNNELING WORK
IS 4912	1978		SAFETY REQUIREMENTS FOR FLOOR AND WALL OPENINGS, RAILINGS AND TOE BOARDS
IS 5121	1969		SAFETY CODE FOR PILING AND OTHER DEEP FOUNDATIONS
IS 5182	1969	1982	METHODS FOR MEASUREMENT OF AIR POLLUTION
IS 5184	1969		CODE OF SAFETY FOR HYDROFLUORIC ACID
IS 5216	1982	2000	RECOMMENDATIONS ON SAFETY PROCEDURES AND PRACTICE IN ELECTRICAL WORK PART I AND II
IS 555	1979		TABLE FANS
IS 5557	1995		INDUSTRIAL AND SAFETY LINED RUBBER BOOTS (SECOND REVISION)
IS 5916	1970		SAFETY CODE FOR CONSTRUCTION INVOLVING USE OF HOR BITUMINOUS MATERIALS
IS 5983	1980		SPECIFICATION FOR EYE PROTECTORS - FIRST REVISION
IS 6234	1986		PORTABLE FIRE EXTINGUISHERS WATER TYPE (STORED PRESSURE)
IS 692	1994		CRITERIA FOR SAFETY AND DESIGN OF STRUCTURES SUBJECTED TO UNDERGROUND BLASTS
IS 6994	1973		SPECIFICATION FOR SAFETY GLOVES
IS 7155	1986		CODE OF RECOMMENDED PRACTICE FOR CONVEYOR SAFETY (PART 1 TO 8)
IS 7205	1974		SAFETY CODE FOR ERECTION OF STRUCTURAL STEEL WORK
IS 7293	1974		SAFETY CODE FOR WORKING WITH CONSTRUCTION MACHINERY
IS 7323	1994		GUIDELINES FOR OPERATIONS OF RESERVOIRS
IS 7812	1975		CODE OF SAFETY FOR MERCURY
IS 7969	1975		SAFETY CODE FOR HANDLING AND STORAGE OF BUILDING MATERIALS
IS 8089	1976		CODE OF SAFE PRACTICE FOR LAYOUT OF OUTSIDE FACILITIES IN AN INDUSTRIAL PLANT
IS 8091	1976		CODE OF PRACTICE FOR INDUSTRIAL PLANT LAYOUT
IS 8095	1976		ACCIDENTS PREVENTION TAGS
IS 818	1968	1997	CODE OF PRACTICE FOR SAFETY AND HEALTH

IS No	YEAR	Amd upto	DESCRIPTION
			REQUIREMENTS IN ELECTRIC AND GAS WELDING, AND CUTTING OPERATIONS
IS 8448	1989		AUTOMATIC LINE VOLTAGE CORRECTOR (STABILISER)
IS 8519	1977		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR BODY PROTECTION
IS 8520	1977		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR EYE, FACE AND EAR PROTECTION
IS 875	1987		STRUCTURAL SAFETY OF BUILDING: LOADING STANDARD PART 1 TO 5
IS 8807	1978		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR PROTECTION OF ARMS AND HANDS
IS 8978	1985		INSTANTANEOUS WATER HEATERS
IS 8989	1978		SAFETY CODE FOR ERECTION OF CONCRETE FRAMED STRUCTURES
IS 940	1989		PORTABLE FIRE EXTINGUISHERS WATER TYPE (GAS CARTRIDGE)
IS 9457	1980		SAFETY COLOURS AND SIGNS
IS 9679	1980		CODE OF SAFETY FOR WORK ENVIRONMENTAL MONITORING
IS 9706	1997		CODE OF PRACTICE FOR THE CONSTRUCTION OF AERIAL RPEWAYS FOR THE TRANSPORTATION OF MATERIAL
IS 9759	1981		GUIDELINES FOR DEWATERING DURING CONSTRUCTION
IS 9815	1989		SERVO MOTOR OPERATED LINE VOLTAGE CORRECTOR (SERVO STABILISER)
IS 9944	1992		RECOMMENDATIONS ON SAFE WORKING LOAD FOR NATURAL AND MAN-MADE FIBRE ROPE SLINGS
IS 996	1979		SINGLE PHASE ELECTRIC MOTORS
ISO 3873	1977		SAFETY HELMET

SECTION-10

SPECIAL CONDITIONS OF CONTRACT

10.0 DRAWINGS AND DOCUMENTS

10.1

The detailed drawings, specifications available with BHEL engineers will also form part of this tender specification. Revision of drawings/documents may take place due to various considerations as is normal in such large project. Work will have to be carried out as per revised drawings/ documents. These documents will be made available to the contractor during execution of work at site.

10.2

One set of necessary drawings/documents to carry out the erection work will be furnished to the contractor by BHEL on loan that shall be returned to BHEL after completion of the work. Contractor's personnel shall take care of these documents given to them.

10.3

The data furnished in various sections and appendices and the drawings enclosed with this tender specification describe the equipment to be installed, tested and commissioned under this specification, briefly. However, the changes in the design and in the quantity may be expected to occur as is usual in any such large scale of works.

10.4

If any error or ambiguity is discovered in the specification/information contained in the documents/drawings and tender, the contractor shall forthwith bring the same to the notice of BHEL before submission of offer.

10.5

In case an ambiguity is detected after award of work, the same must be brought to the notice of BHEL before commencement of the work/activity. BHEL's interpretation in such cases will be final and binding on the contractor.

10.6

In case of any conflict between general instructions to tenderness, general conditions of contract contained in sections 1 & 2 respectively and special conditions of contract contained in sections 4 to 15 and appendices, provisions contained in special conditions of contract in sections 4 to 15 and appendices shall prevail.

10.7

In case of discrepancy between quoted item rate and corresponding amount in the rate schedule, the **quoted item rates shall be reckoned as correct and amount recalculated**. Quoted item rates shall also prevail for arriving at the total price quoted for offer evaluation. Offers will be evaluated on the total amount for the entire Rate Schedule and the work will be awarded without splitting the scope.

10.8

Bank Guarantees to be furnished by the contractor towards Security Deposit and Performance Guarantee (last 5% payment against workmanship warranty/defect liability) shall have a claim period of six months over and above the validity period required for the respective cases. BG for advance payment shall be kept valid for a period of two more months beyond the recovery period of the advance with interest thereof.

SECTION-11

SPECIAL CONDITIONS OF CONTRACT

TIME SCHEDULE, MOBILIZATION, PROGRESS MONITORING, OVERRUN, VARIATION ETC.

11.1 TIME SCHEDULE & MOBILIZATION

11.1.1 INITIAL MOBILIZATION AND TENTATIVE SCHEDULE

Contractor shall reach site, make his site establishment and be ready to commence the work within **FIFTEEN days** from the date of fax Letter of Intent or as per directions of BHEL.

The contractor has to subsequently augment his resources in such a manner that the entire work is completed to achieve the following **tentative** schedule:

ACTIVITY	TENTATIVE SCHEDULE OF COMPLETION
Completion of bore holes, core drilling in rocks, pressure meter test in boreholes, dynamic cone Penetration Test, Plate load test, cyclic plate load test, cross hole shear wave test, seismic refraction test, field vane shear test, electrical resistivity test, pump in type field permeability test by constant head/falling head and double packer method, chemical test and necessary laboratory tests such as determination of bulk density and moisture content, sieve analysis, hydrometer analysis, liquid limit and plastic limit, shrinkage limit, moisture content , salke durability index , specific gravity, swell pressure, free swell index, relative density, unconfined compressive strength (both at saturated and in – situ water content),Point load strength, direct shear test, triaxial shear test (unconsolidated undrained test), one dimensional consolidation test, standard proctor compaction test, CBR test at soaked condition , chemical analysis and submission of preliminary report covering the recommendation of type of foundations to be adopted. Preliminary report shall be submitted to BHEL-PEM- New Delhi with copy to BHEL- Nagpur and respective site.	45 days from the date of issue of LOI
Completion of balance field work and laboratory tests and submission of draft report Draft report shall be submitted to BHEL-PEM- New Delhi with copy to BHEL- Nagpur and respective site.	75 days from the date of issue of LOI
Submission of Final Report	Within 5 days from the date of receipt of comments of BHEL by the contractor.

11.1.2

In order to meet above schedule and other intermediate targets/activities as set by BHEL Engineer In charge at site, to meet customer requirements/project schedule, contractor shall arrange all necessary resources and work force in consultation with BHEL engineer at site to undertake parallel works in all fronts as made available to contractor.

11.1.3

Contractor shall have to work round the clock on such critical activities as a part of catch up programme to meet the project requirement to the extent possible and shall also provide required resources as part of scope of work. \

11.1.4 Start of Contract Period and Duration.

The total contract period for completion of entire work s as per tender specification shall be **75 (Seventy five) Days** from the date of LOI,

11.1.3.1 Grace Period

Grace period of **1 (One) month** beyond the contract period will be applicable for this contract. However, all milestone events as per actual requirement of project schedule shall have to be achieved by the contractor without taking recourse to the Grace Period.

11.2 Progress Monitoring, Contract Extension and Over Run

11.2.1 Progress Monitoring

Progress will be reviewed periodically (daily / weekly / monthly) including month end review vis-à-vis the plans drawn as above. The contractor shall submit periodical progress reports, and other reports / information including manpower, consumables etc as desired by BHEL.

11.2.2 Ascertaining and Establishing the Reasons for Shortfall

The onus probandi that the causes leading to extension of the contract period are not due to any reasons attributable to the contractor is on him (the contractor). Review of the performance as stated vide Clause 11.2.1 above will be made considering the availability of components to be erected and other inputs / constraints over which the contractor has no control. The programme will be reviewed area-wise and the following facts will be recorded in case of shortfall at the end of every month:

11.2.2.1

A) Work not achieved owing to non-availability of fronts.

B) Work not achieved owing to non-availability of materials.

11.2.2.2 Work not achieved owing to non-availability of tools and plants, manpower and consumables by the contractor or any other reason attributable to the contractor.

11.2.2.3 Work not achieved due to any other reasons not attributable to the contractor.

11.3 Contract Extension

11.3.1

If the completion of work as detailed in these specification gets delayed beyond the end of contract period and grace period then depending on the balance work left out, BHEL at its discretion may extend the contract.

11.3.2

A joint programme shall be drawn for the work to be completed during the extended contract period. Review of the program and record of shortfall as describe vide clause 11.2.2 shall be done during the extended period. The overrun charges will be paid in proportion to the achievement of the respective month vis-à-vis the plan for the month (for assessing the performance, the agreed plan shall be reduced by shortfall attributable to the BHEL). BHEL may disallow contractor's claim for over run charges, if the monthly programme as mentioned here not made by him.

11.3.3

The part of extension attributable to the contractor, if any, in total contract extension shall be exhausted first i.e. immediately after end of grace period. This shall be followed by the extension on account of force majeure conditions, if any, and lastly on account of BHEL.

11.4 Overrun Compensation

NOT Applicable for this contract.

11.5 Price Variation

Agreed price/rate shall remain firm through out the contract period including grace period and extended period thereof. No price variation/adjustment shall be applicable for this contract and clause No.2.15 of General Conditions of Contract shall not be applicable.

11.6 VARIATION IN QUANTITY

The quantities of various items of work covered under these specifications and indicated in relevant appendices are likely to vary according to project requirement. Payment shall be made as per the actual quantity executed at site. Final accepted rate shall remain unchanged within +/- 25% of Contract value. If the actual executed value of work get reduced beyond (-) 25% then all the item rate shall be enhanced @10% so as to reach limit of -25% (i.e. 75% of contract value). However the final payment after enhancement shall be restricted to the value whichever is less after 10% enhancement of rate or 75% of contract value. There will not be any revision in rates for upward variation in contract value beyond +25% & payment shall be made as per actual executed quantity.

11.7 ADVANCES PAYMENT

No advance is payable for this contract.

11.8 SECURED ADVANCE

No Secured advance is payable under this contract.

11.9 Definition of Work Completion

The contractor's scope of work under these specifications will deem to have been completed in all respect, only when all the activities are completed satisfactorily and so certified by BHEL site in charge. The decision of BHEL in this regard shall be final and binding on the contractor.

11.10 Liquidated Damages (LD)

LD shall be applicable as per the rates and manner described in General Conditions of Contract (GCC) but levied on the value of work that remains to be completed as on the date of expiry of regular Contract Period & Grace Period including extensions thereof granted for reasons not attributable to the contractor. LD shall be levied for extensions that are attributable to the contractor.

SECTION-12

SPECIAL CONDITIONS OF CONTRACT

12.0 TERMS OF PAYMENT

12.0.1

The contractor shall submit his monthly on account bills with all the details required by BHEL on specified date every month covering progress of work in all respects and areas from the 25th of previous calendar month to 24th of the current month.

12.0.2

Clause 2.6 of general conditions of contract shall be referred to as regards mode of payment, and measurement of the work completed.

12.0.3

Release of payment in each running bill will be restricted to 95% of the value of work admitted, as per the percentage break-up for the stage of work completion stipulated vide clauses hereinafter.

The 5% thus remaining shall be on account of workmanship guarantee of work executed. The same will be released after completion of the guarantee period of **12 months** from the date of completion of entire work as certified by BHEL.

However, on specific request of vendor, this amount may be released on pro rata basis for the value of work executed and accepted by BHEL, along with any RA Bill and onwards, subject to receipt and acceptance of bank guarantee of equal amount in BHEL's prescribed format. The BG shall be kept valid till completion of such guarantee period and an additional six months claim period. This is also subject to the condition that the contractor has started the work and also furnished/remitted the initial Security Deposit as per contract.

12.0.4

The payment for running bills will normally be released within around 30 days of submission of running bill with measurement sheets. Contractor shall make his own arrangement for making payment of impending labour wages and other dues in the meanwhile.

12.0.5

BHEL will release payment through Electronic Fund Transfer (EFT)/RTGS. In order to implement this system, the following details are to be furnished by the Contractor pertaining to his Bank Accounts where proceeds will be transferred through BHEL's banker:

1. Name of the Company
2. Name of Bank
3. Name of Bank Branch
4. City/Place
5. Account Number
6. Account type
7. IFSC code of the Bank Branch
8. MICR Code of the Bank Branch

BHEL may also choose to release payment by other alternative modes as suitable.

12.1 Stages of Progressive Payment

BHEL will release the agreed item rates as per the following break up.

- 1.0 40% of item rate of the measured quantity will be paid on receipt of preliminary soil report against contractor's invoice.
- 2.0 Next 40% of item rate of the measured quantity will be paid on receipt of draft final report and against contractor's invoice.
- 4.0 Balance (20%) of item rate on receipt of final report and acceptance thereof by BHEL/BHEL Customer, against contractor's invoice.
- 5.0 All invoices shall be submitted in duplicate.

Note: All the reports of this work shall have the acceptance of BHEL-PEM/New Delhi as well as BHEL's Customer for respective project. As such payments shall be released on acceptance of the reports by them.

SECTION-13

SPECIAL CONDITIONS OF CONTRACT

13.0 DETAILS TO BE FURNISHED BY THE BIDDERS

Apart from other details called for in the tender document under the various other provisions, the following details shall be submitted by the tenderers along with their offers (Technical Bid). Please also refer the checklist furnished in the beginning of the Tender Specification.

13.1

Contractor shall submit his HQ and Site organization charts and all the necessary documents as per the check list

SECTION-14
SPECIAL CONDITIONS OF CONTRACT

14.0 Insurance

14.1

Contractor shall obtain necessary insurance cover for the staff, labourers, Tools & Plants, Construction Machineries, Construction activities during soil investigation and all other properties belonging to him. Copy of the Workmen Compensation policy shall be submitted to BHEL for record before start of work.

SECTION-15

SECTION-15 (Rev dated 12/1/2009)

SPECIAL CONDITION OF CONTRACT

15.0 EARNEST MONEY DEPOSIT, SECURITY DEPOSIT & BANK GUARANTEE

15.1 Earnest Money Deposit:

i) EMD for this tender is Rs. 1,00,000/- (Rupees ONE lakhs only).

ii) Bidders who have already deposited One Time EMD of Rs. 2.00 lakh are exempted from submission of EMD for this tender. However a copy of 'One Time EMD' certificate issued by BHEL/PSWR, Nagpur shall be enclosed along with the Offer.

iii) EMD is to be paid in cash (as permissible under Income Tax Act), Pay order or Demand Draft in favour of Bharat Heavy Electricals Limited and payable at Nagpur.

iv) No other form of EMD remittance shall be acceptable to BHEL.

15.1.1 EMD by the bidder will be forfeited as per Tender Documents if

- i) After opening the tender, the bidder revokes his tender within the validity period or increases his earlier quoted rates.
- ii) The bidder does not commence the work within the period as per LOI/Contract. In case the LOI / contract is silent in this regard then within 15 days after award of contract.

15.1.2 EMD shall not carry any interest.

15.1.3 In the case of unsuccessful bidders, the Earnest Money will be refunded to them after acceptance of tender by successful bidder

15.2 Security Deposit

15.2.1 Security Deposit shall be furnished by the successful bidder. The rate of Security Deposit will be as below:

SN	Contract Value	Security Deposit Amount
1	Up to Rs. 10 lakhs	10% of Contract Value
2	Above Rs. 10 lakhs upto Rs.50 lakhs	1 lakh + 7.5% of the Contract Value exceeding Rs. 10 lakhs.
3	Above Rs. 50 lakhs	Rs 4 lakhs + 5% of the Contract Value exceeding Rs. 50 lakhs.

The security Deposit should be furnished before start of the work by the contractor.

15.2.2 Security Deposit may be furnished in any one of the following forms

- i. Cash (as permissible under the Income Tax Act)
- ii. Pay Order, Demand Draft in favour of BHEL.
- iii. Local cheques of scheduled banks, subject to realization.
- iv. Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc. (Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).

- v. Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.
- vi. Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- vii. Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be remitted (either by cash/DD or **BG for maximum 50%** of total SD) before start of the work and the balance 50% may be recovered from the running bills.
- viii. EMD of the successful bidder shall be converted and adjusted against the cash Security Deposit excepting for such bidder who has remitted One Time EMD.
- ix. The Security Deposit shall not carry any interest.

NOTE: Acceptance of Security Deposit against Sl. No. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

15.2.3 SECURITY DEPOSIT SHALL NOT BE REFUNDED TO THE CONTRACTOR EXCEPT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT

15.3 BANK GUARANTEE

- i. It is the responsibility of the bidder to get the Bank Guarantees revalidated/extended for the required period as per the advice of BHEL Site Engineer / Construction Manager. BHEL shall not be held liable for issue of any reminders regarding expiry of the Bank Guarantees.
- ii. In case extension/further extensions of any Bank Guarantees are not required, the bidders shall ensure that the same is explicitly conveyed through the Construction Manager to BHEL PSWR/HQ, Nagpur
- iii. In case the Bank Guarantees are not extended before the expiry date, BHEL reserves the right to invoke the same by informing the concerned Bank in writing, without any advance notice/communication to the concerned bidder.
- iv. **Bidders to note that any corrections to Bank Guarantees shall be done by the issuing Bank, only through an amendment in an appropriate non judicial stamp paper.**
- v. Bidders to ensure that the Bank Guarantees submitted are exactly as per format given in the Tender documents.
- vi. The Original Bank Guarantee shall be sent directly by the Bank to BHEL under Registered Post (Acknowledgement Due). However, in exceptional cases, where guarantee is directly received by Vendor, the Vendor shall instruct the Bank to send an unstamped duplicate copy of the guarantee directly to BHEL under Registered Post (Acknowledgement Due).

15.3.1 Guidelines for acceptance of Bank Guarantees are as follows :

- Vendors are advised to obtain BG from any of the following BHEL consortium banks

State Bank of India	The Hongkong and Shanghai banking Corporation Ltd.
ICICI Bank Ltd	ABN Amro Bank N.V
Bank of Baroda	IDBI Ltd
Canara Bank	Punjab National Bank
Citi bank N.A	Standard Chartered Bank
Corporation Bank	State Bank of Travancore
Detshe Bank	State Bank of Hyderabad
HDFC Bank Ltd	Syndicate Bank

- The Bank Guarantees of all Public sector banks shall be accepted (Other than consortium banks also).
- The Bank Guarantees of Co-operative banks shall not be accepted.
- Bank Guarantees of other banks (banks other than consortium bank, public sector bank, & Co-operative banks) can be accepted subject to an overall exposure limit (at BHEL, PSWR, Nagpur) of RS. 10 crores for banks with net worth of more than Rs. 500 crores as on last balance sheet date and Rs 5 crores for banks with net worth between Rs. 350 to Rs 500 crores(A certificate and copy of latest Balance Sheet to be given at the time of submission of bank guarantees .
- In case Bank Guarantees given by non consortium banks (Private sector or Public sector), the bank Guarantees shall be enforceable at Nagpur, Maharastra.

APPENDIX-I

LIST OF EQUIPMENTS TO BE MOBILISED TO SITE FOR ONE SITE (MINIMUM)

<u>S. No.</u>	<u>Description</u>	<u>Quantity</u>
1	Shell and auger boring set	1
2.	Rotary core drilling unit (Hydraulic feed)	1
3.	Static cone penetration test equipment - 20T capacity	1
4.	Dynamic cone penetration test equipment	1
5.	Plate load test set up	1
6.	Field permeability test set up	1
7.	Menard pressure meter or equivalent set up with limit pressure of 80kg/sq.cm.	1
8.	Seismic refraction test set up	1
9.	Electrical resistivity test set up	1

Note:

Additional equipments shall be mobilized if required as per the directions of the engineer-in-charge to match the work schedule.

APPENDIX-II

DETAILS OF SIMILAR WORK CARRIED OUT DURING LAST FIVE YEARS AND CURRENT COMMITMENTS

Sr. No	Description of work	W.O. No. & date	Contract Value	Schedule date of Completion	Act. Date of completion	Status	Remark

Please attach separate sheet if required.

BHEL:PS WR

TS NO : BHE/PW/PUR/RATE CONTRACT-GEO/642 50

SIGN OF BIDDER WITH SEAL

APPENDIX-III

MONTHWISE MANPOWER DEPLOYMENT PLAN FOR ONE SITE (CATEGORYWISE NUMBERS TO BE INDICATED FOR EACH MONTH)

SN	CATEGORY	M O N T H S		
		1	2	3
01	Geotechnical engineer			
02	Engineers (Geologist)			
03	Supervisors			
04	Rig operators			
05	Store keepers			
06	Electricians			
07	Helpers/semiskilled workers			
08	Unskilled workers			
MONTHWISE TOTAL				

Note:

Indicate minimum manpower to be deployed at site.

APPENDIX - IV
ANALYSIS OF TOTAL QUOTED RATE

SL. NO.	DESCRIPTION	PERCENTAGE OF UNIT RATE QUOTED	REMARKS IF ANY
01	Site facilities viz. Accommodation, Electricity, water, other infrastructure and administrative expenses		
02	Salary & wages		
03	Consumables		
04	Depreciation & maintenance for T&P and other items		
05	Expenses for Laboratory analysis		
06	Preparations of reports		
07	Overheads		
08	Profit		
	Total	100%	

SIGNATURE OF TENDERER

APPENDIX-V

Following Drawings are enclosed with the tender

SN	Title	Document ref. no.
1	Bench Mark Pillar	PE-TS-F70-601-001 (Figure-1)
2	Grid Pillar /Reference Pillar	PE-TS-F70-601-001 (Figure-2)
3	Topographical Survey Layout	Shall be issued along with LOA
4	Geotechnical Investigation Layout	Shall be issued along with LOA

Note


The above listed drawings are tentative and strictly for tender purpose only. Change in the drawing, if any, will be intimated during execution. These drawings are the property of BHEL and should not be made use of by the contractor except for the purpose of implementing this contract. All these drawings should be returned to BHEL on completion of the work. The interpretation of BHEL engineer regarding the details shown in the details shown in the drawing shall be final, conclusive and binding.

APPENDIX-VI

SUMMARY OF LABORATORY TEST RESULTS
ON ROCK CORE SAMPLES

BORE HOLE NO.	
DEPTH	
CORE PIECE NO.	
MOISTURE CONTENT	
SPECIFIC GRAVITY	
HARDNESS	
POROSITY	
DRY DENSITY	
SLAKE DURABILITY	
POINT LOAD STRENGTH INDEX	
DEFORMABILITY (DRY /SATURATED)	
UNCONFINED COMPRESSIVE STRENGTH (INSITU/SATURATED)	
CORE DESCRIPTION	
REMARKS	

APPENDIX-VII

	STANDARD SPECIFICATION FOR GEOTECHNICAL INVESTIGATION -																		SPEC. NO. PE-TS-311-602-002 VOLUME II SECTION D REV. NO. 0 DATE 24.05.2008 SHEET 47 OF 50														
	SUMMARY OF LABORATORY TEST RESULTS ON SOIL SAMPLES																																
	BORE HOLE/ TRIAL PIT NO.	DEPTH (m)	TYPE OF SAMPLE	DENSITY (kN/Cum)		WATER CONTENT (%)	PARTICLE SIZE (%)				ATTERBERG'S LIMITS				SOIL			STRENGTH TEST			CONSOLIDATION TEST					SWELL TEST		COMPACTION TEST			RELATIVE DENSITY	PERMEABILITY(m/hr)	REMARKS
				BULK	DRY		GRAVEL	SAND	SILT	CLAY	LL	PL	PI	SL	IS CLASSIFICATION	DESCRIPTION	SPECIFIC GRAVITY	TYPE	C	φ	e _o	P _c	C _c	p	m _v	C _v	S.Pr	FSI	MDD	OMC			
<u>For type of sample</u> DS Disturbed soil sample UDS Undisturbed soil sample RMS Remoulded soil sample WS Water sample													<u>For others tests</u> LL Liquid Limit (%) PL Plastic Limit (%) PI Plasticity Index (%) SL Shrinkage limit (%) C Cohesion (kN/Sq.m)										p m _v Cv		Pressure range (kN/Sq.m) Coefficient of volume compressibility (Sq.m/kN) Coefficient of consolidation (Sq.m/hr)								
																							MDD		Maximum Dry Density (kN/Cum)								
																							OMC		Optimum moisture content (%)								

<u>For strength test</u>		ϕ	Angle of internal friction (degrees)	CBR	California Bearing Ratio (%)
UCC	Unconfined compression test	S.Pr	Swelling pressure (kN/Sq.m)		
VST	Vane shear test	FSI	Free swell index (%)		
Tuu	Unconsolidated undrained triaxial test	e_o	Initial Void ratio		
Tcu	Consolidated Undrained	Pc	Preconsolidation pressure (kN/Sq.m)		
	Triaxial test with pore pressure	Cc	Compression index		
Tcd	Consolidated drained triaxial test				
(Note: Replace T by D for Direct Shear test)					

APPENDIX-VIII

INDICATIVE LIST OF TEST TO BE CARRIED OUT

(PLEASE REFER SEPARATE SHEET)

S.N.	Test place	Subject	Test required to be done	Specification ref.
1	Field investigation			
	1	Drilling boreholes through all kinds of soil including rock	1)SPT 2)Stand pipes and piezometers for GWT. 3)Sub soil water samples for Chemical analysis like pH, turbidity, sulphate, carbonate, nitrate, chloride contents, presence of organic content and Suspended Solid in laboratory 4)Permeability test: (a) By Constant head method or (b) Falling head method (c) Single and double packer method for rocks 5)Field vane shear test 6)Pressure meter test 7)Cross hole shear test 8)Lab tests	Cl. No.6 ,P/8 of 50
	2	Drilling boreholes through rock with NX size & TC bits.		Cl. No.6 ,P/8 of 50

	3	Excavation of trial pits in all types of soil & weathered rock	1)Percolation test for permeability 2)SPT 3)Undisturbed samples are used to estimate physical,strength and settlement properties of soil for which static cone penetration test can be done which is useful to estimate various physical and engineering properties of soil in a strata.	Cl. No.6.6 ,P/20 of 50
	4	Plate load test (PLT)		Cl. No.6.10 ,P/24 of 50
	5	Static Plate load test (SPLT)	As per IS code (if required)	
	6	Cyclic Plate load test (CPLT)		Cl. No.6.11 ,P/25 of 50
	7	Standard Penetration Test (SPT)		
	8	Dynamic cone penetration test(DCPT)		Cl. No.6.9 ,P/23 of 50
	9	Static cone penetration test(SCPT)		Cl. No.6.8 ,P/23 of 50
	10	Electrical resistivity test. (ERT)		Cl. No.6.13 ,P/26 of 50
	11	Pressure Meter test (PMT)		Cl. No.6.16 ,P/28 of 50
	12	Seismic refraction test (SRT)		Cl. No.6.14 ,P/26 of 50
	13	Cross hole Shear wave test (CHSWT)		Cl. No.6.15 ,P/27 of 50
	14	Field vane shear test (FVST)		Cl. No.6.7 ,P/22 of 50
	15	Pump-in type Field permeability test (FPT) by -		

		(a) Falling head method (in bore hole)		Cl. No.6.5.2 (b),P/19 of 50
		(b) Constant head method (in bore hole)		Cl. No.6.5.2 (a),P/19 of 50
		(c) Percolation Test (in trial pit)		Cl.No.6.5.2 (c) ,P/19 of 50
	16	Field permeability test (FPT) by -		
		(a) Single Packer method		Cl.No.7.6(a) ,P/34 of 50
		(b) Double Packer method		Cl.No.7.6(b) ,P/34 of 50
	17	Wave propagation test	As per IS code (if required)	
	19)	Field CBR test		Cl.No.6.12 ,P/26 of 50
	20)	Pressure meter test		Cl.No.6.16,P/28 of 50
2	Laboratory Test on Soil Samples			
	1	Bulk density and moisture content	Undisturbed soil samples	Cl. No. 8.2, P/36 of 50
	2	Sieve analysis		Cl. No. 8.2(a), P/36 of 50
	3	Hydrometer analysis		Cl. No. 8.2(a), P/36 of 50
	4	Liquid limit and plastic limit		Cl. No. 8.2(a), P/36 of 50
	5	Shrinkage limit		Cl. No. 8.2(a), P/36 of 50
	6	Specific gravity	Disturbed sample	Cl. No. 8.2(a), P/36 of 50
	7	Swell pressure		Cl. No. 8.2(a), P/36 of 50
	8	Free swell index		Cl. No. 8.2(a), P/36 of 50
	9	Relative density(for sand)	Undisturbed soil samples	Cl. No. 8.2, P/36 of 50
	10	Unconfined compressive strength	Undisturbed soil samples	Cl. No. 8.2, P/36 of 50
	11	Box shear test	Undisturbed soil samples	Cl. No. 8.2, P/36 of 50

	12	Direct shear test		
	13	Triaxial shear test	Undisturbed/disturbed soil samples depending on type of soil and field conditions	Cl. No. 8.2, P/36 of 50
		(a) unconsolidated undrained		
		(b) Consolidated undrained test with the measurement of pore water pressure		
		(c) Consolidated drained		
		One dimensional consolidation test		
	15	Standard Proctor compaction test		NA
	16	CBR test	Undisturbed/disturbed soil samples	Cl. No. 8.3(h), P/36 of 50
		(a) soaked conditions		
		(b) un-soaked conditions		
	17	Chemical analysis		
	Chemical analysis of sub soil water	Determination of pH,carbonate,sulphate,chloride and nitrate contents,organic matter,salinity and any other chemicals harmful to foundation material		Cl.No.8.3(f) ,P/38 of 50
	Chemical analysis of sub soil water sample	Colour,odour,turbidity,pH and chemical contents such as carbonate,sulphate,chloride,nitrate,organic matter and any other chemicals harmful to foundation material		Cl.No. 8.3(g) ,P/38 of 50
	18	Consolidation test		
	19	Bearing capacity		
3	Laboratory Test on Rock Samples			
	1	Moisture content, porosity & density		Cl. No. 8.2(C), P/37 of 50
	2	Specific gravity		Cl. No. 8.2(C), P/37 of 50

	3	Hardness		Cl. No. 8.2(C), P/37 of 50
	4	Slake durability index		Cl. No. 8.2(C), P/37 of 50
	5	Unconfined compressive strength		Cl. No. 8.2(C), P/37 of 50
		(a) saturated		
		(b) In-situ water content		
	6	Point load strength		Cl. No. 8.2(C), P/37 of 50
	7	Deformability test (Saturated & Dry sample)		Cl. No. 8.2(C), P/37 of 50
	Disturbed samples	lab tests such as sieve analysis,index properties,specific gravity,chemical analysis.which was available from SPT		
	Undisturbed samples	to estimate physical,strength and settlement properties of soil		
	Note	Drilling boreholes through all kinds of soil including rock	All Bore-Log should have the following information apart from the other test report	
			I: No. of boreholes,	
			II: depth of boreholes,	
			III: Co-ordinates (m)	
			IV: Ground Elevation(R.L.) m	
			V: Ground Water Table (GWT) m	

