

# TENDER SPECIFICATION

**BHEL:PSSR:SCT: 1172**

**FOR**

Construction of 1 No. office Building of 32M x 12M  
6 Nos Closed Stores shed of 32M x 12M and 1 No of  
Semi – Closed Stores Shed of 32M x 12M including  
Electrification Water supply, Sanitary arrangement  
for BHEL

**at**

**Vijayawada Thermal Power Project**

**1 X 500 MW APGENCO**

**Vijayawada, Andhra Pradesh**

**PART – I TECHNICAL BID**

**BOOK NO :**



**BHARAT HEAVY ELECTRICALS LIMITED**

(A Government of India Undertaking)

Power Sector – Southern Region

690, Anna Salai, Nandanam, Chennai – 600 035.

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## **Bharat Heavy Electricals Limited**

(A Govt. of India Undertaking)

Power Sector – Southern Region

EVR Periyar Building

690 , Anna Salai, Nandanam, Chennai – 600 035.

### **Tender Specification No. BHEL:PSSR:SCT: 1172**

Messrs

Date:

Dear Sir,

SUB: Construction of 1 No. office Building of 32M x 12M  
6 Nos Closed Stores shed of 32M x 12M and 1 No of  
Semi – Closed Stores Shed of 32M x 12M including  
Electrification Water supply, Sanitary arrangement  
for BHEL, at Vijayawada Thermal Power Project,  
1 x 500 MW APGENCO, Vijayawada, Andhra  
Pradesh.

Please find enclosed one set of non-transferable tender documents containing - 66 - pages along with general conditions of contract Booklet and Drawings for the above work.

You are requested to go through the tender documents, GCC Booklet and Drawings and offer your most competitive rate and submit the tender documents duly filled in as per procedure indicated in the tender specification along with requisite EMD of Rs.2,00,000/- (Rupees Two lakhs only) in the form Demand Draft drawn in favour of M/s.Bharat Heavy Electrical Limited Chennai - 35. Bids with Deviations from the tender conditions will be rejected.

A SEPARATE LETTER SHALL BE FURNISHED INDICATING THAT THERE ARE NO DEVIATIONS FROM THE TENDER CONDITIONS ( As in Page 8.)

The completed quotations shall reach the office of the under signed on or before 15.03.2006 at 15.00 Hrs. The Technical bids, will be opened on the same day at 16.00 hrs. We shall separately intimate the date for opening the price bids only to those parties who are technically Qualified. You are requested to depute your authorized representative at the time of opening.

**ANY REVISION OF RATES / PRICES WHATSOEVER AFTER THE TIME AND DATE MENTIONED IN TENDER SPECIFICATION FOR SUBMISSION OF COMPLETED QUOTATIONS SHALL NOT BE ENTERTAINED UNLESS CALLED FOR SPECIFICALLY BY BHEL.**

After opening of technical bids, after ascertaining the submission of "No deviation Declaration" by the bidders, Price Bids of parties who have furnished the no deviation Declaration certificate only will be opened.

You are requested to depute your authorized representative at the time of opening.

In case you are not participating in this, you may return the document immediately.

Kindly note that BHEL reserves the right to reject any or all tenders without assigning any reason.

Thanking you,

Yours faithfully,  
For and on behalf of  
BHARAT HEAVY ELECTRICALS LIMITED

SENIOR DEPUTY GENERAL MANAGER / CONTRACTS

This Tender document is not transferable.

Place : Chennai -35

Encl: One set of Tender documents along with GCC Booklet and Drawings.



## **Bharat Heavy Electricals Limited**

(A Govt. of India Undertaking)

Power Sector – Southern Region

EVR Periyar Building

690 , Anna Salai, Nandanam, Chennai – 600 035.

### **SPECIAL INSTRUCTIONS TO BIDDERS**

The Bidder must submit their bids as requested in a sealed cover prominently superscribing the Tender Specification number, due date and time of submission as mentioned in the **TENDER NOTICE**.

The following information shall be furnished by the Bidder along with their offer (Technical Bid cover)

01. Details of previous experience during the last five years indicating contract value, duration, completion period and present engagement as per G.C.C.
02. Organisation structure of the Company as per GCC.
03. Financial status of the firm enclosing balance sheet and profit and loss account for the past 3 years and certificate from the Company's Banker as per G.C.C
04. Turnover of the Company in last 3 Financial years pertaining to this scope of work only.
05. Latest Income Tax clearance certificate.
06. BIO DATA of key personnel presently in the Rolls of the company and proposed site organization for carrying out the work including deployment of Engineers and Supervisors.
07. Declaration sheets as per Appendix of Tender Specification.
08. Checklist and Schedule of General particulars as per Appendix in GCC.
09. T & P owned/deployment details as per G.C.C.
10. Technical manpower deployment details as per G.C.C
11. Other relevant details as per GCC and checklist.

12. These terms and conditions will be read and construed along with General Conditions of contract and in case of any conflict or inconsistency between the General conditions and the Terms and conditions of the tender specification, the provisions contained in the Term and conditions (NIT, Rate Schedule, Common conditions, Special Conditions including Appendices) shall prevail.

**13. THE BIDDERS ARE REQUESTED TO FURNISH THE DOCUMENTS LIKE COPIES OF LOI'S, WORK ORDER'S ETC PERTAINING TO THE EXPERIENCE INDICATED IN QUALIFYING REQUIREMENTS, AS GIVEN BELOW.**

**14. QUALIFICATION REQUIREMENT**

a) The bidders should have executed construction of buildings and other civil works in the last seven years.

b) The bidders should have a minimum average financial turn over of Rs.115 Lakhs per year in the preceding three financial years ending 31<sup>st</sup> March 2005.

The Bidder must have earned profit in any one of the last three financial years ending 31.03.2005 and should have positive networth as on 31.03.2005.

Bidder should submit audited balance sheet and profit & loss account of the company for last three years ending 31.03.2005 in support of above requirement.

c) Notwithstanding the above, BHEL reserves the right to reject any Tender or all the Tenders for reasons whatsoever beyond our control and the decision of BHEL is final.

LD / Penalty shall be leviable as per the applicable clauses of GCC.

15. TENDERERS HAVE TO FURNISH A DECLARATION SHEET INDICATING THAT THERE IS NO DEVIATION IN TENDER DOCUMENTS (AS IN PAGE 8). TENDERERS MAY FURTHER NOTE THAT THIS DECLARATION IS A PREREQUISITE FOR BHEL TO CONSIDER THEIR BIDS. BIDS SUBMITTED WITHOUT "NO DEVIATION DECLARATION" WILL BE REJECTED BY BHEL.

**16. SAFETY PLAN**

Bidder may further note that the submission of safety plan is a prerequisite for BHEL to consider their bids.



## **Bharat Heavy Electricals Limited**

(A Govt. of India Undertaking)

Power Sector – Southern Region

EVR Periyar Building

690 , Anna Salai, Nandanam, Chennai – 600 035.

### **PROCEDURE FOR SUBMISSION OF SEALED BIDS**

The Tenderers must submit their bids as required in two parts in separate sealed covers prominently superscribed 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 and details called for in the specification shall be enclosed, in part I Technical Bid only.

#### Part II (Price Bid) Cover II

All indications of price shall be given in this part II Price Bid.

Tenderers are requested to quote their rates, only in the price bid (part II) provided by BHEL. Quoting of rates in any other form / formats will not be entertained.

These two separate cover I & II (Part I and Part II) shall together be enclosed in a third envelope (Cover III) along with requisite EMD as indicated and this sealed cover shall be superscribed and submitted to Senior Deputy General Manager/Contracts at the above mentioned address before the due date as indicated. The Tenderers will be intimated separately in case any clarifications are required.

#### NOTE:

Tenderers are issued with 2 Nos. of Technical Bids, 2 Nos. of Price Bids and 2 Nos. of GCC booklet., out of which one set of each document shall be retained by them for their reference. Balance one set shall be submitted along with their offer as per procedure indicated above.

EMD amount for this Tender is Rs.2,00,000/- (Rupees Two Lakhs only). This EMD amount shall be submitted in the form demand draft only drawn in favour of M/s. Bharat Heavy Electricals Limited, Chennai – 35.

EMD amount in the form of Bank Guarantee / fixed deposit receipt or in any other form will not be Accepted.

**ANY REVISION OF RATES / PRICES WHATSOEVER AFTER THE TIME AND DATE MENTIONED IN TENDER SPECIFICATION FOR SUBMISSION OF COMPLETED QUOTATIONS SHALL NOT BE ENTERTAINED UNLESS CALLED FOR SPECIFICALLY BY BHEL.**

Sr. Deputy General Manager/Contracts.



## **Bharat Heavy Electricals Limited**

(A Govt. of India Undertaking)

Power Sector – Southern Region

EVR Periyar Building

690 , Anna Salai, Nandanam, Chennai – 600 035.

### **TENDER NOTICE**

Sealed Tenders are invited from reputed contractors with sufficient previous experience in the under mentioned similar nature of work:

Tender Specification No. BHEL:PSSR:SCT: 1172

Description	EMD
Construction of 1 No. office Building of 32M x 12M 6 Nos Closed Stores shed of 32M x 12M and 1 No of Semi – Closed Stores Shed of 32M x 12M including Electrification Water supply, Sanitary arrangement for BHEL, at Vijayawada Thermal Power Project, 1 x 500 MW APGENCO, Vijayawada, Andhra Pradesh.	Rs.2,00,000/- (Rupees Two Lakhs only)

Cost of Tender Documents (Including all Taxes)	:	Rs.1105/-	
Sale Starts on	:	20.02.2006	
Sale closes on	:	06.03.2006	
Due date and Time for Submission	:	07.03.2006	15.00 Hrs.
Date and time for opening Of Technical Bids	:	07.03.2006	15.30 Hrs.

## **QUALIFICATION REQUIREMENT**

- a) The bidders should have executed construction of buildings and other civil works in the last seven years.
- b) The bidders should have a minimum average financial turn over of Rs.115 Lakhs per year in the preceding three years ending 31<sup>st</sup> March 2005.

The Bidder must have earned profit in any one of the last three financial years ending 31.03.2005 and should have positive networth as on 31.03.2005.

The bidders should submit audited balance sheet and profit & loss account of the company for last three years ending 31.03.2005 in support of above requirement.

- c) Notwithstanding the above, BHEL reserves the right to reject any Tender or all the Tenders for reasons whatsoever beyond our control and the decision of BHEL is final.

LD / Penalty shall be leviable as per the applicable clauses of GCC.

Interested parties can get the Tender documents from the office of the Senior Deputy General Manager / Contracts on all working days by remitting the cost of tender documents either by Cash or A/c Payee Demand Draft drawn in favour of M/s. Bharat Heavy Electricals Limited, Chennai – 600 035. Money order, Cheques and Postal Orders will not be accepted.

Bharat Heavy Electricals Limited takes no responsibility for any delay, loss or non-receipt of tender documents sent by post and also reserves the right to reject any or all the tender without assigning any reason therefor. **TENDER NOT ACCOMPANIED BY THE PRESCRIBED EARNEST MONEY DEPOSIT ARE LIABLE TO BE SUMMARILY REJECTED.**

SENIOR DEPUTY GENERAL MANAGER/CONTRACTS

*TENDER SPECIFICATION : BHEL:PSSR:SCT:1172*

*CERTIFICATE FOR NO DEVIATION*

I, \_\_\_\_\_ of  
M/s \_\_\_\_\_  
hereby certify that there is no deviation from the Tender conditions either  
technical or commercial and I am agreeing to all the terms and conditions  
mentioned in the Tender Specification.

*SIGNATURE OF THE TENDERER*

## OFFER OF CONTRACTOR

Senior Deputy General Manager/Contracts  
Bharat Heavy Electricals Limited,  
Power Sector : Southern Region  
690, Anna Salai,  
Nandanam,  
Chennai – 600 035.

Sir,

I/We hereby offer to carry out the work detailed in Tender Specification No.BHEL:PSSR:SCT:1172 issued by Bharat Heavy Electricals Limited, Power Sector : Southern Region, 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 Tenderer
2. General Conditions of Contract
3. Special conditions of Contract
4. Other Section, Appendices and Schedules

I/We have deposited/forwarded herewith the Earnest Money Deposit/a sum of Rs.2,00,000/- (Rupees Two Lakhs only) vide DD.No. .  
Dt. which shall be refunded should our offer not be accepted.  
Should our offer be accepted, I/We further agree to deposit such additional sum which along with the sum of Rs.2,00,000/- ( Rupees Two Lakhs only) mentioned above, to make up the Security Deposit for the work as provided for in the Tender Specification within the stipulated time as may be indicated by BHEL, Power Sector : Southern Region, Chennai – 600 035.

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

DATE:

CONTRACTOR:

PLACE:

ADDRESS:

Witness with their address

Signature

Name

Address

## PROJECT INFORMATION

<b>1.0</b>	<b>SITE CONDITIONS</b>	<b>: Stage – I, II, and IV</b>	
1.1	Location	: Vijayawada Thermal Power Station site is located on the left side of the River Krishna at a distance of 2 KM. The Site is located between Ibrahimpatnam and Kondapalli Village in Krishna District and 16 KM North side of Vijayawada City and 185 KM from Hyderabad. The site lies at an elevation of about 26.5 metre above the seal level.	
1.2	Climate	: Tropical-Hot-Humid	
1.3	Type of Atmosphere	: Tropical conducive for fungus growth and highly humid	
1.4	Altitude	: 26.5 m above mean seal level	
<b>2.0</b>	<b>AMBIENT TEMPERATURE (<sup>0</sup>C)</b>	<b>Stage-I,II,III</b>	<b>Stage – IV</b>
2.1	Minimum (Annual average	: 15.5	13.0
2.2	Maximum (annual average)	: 45.0	47.6
2.3	Design ambient temperature	: 50.0	50.0
<b>3.0</b>	<b>HUMIDITY (%)</b>		
3.1	a. Maximum during Monsoon (June to October)	: 81	82
	b. March maximum relative humidity :	76	79
3.2	a. Minimum during Summer (March to June)	: 43	45
	b. March minimum relative humidity :	43	45
3.3	Maximum wet bulb ( <sup>0</sup> C)	: 25.5	26

#### **4.0 RAINFALL (mm)**

4.1	Maximum per annum	:	1183.3	1488.9
4.2	Minimum per annum	:	696.9	621.7
4.3	Average per annum	:	1032.0	998.0
4.4	Tropical monsoon	:	June to October	
4.5	Average number of rainy days	:	62.1	56.1
4.6	Maximum per hour (approx.)	:	150.4 mm	

#### **5.0 WIND VELOCITY & PRESSURE :**      **Stage – I, II, III**                      **Stage – IV**

a.	Mean wind speed annual	:	12.2 KM/h	16.5 KM/h
b.	Maximum wind velocity	:	175 to 200 KM/h	55 m / Sec
c.	Wind pressure (kg/sq.m	:	As per latest revision of IS:875/1964 Part – III	As per IS:875 (part-3)-1987

#### **6.0 SEISMIC FACTORS :**      **Stage – I, II, III**                      **Stage – IV**

6.1	Horizontal Seismic	:	As per latest revision of IS:875/1964 Part – IV	Seismic Zone:III: As per 1893 (part-1) – 2002
6.2	Vertical Seismic coefficient	:	As per latest revision of IS:1893/1975	-
6.3	Seismic Load	:	As per latest revision of IS:1893/1975	-
6.4	Zone factor (Z)	:	-	0.16 as per IS: 1893 (Part-1): 2002
6.5	Importance factor(i)	:	-	1.5
6.6	Response reduction factor	:	-	5.0
6.7	Damping	:	-	a) 5% for concrete Structure b) 2% for steel Structure.

## **Section III**

### **Common conditions of contract**

#### **3.1 Scope of contract**

- 3.1.1 The Contractor shall carry out the work in accordance with instructions/drawings/specifications/standard.
- 3.1.2 Provisions of all types of labour, supervisors, watch and ward as required, tools and tackles as required consumables as required under various clauses of Tender Specifications.
- 3.1.3 Completion of work in time.
- 3.1.4 Good quality and accurate work-man-ship.

#### **3.2 FACILITIES TO BE PROVIDED BY BHEL**

- 3.2.1 Open space for construction of temporary office & storage shed will be provided by BHEL and contractor has to make his own arrangements for his labour tenements.

#### **3.2.3 ELECTRICITY / WATER**

Construction power / water shall be supplied by BHEL free of cost. However initially power supply / water is to be arranged by the bidder at their cost for a period of one month till BHEL makes the arrangement. The contractor has to provide/ arrange for sufficient required quantum of water for continuous operation without any stoppage. The required water storage containers shall be arranged at the site by the contractor. Water should not be a shortage for construction purposes and as well as for curing. No structure should get damaged because of lack of curing. Any damage caused because of this, BHEL decision in charging a lumpsum amount deduction is final. Contractor has to put adequate number of people for curing as decided by the BHEL Engineer. Decision of BHEL Engineer is final.

### **3.2.4 TOOLS & TACKLES**

BHEL will not provide any tools and plants for the execution of this work. The contractor shall provide tools, plants at his cost.

### **3.2.5 MATERIALS**

All the materials that are necessary for the satisfactory completion of work including cement, reinforcement steel, structural steel, aggregates etc shall have to be arranged by the contractor at his own cost.

### **3.2.6 CONSUMABLES:**

All the necessary consumables that are necessary for the satisfactory completion of work including oxygen/Acetylene, electrodes etc. shall have to be arranged by the contractor at his cost.

### **3.3 FACILITIES TO BE PROVIDED AND DEVELOPED BY THE CONTRACTOR AT HIS COST.**

3.3.1 It shall be the responsibility of the contractor to construct his own office shed, with all facilities like electricity, water supply, sanitary arrangements in the area allotted to him for the purpose.

3.3.2 Distribution of water for construction purpose by arranging storing sumps or tankers and as well as drinking purposes, shall be contractor's responsibility and at his cost.

3.3.3 Provision and distribution of electrical power to the required places with proper distribution boards approved cables and cable laying including supply of all materials like cables, switch boards, pipes etc., observing the safety rules laid down by electrical authority of the State/BHEL/their customer with appropriate statutory/requirement.

3.3.4 Adequate lighting facilities such as flood lamps and hand lamps and area lightings shall be arranged by the contractor at the site of construction, contractor's material storage area, etc., at his cost.

3.3.5 On completion of work, all the temporary buildings, structures, pipelines, cables etc., shall be dismantled and levelled and debris shall be removed as per instructions of BHEL by the Contractor at his cost. In the event of his failure to do so, the expenditure towards the

clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.

### **3.4 SUPERVISORY STAFF AND LABOUR**

3.4.1 The contractor shall engage all the unskilled and specially skilled labour including brick masons, carpenters, plumbers, electricians, fabricators and fitters etc., and supervisory staff. Only trained and competent personnel with previous experience in the job shall be employed. However, 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 found unsuitable, the contractor shall remove him immediately.

3.4.2 All the materials like steel bars, steel wires, steel Pipes, Steel Flats, bricks, cement, sand, doors & windows for office shed, painting materials, putty, glazing tiles etc., shall be arranged by the contractor as per the specification mentioned in Tender/Indian standard specification. The contractor is required to quote item rates for construction of office shed closed storage shed and fencing around storage yard civil and electrical works inclusive of cost of materials, labour etc. BHEL reserves the right to inspect and reject any material/work not found satisfactory.

### **3.5 GENERAL**

3.5.1 During execution of the job, it is very essential that proper and adequate inspection should be made constantly by the contractor to maintain quality of workmanship and to ensure that deviations from the BHEL drawings not exceed the permissible limits, which shall be approved by BHEL.

3.5.2 The contractor shall visit the site and ascertain the local conditions, entry and traffic restrictions, all construction in the area and also ascertain all site conditions and particularly the sub soil conditions etc. The contractor shall allow for extras likely to be incurred due to such condition and no extra claim shall be entertained on this account under any circumstances from the contractor.

3.5.3 The contractor shall provide and maintain at his own cost pumps and other equipment to keep the works free from water and continue to do so until handing over of the work. The contractor shall clear all trees,

rubbish, vegetation, rod, brickbats etc., and dispose them suitably in allotted areas at his own cost.

- 3.5.4 The contractor shall take adequate precautions to ensure complete safety and prevention of accidents at site. The safety precautions shall confirm to IS codes wherever applicable.
- 3.5.5 The contractor shall level the site in accordance with the sequence of earth levelling as shown in the drawings or as directed by the Engineer at his own cost.
- 3.5.6 Wherever blasting is essential the contractor has to carry out the same at his own cost.
- 3.5.7 The items though not specifically mentioned either in the drawings or in the tender specifications/rate schedule but are needed to complete the erection of office shed, closed storage shed as stipulated under the specifications are also to be erected to entire satisfaction of BHEL Engineer and as per IS specification.
- 3.5.8 The detailed drawings and specifications will form part of the tender documents. BHEL reserves the right to modify/alter the tender drawings, if necessary and the price will remain firm as per item rates quoted.
- 3.5.9 The contractor shall submit the labour and staff strength (skill wise) details to Engineer in charge every month and promptly notify whenever variation occurs.

### **3.6.0 PROGRESS OF WORK**

During the course of erection, if the progress is found unsatisfactory or if the target dates fixed from time to time for every milestone are to be advanced, or in the opinion of BHEL, if it is found that the skilled workman like fitters, operators, technicians, etc., employed are not sufficient, BHEL will induct required additional workmen to improve the progress and recover from the contractors bills, all charges incurred on this account including all expenses together with BHEL overheads.

The progress reports shall indicate the progress achieved against planned with reasons indicating delays if any, shall also furnish in detail the reason for the same and shall give remedial action which the contractor intends to take to make good the slippage on lost time, so

that further works can proceed as per the original programme and the slippage do not accumulate and affect the overall programme.

The contractor shall submit daily, weekly and monthly progress reports, manpower reports, material reports, consumables report and other reports considered necessary by the engineer.

The manpower reports shall clearly indicate the manpower deployed category-wise daily, specifying also the activities in which they are engaged. The periodicity of the reports will be decided by BHEL engineer at site.

The contractor shall arrange for weekly progress review meetings with engineer at site during which actual progress during the week vis-a-vis scheduled programme shall be discussed for action to be taken for achieving targets. The programme for subsequent week shall also be presented by contractor for discussions. The contractor shall constantly update/revise his work programme to meet the overall requirement and suit the material availability.

The contractor shall submit detailed monthly plan after discussion with BHEL Engineer and the same has to be forwarded by the first week of the month (working month or calender month).

### **3.7.0 SAFETY**

- a. T & P used by contractor should be tested quality bearing ISI marks. Necessary test certificates to be produced by the contractor for all the T & P received by him at site for acceptance by BHEL Engineer. BHEL will reject any T & P without IS test certificate and the same cannot be utilised on job.
- b. Only trained and experienced personnel to be used on the job. Signalling for rigging operations must be given by workers who are possessing required skill and experience in handling materials.

3.8.0 Contractor shall strictly follow all safety conditions as per Clause 2.15 and its sub clauses of G.C.C. Booklet.

3.9.0 Non-confirmity of safety rules and safety appliances will be viewed seriously and the BHEL has right to impose fines on the contractors as under:

Sl.No.	Safety	Fine (Rs.)
01	Not wearing safety helmet	50/-
02	Not wearing safety belt	100/-
03	Grinding without goggles	50/-
04	Not using 24V supply for internal work	500/-
05	Electrical plugs not used for hand machines	100/-
06	Not slinging properly	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 properly	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 elec. winches which are being operated dangerously	500/-
13	Improper earthing of electrical T & Ps	500/-

3.9.1 The contractor should exclusively deploy one safety Engineer along with a safety supervisor for effective implementation and coordination of safe working condition.

3.9.2 The contractor should submit the safety plan details as enclosed with the tender and scrupulosly follow the same during the tenure of contract.

### **3.10. Specific Requirement for ISO 9001 - 2000**

#### **Important note**

Contractor shall make all efforts that all their staff/employees are exposed to periodical training programmes conducted by qualified agencies/personnel on ISO 9001 - 2000 standards.

Contractor shall ensure that the quality is maintained in all the works connected with this contract at all stages to the requirement of BHEL.

Contractors shall ensure that all inspection, measuring and testing equipment that are used, whether owned by the contractors or used on loan, are calibrated by the authorised agencies and the valid calibration certificate will be available with team for verification by BHEL. A list of such instruments possessed by contractor at site with its calibration status is to be submitted to BHEL Engineer for verification and on demand.

Contractor shall arrange for the inspection of the works at various stages as required by BHEL. Immediate corrective action shall be taken by the contractors for the non conformances, if any, observed and pointed out by BHEL and records updated.

## **HSE SPECIFIC REQUIREMENT**

### OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM

#### **SUB CONTRACTOR TO ENSURE COMPLAINE OF THE FOLLOWING HEALTH RELATED POINTS**

01. Sub-contractor to identify nearest hospital for Health check up of his staff and workers and intimate BHEL site office & PSSR HQ.
02. To arrange for occupational health check up / screening of contractor's staff and workers engaged in sub contracting activities. In this, category of workmen such as welders, gas cutters, grinders, radiographers, crane operators are to be given exclusive attention in respect of health screening.
03. Sub-contractor to arrange an ambulance vehicle or emergency vehicle on a continous basis to meet any emergency situation arising at site work in which his staff and workers are engaged.
04. To provide appropriate facilities for prompt first aid treatment of injuries and illness at work. One first Aider for each sub contractor to be provided. First Aider should undergo training on first aid.
05. To provide filtered drinking water at selected place in a clean container.

#### **SUB CONTRACTOR TO ENSURE COMPLAINE OF THE FOLLOWING SAFETY RELATED POINTS**

01. Personnel protective equipment (PPES): Required number of following PPES (Confirming to Relevant is Standards ) to be made available to workmen at site and ensured that they are used .
  - ❑ Helmet
  - ❑ Safety goggles
  - ❑ Welding face shields
  - ❑ Safety belts for working at heights
  - ❑ Safety shoes
  - ❑ Ear plugs
  - ❑ Rubber gloves and mats for low tension (I.T) electrical works
  - ❑ Gum boots & aprons
  - ❑ Other items as required by BHEL site

02. Sub contractor to liase with nearest fire station and inform contact telephone number and contact person to meet any emergency.
03. To provide appropriate fire fighting equipment at designated work place and to provide fire fighting training to selected persons in his group of workmen to meet emergencies.
04. To provide adequate number of 24 V power supply points to work in a constrained and enclosed space.
- 05 . All power tapping points / switch boards /power & control cabling should fulfill required electrical safety aspects as per relevant is standard.
- 06 ELCH's (Earth leak circuit breakers) at all electrical distribution points to be provided.
07. Red and white caution tape of proper width ( 1.5 to 2 inch ) to be used for cordoning unsafe area such as open trench, excavated area, etc.
08. To provide sub-contractors company logo or clothing to all staff and workers for identification including identity cards with photographs approved by BHEL.
09. High pressure and structural welders to be identified with colour clothing and to display copy of welders certificate with photographs of welder at the work place. They also should be in possossion of valid welding procedure.
10. To display safe handling procedure for all chemicals such as lube oil, grease, sealing compound, kerosene, diesel etc. At stores & respective work place.
11. Contractor should authorise a person at site to stop work if there is a unsafe work noticed as per his knowledge.
12. Fitness for use of erected scaffolding to be certified by the contractors approved scaffolder and the certificate should be displayed on the scaffolding itself. If the scaffolding is unsafe , the same will not be used. the certificate to be updated daily. The scaffolding to be made as per the relevant is standard.

13. For making platform on the scaffolding , proper thickness and size of the plank of required quality wood to be used. The safe working load of the platform to be displayed on the scaffolding itself. Proper use of platform to be explained to the user.
14. All plant equipment should have inspection report before put in to use.
15. All T&Ps should be of reputed brand and having quality certificates..
16. All imtes should have valid calibration certificate from recommended institution / testing lab and these should be in place.
17. All lifting tackle and plant equipment should have safe working load certificate.
18. The right worker should be deployed for right job and the resume of site incharge, supervisors, and key workers to be submitted before commencement of work..
19. Sub-contractor should submit inspection / testing matrix of all T&Ps and to be approved by BHEL.
20. Sub-contractor to display safety slogan, safety board, caution boards wherever required in consultation with BHEL.
21. Sub-contractor to provide gas detectors of reputed make at desired locations.
22. Sub-contractor to conduct emergency mock drills, one drill per 6 months and submit report to BHEL.
23. Safe handling and storing of all equipment with adequate space to be ensured.
24. Sub contractor to deploy safety supervisor till the completion of the project.
25. Sub contractor to comply the safety reporting procedure of BHEL as practiced at present and also additional requirements that may arise out of future improvements in the safety management system. This includes computation of safety indices such as frequency rate, severity rate & incident rate.

26. Sub contractor to identify probable emergency situations such as electric shocks to workmen , caving in of shored earth , fall from height, collapse of scaffolding fire etc., and should have clear action plan to overcome them. Sub contractor to take required guidance from BHEL in this regard.
27. Sub contractor to identify hazardous activities which he may carryout and should train his workmen in those activities with the relevant operation control procedures. Sub contractor to take required guidance from BHEL in this regard.
28. Safe work permit system to be followed while working in confined space / near electric systems.

**SUB CONTRACTOR TO ENSURE COMPLIANCE OF THE FOLLOWING ENVIRONMENT RELATED POINTS**

1. **HOUSE KEEPING** : Sub contractor to carry out daily house keeping of work areas / stores through a check list prepared in consultation with BHEL.
2. Sub contractor shall adopt pollution prevention / reduce /control approach in all his site activities. this shall include:
  - a. Transporting of oil / chemicals from stores to site safely without causing spillage. in case of any spillage, the area shall be cleaned and the remanant spilled oil disposed off to a safe place, identified for such disposal.
  - b. To use required containers / cans / safety gadgets /appliances for transporting and for usage of oil / chemicals at site.
3. Sub contractor shall arrange for segregation / collection of scraps and dispose off to the identified place meant for scrap collection.
4. Sub contractor to adopt good erection practices / procedures with the objective of reduction of waste generation / rework

## OTHER HSE REQUIREMENTS TO BE COMPLIED BY SUB CONTRACTOR

1. Sub contractor to clearly understand and accept the HSE policy of PSSR with a commitment to comply the requirements of the policy.
2. Sub contractors to arrange for daily meeting of their supervisors and work force before they disperse for their daily planned activities where in the relevant health , safety and environment aspects of the job and use of PPES are explained
3. Sub contractor to conduct monthly HSE meeting ( internal ) and submit the report to BHEL.
4. HSE slogans to be displayed in a proper board – hoarding at designated places in consultation with BHEL.
5. Sub contractor to submit a structured programme for training & occupational Health Screening of their work force at site after the Award of LOI.

## SECTION — VI

### SPECIAL CONDITIONS OF CONTRACT

#### SCOPE OF WORK:

Construction of 1 No office building of 32 M x 12 M, 6 Nos of closed stores shed of size 32 M x 12 M and 1 No semi closed shed of size 32M x 12M including electrification, water supply, sanitary arrangements etc for Vijayawada TPS 1 x 500 MW Unit 7 at Vijayawada, Andha Pradesh.

#### SPECIFICATIONS FOR CIVIL WORKS FOR OFFICE BUILDING

##### 1.0 GENERAL:

- 1.1 All works under this section, unless specified otherwise, shall confirm to the latest revisions of the relevant Indian Specifications. In case any particular aspect of work is not covered by Indian standards, other standard specification as may be specified by the Engineer incharge shall be followed.
- 1.2 The contractor shall carryout all the works in strict accordance with the approved drawings stamped "Released for Construction" and specification issued to him. **No deviation from the drawings will be allowed unless otherwise directed by the Engineer in charge in writing.**
- 1.3 All materials to be incorporated in the work for the construction, shall confirm to the relevant IS specifications unless stated otherwise and shall be of the quality approved by the Engineer.
- 1.4 The drawings are tentative and strictly for tender purpose only. Contractor should ensure/ascertain the stability, safety of the said work. Any modification from the said drawings, if necessary as suggested by the contractor will have to be approved by BHEL in writing.

## **2.0 EARTHWORK EXCAVATION**

- 2.1 Earth work excavation in all types of soil for foundations, trenches including the shoring, strutting, dewatering, filling around foundations and to grade, compaction of fills etc for the works covered under the scope of this contract.
- 2.2 The area to be excavated shall be cleared out of bush, rubbish and leveled up. During excavation, if blasting is required, controlled blasting can be permitted with the prior permission in writing.
- 2.3 Excavated material shall not be deposited within 1.5 M from the top edge of the excavation or within distance equal to the depth of excavation, whichever is higher.
- 2.4 If Contractor excavates beyond the specified depth, the over excavated portion shall be filled back only with 1:4:8 cement concrete and well compacted without any extra cost.
- 2.5 The excavated soil will be disposed off by using it for back filling or by either spreading at designated disposal area. All surplus materials from excavation shall be carried away from excavation side and dumped at dumping site selected by the Engineer.
- 2.6 The earth filling shall be carried out by cutting & removing by Mechanical means, transporting within Plant Building (or) from outside borrowed earth, Filling in layer, watering, compacting by Roller/Compactors to carry out construction works over the filling as per the direction of Engineer Incharge.
- 2.7 All work shall in general be executed as specified in IS 6313 part II for **ANTI TERMITE TREATMENT** and as per approved specification of the agency having special know-how for the job. All necessary work to ensure uniform distribution and proper penetration of treating solution shall be done according to the instruction of the Engineer. Soil treatment shall not be done when the soil is wet with rain or subsoil water. Once formed, the treated soil barrier shall not be disturbed.
- 2.8 Treatment of Column Pits, Wall Trenches, Basement Excavations, foundation and basements etc., may be either be fully enveloped by chemical barrier or the treatment may start 500 mm below ground level. The bottom surface and sides of excavation (upto a height of about 300mm) for column pits.

- 2.9 Wall trenches and basement shall be treated with chemicals at the rate of 5 litres / SQ.M of surface area. Backfills around columns walls etc shall be treated at the rate of 15 litres / SQ.M. of the vertical surface. Chemical treatment shall be done in stages following the compaction of earth in layers. The treatment shall be carried out after the ramming operation is done by rodding the earth at 150mm centers close to the wall surface and spraying the chemicals in the specified dose.
- 2.10 Treatment of Top surface of plinth filling shall be done by holes 50mm to 75mm deep at 150mm centers both ways shall be made with crowbars on the surface of compacted plinth fill. Chemical emulsion at the rate of 5 liters / SQ.M. of surface shall be applied prior to laying soiling or sub-grade. Special care shall be taken to maintain continuity of the chemical barrier at the junction of vertical and horizontal surface.
- 2.11 Special care shall be taken for Treatment of Soil surrounding pipes and conduits at the points where pipes and conduits enter the building and the soil shall be treated for a distance of 150mm and a depth of 75mm at the point where they enter the building. Special attention shall be taken in Treatment of expansion joints and shall be treated in a manner approved by the Engineer.

### **3.0 CONCRETE:**

- 3.1 All the concrete works under the scope of Contract will be done in accordance with the relevant IS standards. The plain cement concrete for the foundations will be of nominal mix like 1:4:8. The reinforced cement concrete will be of 1:2:4 mix unless otherwise specified.
- 3.2 The reinforcement shall conform to the latest revisions of IS specification. The bars will be used of deformed bars conforming to IS 1786. The cutting, bending and placing of the reinforcement will be as per the drawing and direction of Engineer-in-Charge.
- 3.3 The form work should be capable of carrying the dead load of the concrete, the reinforcements and the forces due to vibration.
- 3.4 The form work shall be designed by the Contractor and approved by the Engineer-in-Charge.
- 3.5 Curing shall be done for all the concrete works continuously. The form work will be removed after sufficient curing is done.

#### **4.0 MASONRY WORK:**

##### **4.1 Random Rubble masonry:**

The RR masonry in cement mortar 1:5 shall be done for the foundation as mentioned in the drawing.

##### **4.2 Brick masonry:**

Bricks used are of standard size as required or as directed by Engineer Incharge. The brick work in cement mortar 1:6 shall be done for all the walls all around as shown in the drawing. The pillars will be made of brick work. All the partition works will also be made with brick work.

4.3 The plastering will be done over the brick masonry in cement mortar 1:6 of 12mm thick both for interior as well as external walls.

#### **5.0 STRUCTURAL WORKS:**

5.1 This specification covers the Roofing, structures for office shed and closed storage shed.

5.2 The roofing structures shall cover tubular trusses, purlins, bottom tie runners, anchor plates, base plates and fixing bolts for trusses, asbestos corrugated cement sheets with "J" bolts etc. Any other item not specifically mentioned but required for completion of the structure shall be deemed to have been included in this specification. The Tubular Trusses, purlins, Bottom tie runners will be fabricated from raw materials by the tenderer as per the drawing and as directed by Engineer Incharge to complete the work. The required base plate, Anchor bolt, GI 'J' bolt etc., are to be arranged by the contractor at his cost.

5.3 The trusses shall be of tubular steel welded construction fabricated in places of convenient length for transportation by truck and speedy erection at site. The base plates will be welded to the trusses for fixing the same on pillars. Necessary cleats or fixing plates shall be provided on the trusses, for holding the purlins and the bottom tie runners, all as shown in the fabrication drawing.

5.4 The purlins and bottom tie runners shall be of steel tubes of sizes shown in the drawing. Corrugated asbestos cement sheets shall be used for the roofing. The sheets shall be fixed to purlins with GI "J" bolts, cap washers, bitumen washers. Flat iron wind ties 32 x 5 mm flat shall be provided over the AC sheets for additional protection against wind storms, for all rows with in the Quoted Rates.

## **6.0 FALSE CEILING:**

6.1 The work under this section shall include the supply and installation of suspended ceiling using insulation / acoustic boards / plain asbestos sheet, aluminium panels, plaster of paris boards, "prespex" etc., together with the suspension system as shown on drawing or specified in schedule with all materials, labour and equipments. The work shall also include providing of openings in the ceiling for lighting, Air conditioning diffuser etc., as shown on drawing or instructed by Engineer.

6.2 Suspension system shall consist of the grid supporting the ceiling panels, intermediate runner supports for the grid if any and hangers, wall angels, etc., required to suspend the grid or the runners for structural walls, slabs and beams or trusses proved factory made hanging system as approved by the Engineer may be used.

6.3 All members of the suspension system shall be of sufficient strength and rigidity to carry the ceiling boards or sheets in a true and level plane without exceeding a deflection of  $1/360$  th of their span. All joints in ceiling panels shall run straight and cross joint shall be at perfect right angles. Angle moulds where shown on drawings shall be securely fixed to walls / all drillings of structural concrete and installation of suitable anchoring device for installation including welding of the suspension system shall be included in the rate. All MS sections used for supports etc., shall be given one coat of synthetic enamel paint over a coat of red lead primer. All wood supports shall be painted with two coats of 'solignum' or other approved wood preservative before erection.

6.4 Aluminium grid ceiling shall be "Beadlock" as manufactured by W.A.Beardshell and Co or Ajit India Ltd., or approved equal, steel grid ceiling system shall be of "Jolly Snap Grid" as manufactured by Anil Hardboards Ltd., or approved equal. The contractor shall ensure that

the frame to support the ceiling is designed for its structural strength to withstand the weight of the ceiling boards to be fixed, live load of 75 KG/SQ.CM and other loads such as that of air-conditioning ducts, grills, electrical wiring and lighting fixtures, thermal insulation etc., are as shown in the drawing. The contractor shall also submit a detailed drawings to show the grid work, sizes of grip members method of suspension position of openings, for air-conditioning and lighting, access doors etc., Angle cleats or other suitable fixing device shall be fixed to the structural beam or slab above for fixing of hangers Main runners shall be hung by M.S.flats, angle rods or 12g or heavier galvanized tie wire hangers at maximum 1.2M centers. Extra hangers shall be provided at light fixtures that are supported from the ceiling system. The spacing of main and cross runners shall be as shown on drawings. Turn buckles shall be provided in M.S. rods for adjustment in levels.

- 6.5 The cross tees shall intersect main runners in pattern shown on drawing and positively locked together with intersection clips. All perimeter areas shall have angle mouldings fixed to vertical wall surfaces and end trees shall rest on the moulding, unless otherwise shown on drawings.
- 6.6 The Contractor shall provide necessary opening in the false ceiling for air conditioning, lighting and other fixtures. Additional framing if required, for the above openings shall be provided at no extra cost to the owner. Removable or hinged type inspection or access trip doors shall be provided at locations specified by the owner.
- 6.7 Ceiling panels shall be of best quality material in thickness and properties called for in the 'Schedule of Items'. The contractor shall submit test certificates to the Engineer for approval before bulk supply. The Ceiling panels may be of the following types manufactured by reputed manufacturers.
  - a) Plaster of Paris boards
  - b) Expanded polystyrene insulationboards
  - c) Fibre insulation boards
  - d) Wood particle boards
  - e) Perforated aluminium panels
  - f) Mineral wood ceiling tiles
  - g) Glass fibre reinforced polystyrene sheets
  - h) Flat asbestos sheet

- 6.8 Acrylic plastic sheets, translucent or figured glass sheets, moulded plastic louvers, etc., if used shall be from approved manufacturers and in thickness specified in schedule.
- 6.9 Installations of Ceiling panels shall be strictly as per manufacture's instruction. For exposed grid ceiling system, the hold down clips shall be used at the rate of minimum one per 1.2 meter of perimeter. These shall however be omitted in access panels which shall be located as per the instruction of Engineer.
- 6.10 For concealed grid ceiling system, tiles shall be fixed to the supporting grid in manner shown on drawing or as specified by the manufacturer, where V joints in tiles are called for in drawings, these shall be in true lines.
- 6.11 Where flush surface is required, the joint shall be filled with approved filler material and finished to give a neat uniform surface. Where shown on drawings and schedule of items, 6 mm thick cement:sand (1:3) plaster shall be applied on the under surface of ceiling boards and finished in a true and even surface without undulations suitable for subsequent painting. Special care shall be taken to neatly finish the ceiling at junctions with walls, light fixtures diffusers etc.

## **7.0 DOORS AND WINDOWS**

- 7.1 The doors shutters shall be of flushdoor as specified in the item specifications. The door frame will be made of MS Angle as shown in the drawing. All the joints are made to true line and shape. All the fittings are to be provided as directed by Engineer.
- 7.2 The steel windows and ventilators are made of standard steel sections as per IS 1038. The glazing will be done as per standards and thickness will be 5 mm wire gauged glass.

## **8.0 PELMET:**

This shall be checked for rigidly for fixing and adequate clearance of fixture. Pelmet shall be measured for length of different types enumerated in the schedule.

## **9.0 PAINTING & FINISHING**

- 9.1 All steel surfaces including ventilators, windows, grills, rolling shutter etc shall also be primed with approved steel primer (one coat) and two coats of approved enamel paint so as to achieve as even.
- 9.2 All the structural webbers shall be provided with two coats of anti rust red oxide primer paint after proper cleaning of the surface.
- 9.3 Three coats of white washing shall be provided uniformly on all wall surfaces of the shed as per IS specifications.

## **10.0 WATER SUPPLY & SANITATION**

- 10.1 Necessary sanitary and plumbing works shall be provided for Indian type water closet, urinals and with sufficient water taps and all connections with supply lines/septic tank shall be provided by the contractor in BHEL office shed as per drawing. The material used and the location etc shall be as per the directions of BHEL Engineer even though indicated in the drawing given with tender.
- 10.2 Wash basins, WCs and Urinal pans with water and drainage connections as per drawing enclosed shall be provided, suitable drainage facility shall be provided.
- 10.3 One number septic tank and casspool shall be provided by the contractor at the locations specified by BHEL complete in all respects as per the enclosed drawings.

## **11.0 ELECTRICAL INSTALLATION**

- 11.1 The electrical installation shall generally be carried in conformity with the requirements of the Indian Electricity Act 1910 as amended upto date and the Indian Electricity Rules 1956 framed there under and also the relevant regulations of the Electric Supply Authority concerned as well as IS 732- 1963 (Revised).
- 11.2 Good workmanship is an essential requirement for compliance with the Rules in the Code.

- 11.3 The work shall be carried out under the direct supervision of the person holding a valid certificate of competency issued by the State Government concerned for the type of work involved.
- 11.4 All outdoor/external lamps shall have weather proof fittings of design approved by BHEL Engineer so as to effectively prevent the admission of moisture.
- 11.5 The distribution boards shall be located as near as possible to the centre of the load they are intended to control.
- 11.6 All main switches (unless otherwise specified elsewhere) shall be of metal clad enclosed pattern which shall be fixed at close proximity to the point of entry of supply.
- 11.7 Main and branch distribution shall be in accordance with IS 732-1963 Code of practice for electrical wiring installation.
- 11.8 PVC conduct wiring system should be adopted through out and all conduit pipe shall be conformity to the latest IS.
- 11.9 Approved and good quality wire with adequate current carrying capacity, voltage rating with proper insulation as per IS should be used for the entire electrical wiring/installation.
- 11.10 Mounting height of various equipments from FFL shall be as follows unless noted:
- |                           |   |         |
|---------------------------|---|---------|
| Lighting panel            | - | 1200 mm |
| Lighting control switches | - | 1200 mm |
| Receptacles with switch   | - | 500 mm  |
- 11.11 However, this may vary according to site conditions and contractor to take prior approval of BHEL Engineers before fixing.
- 11.12 Individual lighting circuits inside the building shall be wired with 250/440 grade single core aluminium conductor of 4 mm size and receptacle circuit shall be wired with 6 mm size aluminium conductor standard PVC wires.

- 11.13 Lighting fixtures receptacles, switches, conduits junction boxes and ceiling fan shall be properly earthed by using 14 SWG GI wire.
- 11.14 Incoming cable to lighting panel shall be PVC Aluminium conductor armoured cables.
- 11.15 Ceiling fan regulator, lighting control switches etc shall be mounted to suit the lay out and shall be flush mounted on the walls with good quality plastic/fibre, glass cover.
- 11.16 A separate neutral wire shall be provided for each phase wires.
- 11.17 Tenderer shall quote for unit price for all items listed in bill of materials, for both supply and installation and also quote for point wiring basis.
- 11.18 All lighting fitting shall be supplied with the specified lamps.
- 11.19 All the suspension conduit boxes shall be of GI.
- 11.20 Earthwire shall be run inside the PVC conduits.
- 11.21 The wiring shall be carried out in PVC conduits of maximum size of 19 mm dia and shall be of surface type.
- 11.22 The required number of lighting fitting such as fluorescent lamps and incandescent lamps are given in schedule.
- 11.23 The rate for supply of incandescent and fluorescent lamp shall include for suitable reflectors, suspension device starters, chokes, condensers as required.
- 11.24 The AC supply will be 430 V, 3 phase, 50 cycles. All the power plugs shall be segregated from the light points and wired in a separate circuit.

## **12.0 EARTHING:**

- 12.1 All earthing systems shall be in accordance with IS 3043-1966; Code of practice of Earthing.

- 12.2 The installation and earthing shall generally be carried out in accordance with the Indian Electricity Rules, 1956 as amended from time to time and the relevant regulations of the Electricity Supply Authority concerned.
- 12.3 All plugs and sockets shall be of three pin type. One of the pins being connected to earth.
- 12.4 Bodies of all electrical appliance shall be earthed by the use of three pin plugs. The covers of the regulators, if of metallic construction, shall be earthed by means of separate earth wire. A separate earth wire shall be used for earthing these appliances.
- 12.5 All earth wires and earth-continuity conductors shall be of copper/galvanized iron. They shall be either standard or solid bars of flat rectangular strips and may be bare, provided, due care is taken to avoid corrosion and mechanical damage to it. Inter connections of earth continuity conductors and main branch earth wires shall be made in such a way that reliable and good electrical connections are permanently ensured.
- 12.6 The neutral conductors shall not be used as earth wire.
- 12.7 Welded, bolted and clamped joints only are permissible. For stranded conductor, sleeve connectors are permissible. Bolted connections and their screws shall be protected against any possible corrosion.
- 12.8 The path of the earth wire shall, as far as possible, be out of reach of any person and shall be visible for inspection.
- 12.9 The galvalised iron pipe electrodes shall not be smaller than 38 mm ID and shall not be less than 2.5M in length be embeded below permanent moisture level and shall be of one piece only without any joints.

### **13.0 PRICE ESCALATION**

- 13.1 The quoted/accepted rate has to be kept firm for the entire contractual period including total extended period if any and no claim for revision of rates is allowed under any circumstances.

13.2 However the contractor shall maintain sufficient work force and other resources required for completion of the job expeditiously for the entire contractual period including total extended period.

#### **14.0 TIME SCHEDULE**

14.1 The Contractor should complete Construction One No – office building 32 M x 12 M, 6 No closed stores shed 32 M x 12 M, 1 No Semi closed stores of size 32 M x 12 M including electrification and connected works in all respects within Six (6) months from the actual commencement of work at site.

14.2 The contractor shall start the work within one week from the date of issue of telex/telegraphic letter of intent.

14.3 The rates quoted shall remain firm throughout the contract period till the entire construction work is completed in all respects to the entire satisfaction of BHEL.

14.4 For the above purposes, the work under the specification will be deemed to be completed in all respects, only after successful handing over of the works to BHEL and certified so by BHEL Engineer.

14.5 During the tenure of contract, if BHEL is not satisfied with the progress of work, BHEL have the right to withdraw any portion of work / balance work and get the same done either directly employing their own personnel or through other agency at the risk & cost of the Contractor. The contractor shall not be entitled for any compensation whatsoever in this regard.

#### **15.0 TERMS OF PAYMENT**

15.1 90% of the accepted item rate in the rate schedule shall be paid as certified by BHEL Engineer.

15.2 5% of the accepted item rate in the Rate Schedule shall be paid on the entire execution of work and completion of the same as envisaged in the tender documents duly certified by BHEL Engineer and on submission and acceptance of final bill.

15.3 Balance 5% of the accepted item rate in the rate schedule will be payable after expiry of **6 (SIX) months** after taking over of the entire scope of work by BHEL.

## **16.0 IMPORTANT CONDITIONS FOR PAYMENT**

It may be noted that the first running bill will be released only on production of the following.

- i. PF Regn. No.
- ii. Labour License No.
- iii. Workmen Insurance Policy No.
- iv. Un Qualified Acceptance for Detailed L.O.I.
- v. Initial 50% Security Deposit.
- vi. Rs. 100/- Stamp Paper for Preparation of contract agreement

## **17.0 SPECIAL CONDITIONS OF CONTRACT-GENERAL**

1. The quantities indicated in the rate schedule are approximate and may vary depending on site conditions and any changes in design at the time of construction. The payment in unit rate will be made only based on actual measurement jointly taken at site and certified by BHEL Engineer. No extra claim due to variation in quantities will be entertained. Contractor to make a note of this and to quote accordingly.
2. The quantities of doors, windows, ventilators etc., indicated in the rate schedule may vary slightly due to site conditions and minor design changes at the time of constructions. However payment will be made for actual quantities erected at site and no additional claim will be entertained in this regard. Also some of the windows have to be fabricated/modified to provide AC and the rates quoted should be inclusive of the same. After fixing the AC, the gap all round to be closed to form a perfect seal by providing a thermocoal packing and furnished by fixing laminated sheets for aesthetic view.
3. Price quoted above shall include supply of all materials, their transport, storage and preservations.
4. BHEL reserves the right to reject materials of substandard/not conforming to IS Specifications purchased by the contractor.

5. For flourscent fitting at appropriate safe height when will be decided at site during construction. Contractor to make a note of the same and quote accordingly.
6. Contractor to note that necessary scaffolding for doing any type of job including painting, electrical works etc., even if not specifically mentioned in the rate schedule is in the scope of the contractor.
7. All the electrical fittings, including bulbs, tube lights, flood lights etc., mentioned above shall carry IS markings on them and shall be subject to the approval of BHEL site Engineer prior to their installations and shall be as per make of materials schedule enclosed in Appendix. The contract shall be executed on "FIRM PRICE" basis with no escalations payable on any amount whatsoever rates quoted shall be for all leads, lifts, and heights.
8. Rates quoted shall be inclusive of supply of materials, like cement, sand, bricks, stone, aggregate, lime, jelly, iron and steel materials, all kinds of paints, materials for doors and windows, ventilators, all fittings electrical fittings and their accessories, wooden materials, reinforcement steel, screws, bolts, nuts, washers, 'J' bolts etc., etc., Necessary transport, loading unloading etc all shall be borne by the contractor. All tools and plants required consumables shall be provided by the contractor at his cost.
9. All electrical fittings like fans, Exhaust fans, Tube lights etc., shall be marked / identified with running serial numbers before handingover of the sheds, to enable BHEL to keep inventory of the fittings and for effective control.
10. The contractor is requested to take care of the following statutory clearance which are under the scope of contractor.

The contractor is also requested to refer clause 2.8 of G.C.C. booklet.

- a. Labour License
- b. Provident Fund
- c. Insurance for Bidder's scope of work
- d. Workmen compensation
- e. Local rules governing the works like Electrical Inspectorate etc. Factory Inspectorate.

- f. Professional Tax
- g. Safety Rules & Regulations
- h. Competent Authority approval for Installation works
- i. Employees State Insurance Scheme
- j. Sales Tax on work contract.

## **18.0 PROVIDENT FUND & MINIMUM WAGES**

Your are required to extent the benefit of Provident Fund to the labour employed by you in connection with this contract as per the Employees Provident Fund and Miscellaneous Provisions Act 1952. For due implementation of the same, you are hereby required to get yourself registered with the Provident Fund authorities for the purpose of reconciliation of PF dues and furnish to us the code number allotted to you by the Provident Fund authorities within one month from the date of issue of this letter of intent. Incase you are exempted from such remittance an attested copy of authority for such exemption is to be furnished. Please note that in the event of your failure to comply with the provisions of said Act, if recoveries therefore are enforced from payments due to us by the customer or paid to statutory authorities by us, such amount will be recovered from payments due to you.

The contractor shall ensure the payments of minimum labour wages to the workmen under him as per the rules applicable from time to time in the state.

The final bill amount would be released only on production of clearance certificate from PF/ESI and labour authorities as applicable.

## **19.0 OTHER STATUTORY REQUIREMENTS**

- 1) The Contractor shall submit a copy of Labour License obtained from the Licensing Officer (Form VI) u/r25 read with u/s 12 of Contract Labour (R&A) Act 1970 & rules and Valid WC Insurance copy or ESI Code (if applicable) and PF code no alongwith the **first** running bill.

- 2) The contractor shall submit monthly running bills along with the copies of monthly wages (of the preceding month) u/r78(1)(a)(1) of Contract Labour Rules, copies of monthly return of PF contribution with remittance Challans under Employees Provident Fund Act 1952 and copy of renewed WC Insurance policy or copies of monthly return of ESI contribution with Challans under ESI Act 1948 (if applicable) in respect of the workmen engaged by them.
- 3) The Contractor should ensure compliance of Sec 21 of Contract Labour (R&A) Act 1970 regarding responsibility for payment of Wages. In case of "Non-compliance of Sec 21 or non-payment of wages" to the workmen before the expiry of wage period by the contractor, BHEL will reserve its right to pay the workmen under the orders of Appropriate authority at the risk and cost of the Contractor.
- 4) The Contractor shall submit copies of Final Settlement statement of disbursement of retrenchment benefits on retrenchment of each workman under I D Act 1948, copies of Form 6-A(Annual Return of PF Contribution) along with Copies of PF Contribution Card of each member under PF Act and copies of monthly return on ESI Contribution – Form 6 under ESI Act 1948 ( If applicable) to BHEL along with the Final Bill.
- 5) In case of any dispute pending before the Appropriate authority under I D act 1948, WC Act 1923 or ESI Act 1948 and PF Act 1952, BHEL reserve the right to hold such amounts from the final bills of the Contractor which will be released on submission of proof of settlement of issues from the appropriate authority under the act.
- 6) In case of any dispute prolonged/pending before the authority for the reasons not attributable to the contractor, BHEL reserves the right to release the final bill of the contractor on submission of Indemnity bond by the contractor indemnifying BHEL against any claims that may arise at a later date without prejudice to the rights of BHEL.

## **20.0 SALES TAX**

This being a civil work sales tax liability would arise and hence contractor is required to register under local sales tax laws. Sales tax at source would be enforced from the Running Bills, if applicable in the state, at the rates prescribed unless exemption certificate is produced.

The contractor has to register under local Sales Tax-Law and get assessed. The contractor has to give a certificate each year that the returns are submitted regularly and the turnover on this contract is included in his sales tax return. The sales tax registration number and certificate is to be furnished at site soon after the award of contract. However in case delay is anticipated in obtaining S.T. Regn.No. a copy of application for registration filed with ST authorities shall be submitted along with first running bill and the ST Regn.No. will be submitted within a reasonable time.

The final bill amount would be paid only after submission of proof of inclusion of the turnover of this contract in the ST Returns or ST Clearance certificate. The ST deduction at source will be made from running bills, unless necessary exemption is produced.

## **21.0 SERVICE TAX**

Service Tax as applicable for this Contract will be borne by BHEL.

The contractor may claim the Service Tax in their R.A.bill and the same will be paid by BHEL, on production of copy of registration certificate. Proof of remittance of service tax by the contractor to the service tax authorities, relating to previous RA bill, has to be produced from the second running bill onwards.

## **21.1 TAXES, DUTIES, LEVIES**

Refer to clause 2.8.4 of general conditions of contract in this regard.

### **New Levies / Taxes**

In case the government imposes any new levy / Tax after award of the work, BHEL shall reimburse the same at actuals on submission of documentary proof of payment subject to the satisfaction of BHEL that such new levy / Tax is applicable to this contract. No reimbursement on account of increase in the rate of existing levies shall be made.

## **22.0 SPLITTING / DIVIDING THE WORK**

BHEL reserves the right to divide / split the scope of work to award to two agencies by equally distributing the total work (splitting the BOQ by equally) however after matching the prices to the lowest.

SECTION – VII APPENDIX – I

MAKE OF MATERIALS TO BE USED

Sl.No	Name of Material	Make
01.	UG Cable	Semens: ICC: Omega, Paragon: Gloster: Premier make
02	Wiring Cables a. 3/1.04 (2.5 sq.mm) b. 7/2.04 (6.0 sq.mm)	Crompton Heavy: ICC:Paragon: Finolex: Omega, Alind make
03	Switches – 5 amps  Single Pole (Flush type)	Anchor
04	Distribution Board	Teakwood
05	Ceiling Rose	Anchor
06	Bulbs	Philips: GEC:Crompton
07	Shades	Ellora, White Opar
08	AC – Single Phase/Three phase 10 Amps 50 Cycles Energy Meter	REMCO: SIMCO
09	5 Amps 3 Pin CS Plug	Anchor
10	15 Amps 3 Pin CS Plug	Anchor
11	a. IC Switch above 60 amps b. IC Switch below 60 amps	GEM: GEC: Crompton
12	Tube light (Fluorescent with fittings complete)	Philips: Crompton : GEC
13	Pendent Holders or BH	Ellora: Khosala: Standard: KE
14	Bulk Head Fittings	K-LITE
15	Fuse Units	Anchor: GEM: GEC
16	Screws	Steel scres shuld be used for all works. The particular make of the materials selected should be one and the same for all the blocks.
17	Ceiling Fan	Usha, Orient, Crompton

NOTE: All Electricals fittings like fans, Exhaust fans, tube lights etc shall be marked/identified with running Serial Numbers before handing over of the sheds, to enable BHEL to KEEP inventory of the fittings and for effective control.

SECTION VII  
APPENDIX – II  
DECLARATION SHEET

I, \_\_\_\_\_ hereby certify that, all the information and data furnished by me with regard to this Tender Specification No.BHEL:PSSR:SCT:1172 are true and complete to the best of my knowledge. I have gone through the specifications, conditions, stipulations in detail and agree to comply with the requirements and intent specifications.

I further certify that I am duly authorized representative of the undermentioned tenderer and a valid power of Attorney to this effect is also enclosed.

TENDERER'S NAME & ADDRESS

AUTHORISED REPRESENTATIVE'S  
SIGNATURE WITH NAME & ADDRESS

SECTION VII

APPENDIX – III

TENDER SPECIFICATION NO BHEL:PSSR:SCT:1172

CERTIFICATE OF DECLARATION FOR CONFIRMING  
KNOWLEDGE ON SITE CONDITIONS

We,

hereby declare and confirm that we have visited the project site under subject,  
namely and acquired full knowledge and information about the site conditions.

We further confirm that the above information is true and correct and we will  
not raise any claim of any nature due to lack of knowledge of site conditions.

TENDERER'S NAME AND ADDRESS

SIGNATURE OF AUTHORISED  
REPRESENTATIVE WITH NAME & ADDRESS:

Place:

Date :

OFFICE SEAL

BHARAT HEAVY ELECTRICALS LIMITED  
(A Government of India Undertaking)  
Power Sector: Southern Region  
690, Anna Salai, Nandanam, Chennai – 600 035.

SECTION - VII APPENDIX - IV

CHECK LIST

BHEL:PSSR:SCT:1172

Tenderers are required to fill in the following details:

1. a) Name of the Tenderer with address : YES/NO
- b) Telegraphic/Telex address : YES/NO
- c) Phone (Office/Residence) : YES/NO
- d) Management Structure of firm (Pvt. Ltd./Public Ltd./Partnership/Sole Proprietorship) Documentary proof For the same enclosed) : YES/NO
2. Whether EMD submitted as per Tender specifications terms and Conditions : YES/NO
3. Validity of offer (offer shall be kept open for acceptance for minimum six months) : YES/NO
4. Whether tenderer visited the erection site and acquainted with the site conditions before quoting : YES/NO

SIGNATURE OF THE TENDERER

5. Whether the following details are furnished :
- a) Previous Experience Relevent to this Scope of work YES/NO
  - b) Present assignments : YES/NO
  - c) organization chart of the company : YES/NO
  - d) Company financial statue : YES/NO
  - e) Incase of company, proof of Registration of the company : YES/NO
  - f) Memorandum & Articles of Association of company/copy of Partnership deed : YES/NO
  - g) Profit & Loss account for the Last 3 years : YES/NO
  - h) Audited Balance sheet for the Last 3 years : YES/NO
  - i) Income Tax clearance certificate (latest) : YES/NO
  - j) Solvency Certificate from a Nationalised Bank : YES/NO
  - k) Power of Attorney of the person Signing the tender duly attested By a Notary Public : YES/NO
  - l) Manpower organization chart With deployment plan at site For posting of Engineers/super Visitors and workers/labourers For satisfactory completion of Work under this specification : YES/NO

SIGNATURE OF THE TENDERER

6. Whether the Tenderer is conversant with local labour laws & conditions : YES/NO
7. Whether the tenderer is aware of all safety rules and codes : YES/NO
8. Whether the Declaration sheet (as per appendix enclosed) : YES/NO
9. Time required for mobilization of site organization and start of work : YES/NO
10. Whether list of tools and Plants available with the contractor and proposed to be deployed for this work enclosed : YES/NO
11. Whether all the Pages are read understood and signed. : YES/NO
12. Deviations, if any Pointed out : YES/NO
13. Whether PF exemption No. is allotted by RPFC of your area if so, indicate number : YES/NO

SIGNATURE OF THE TENDERER

NOTE:

The tenderers are requested to peruse the Tender specification terms and conditions carefully and furnish the above information also in detail as required.

# TENDER SPECIFICATION

**BHEL:PSSR:SCT: 1172**

**FOR**

Construction of 1 No. office Building of 32M x 12M  
6 Nos Closed Stores shed of 32M x 12M and 1 No of  
Semi – Closed Stores Shed of 32M x 12M including  
Electrification Water supply, Sanitary arrangement  
for BHEL

**at**

**Vijayawada Thermal Power Project**

**1 X 500 MW APGENCO  
Vijayawada, Andhra Pradesh**

**PART – II PRICE BID**

**BOOK NO :**



**BHARAT HEAVY ELECTRICALS LIMITED**

(A Government of India Undertaking)

Power Sector – Southern Region

690, Anna Salai, Nandanam, Chennai – 600 035.

BHARAT HEAVY ELECTRICALS LIMITED  
(A Government of India Undertaking)  
Power Sector, Southern Region  
690, Anna Salai, Nandanam, Chennai – 35

TENDER SPECIFICATION NO:BHEL:PSSR:SCT:1172

NAME OF WORK

Construction of 1 No. office Building of 32M x 12M  
6 Nos Closed Stores shed of 32M x 12M and 1 No of  
Semi – Closed Stores Shed of 32M x 12M including  
Electrification Water supply, Sanitary arrangement  
for BHEL, at Vijayawada Thermal Power Project,  
1 x 500 MW APGENCO, Vijayawada, Andhra  
Pradesh.

(PRICE BID)

PART II

Issued to  
M/s.

For and on behalf of  
BHARAT HEAVY ELECTRICALS LIMITED

Senior Deputy General Manager/Contracts

(This tender document is not transferable)

Place: Chennai-600 035.

Date:

**Downloaders Please insert Rate Schedule here. Rate schedule**

## NOTE TO RATE SCHEDULE

1. **The quantities indicated are only approximate and are subject to variation. Payment would be restricted to the actual quantity of work executed and measured.**
2. Prices quoted above shall include supply of all construction materials and their transport, storage and preservation.
3. It shall be the responsibility of the contractor to get all the materials including sand, stone, jelly, Cement, Steel, bricks concrete Blocks etc., approved by Engineer-in-charge in advance before they are actually used on the work.
4. Exact location of electrical points will be identified by the BHEL Engineer at site during execution.
5. The unit rate quoted are to be kept firm till the entire work is completed. No revision of rates will be allowed under any circumstances on any account.
6. Tenderers are requested to stock adequate quantity of construction materials well in advance for facilitating uninterrupted and continuous work as there is likely hood of heavy demand for construction materials during monsoon period.
7. Tenderers are required to quoted their rates, only in the price bid (part II) provided by BHEL. Quoting of rates in any other form / formats will not be entertained.

SIGNATURE OF THE TENDERER