

TENDER SPECIFICATION

NO: BHE/PW/PUR/WNT2-PEB SHED/1424

DESIGN, SUPPLY, MANUFACTURING, RECEIPT AT SITE AND ERECTION OF PRE ENGINEERED AND RE-ERECTABLE TYPE CLOSED SHED WITH OFFICE; CLOSED SHED INCLUDING STRUCTURAL AND SHEET CLADDING WORKS.

AT

1 X800 MW WANAKBORI

District: - Kheda Gujarat

TECHNICAL BID - VOLUME- I

TENDER SPECIFICATIONS CONSISTS OF:

- Notice Inviting Tender,
- Technical Conditions of Contract,
- Special conditions of Contract,
- General conditions of Contract
- Forms & Procedures

VOLUME I



Bharat Heavy Electricals Limited
(A Government of India Undertaking)
Power Sector - Western Region
345-Kingsway, Nagpur-440001

Volume No	Description	Hosted in website bhel.com as files titled
NIL	Tender Specification Issue Details	(Part of <u>Vol-IA-1424</u>)
NIL	Notice Inviting Tender	(Part of <u>Vol-IA-1424</u>)
I-A	Technical Conditions of Contract	Vol-IA-1424
I-B	Special Conditions of Contract	Vol-IBCD-1424
I-C	General Conditions of Contract	(Part of <u>Vol-IBCD-1424</u>)
I-D	Forms & Procedures	(Part of <u>Vol-IBCD-1424</u>)
II	Price Bid Specification	Vol-II-1424

LEGEND:

This document (i.e. NIT & Vol-I A) is hosted in BHEL web page (www.bhel.com) as a (Vol- I) of Technical Bid-1424

\$: **“Vol I -BCD” of Part-I (Vol- I)** Hosted in BHEL web page (www.bhel.com) separately as a part of Technical Bid.

@: **Price bid is** issued as a separate hard copy booklet ‘Tender Specifications – Volume-II (Price Bid-1424)’. Hosted in BHEL web page (www.bhel.com) separately as titled **“VOL-II-PRICE BID-1424 ”**

Tender Specification Issue Details

Tender Specification No: BHE/PW/PUR/WNT2-PEB SHED/1424

DESIGN, SUPPLY, MANUFACTURING, RECEIPT AT SITE AND ERECTION OF PRE ENGINEERED AND RE-ERECTABLE TYPE CLOSED SHED WITH OFFICE; CLOSED SHED INCLUDING STRUCTURAL AND SHEET CLADDING WORKS.

AT

**1 X800 MW WANAKBORI
District: - Kheda Gujarat**

EARNEST MONEY DEPOSIT: Refer Notice Inviting Tender

LAST DATE FOR TENDER SUBMISSION Refer Notice Inviting Tender

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

M/s.

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PLEASE NOTE:
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

DY. GENERAL MANAGER (Purchase)
Place: Nagpur
Date :

1424

NOTICE INVITING TENDER

Bharat Heavy Electricals Limited



NOTICE INVITING TENDER (NIT)
**NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES
OR
PURCHASE TENDERS FROM THIS OFFICE ALSO**

To

Dear Sir/Madam

Sub : NOTICE INVITING TENDER

Sealed offers in two part bid system are invited from reputed & experienced bidders (meeting [PRE QUALIFICATION CRITERIA](#) as mentioned in Annexure-I) for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Following points relevant to the tender may please be noted and complied with.

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION
i	TENDER NUMBER	BHE/PW/PUR/WNT2-PEB SHED/1424
ii	Broad Scope of job	DESIGN, SUPPLY, MANUFACTURING, RECEIPT AT SITE AND ERECTION OF PRE ENGINEERED AND RE-ERECTABLE TYPE CLOSED SHED WITH OFFICE; CLOSED SHED INCLUDING STRUCTURAL AND SHEET CLADDING WORKS AT 1 X800 MW WANAKBORI District: - Kheda Gujarat.
iii	DETAILS OF TENDER DOCUMENT	
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i> Applicable
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i> Applicable
c	Volume-IC	<i>General Conditions of Contract (GCC)</i> Applicable
d	Volume-ID	<i>Forms and Procedures</i>
e	Volume-II	<i>Price Schedule (Absolute value).</i> Applicable
iv	Issue of Tender Documents	1. Sale from BHEL PS Regional office at : Start : 25/03/2015 , Closes: 08/04/2015 , Time : 16.00 Hrs 2. From BHEL website (www.bhel.com) Tender documents will be available for downloading from website till due date of submission Applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	Date : 09/04/2015, Time 15.00 Hrs Place : <u>BHEL PS Regional office at :Nagpur</u> Tenders being submitted through representative shall be submitted at dispatch section of of PSWR HQ Office after making entry/registration at the reception. For any assistance on the matter kindly contact following officials: Applicable

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		Pratish Gee Varghese/Sr Engineer(Purchase Shivkesh Meena / Engineer (Purchase)	
vi	OPENING OF TENDER	1 hours after the latest due date and time of Offer submission Notes: (1) In case the due date of opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may depute representative to witness the opening of tender	Applicable
vii	EMD AMOUNT	Rs 2,00,000/- (Rupees Two Lakhs Only)	Applicable
viii	COST OF TENDER	Rs 2000/- (Rupees Two thousand Only)	Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	Five days before the due date of offer submission. Along with soft version also, addressing to undersigned & to others as per contact address given below	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)	Date :	Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)		Not Applicable
xii	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigendums) and not in the newspapers . Bidders to keep themselves updated with all such information	

- 2.0 The offer shall be submitted as per the instructions of tender document and as detailed in this NIT. Bidders to note specifically that all pages of tender document, including these NIT pages of this particular tender together with subsequent correspondences shall be submitted by them, duly signed & stamped on each page, as part of offer. **Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained.**
- 3.0 Unless specifically stated otherwise, bidder shall remit cost of tender and courier charges if applicable, in the form of Demand Draft drawn in favour of Bharat Heavy Electricals Ltd, payable at Power Sector Regional HQ at Nagpur issuing the Tender, along with techno-commercial offer. Bidder may also choose to deposit the Tender document cost by cash at the Cash Office as stated above against sl no iv of 1, on any working day; and in such case copy of Cash receipt is to be enclosed with the Techno Commercial offer. Sale of tender Documents shall not take place on National Holidays, holidays declared by Central or State Governments and BHEL PS HQ at Nagpur, Sundays and second/ last Saturdays
- 4.0 Unless specifically stated otherwise, bidder shall deposit EMD through Demand Draft/Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Nagpur. For other details and for 'One Time EMD' please refer General Conditions of Contract.
- 5.0 **Procedure for Submission of Tenders:** The Tenderers must submit their Tenders to Officer inviting Tender, as detailed below:
- PART-I consisting of 'PART-I A (Techno Commercial Bid)' & 'PART-I B (EMD/COST of TENDER)' in two separate sealed and superscribed envelopes (ENVELOPE-I & ENVELOPE-II)
 - PART-II (Price Bid) – in sealed and superscribed envelope (ENVELOPE-III)

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- One set of tender documents shall be retained by the bidder for their reference

6.0 The contents for ENVELOPES and the superscription for each sealed cover/Envelope are as given below. **(All pages to be signed and stamped)**

Sl no	Description	Remarks
	Part-I A	
	ENVELOPE – I superscribed as : PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION: CONTAINING THE FOLLOWING:-	
i.	Covering letter/Offer forwarding letter of Tenderer.	
ii.	Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above. Note: <ol style="list-style-type: none"> In case of any deviation, the same should be submitted separately for technical & commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be placed after document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding. <ol style="list-style-type: none"> In case of acceptance of the deviations, appropriate loading shall be done by BHEL In case of unacceptable deviations, BHEL reserves the right to reject the tender 	
iii.	Supporting documents/ annexure/ schedules/ drawing etc as required in line with Pre-Qualification criteria. It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph no, FAX no, etc.	
iv.	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc pertinent to this NIT.	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	If applicable
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT	
vii.	Notice inviting Tender (NIT)	
viii.	Volume – I A : <u>Technical</u> Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc	
ix.	Volume – I B : Special Conditions of Contract (SCC)	
x.	Volume – I C : General Conditions of Contract (GCC)	
xi.	Volume – I D : Forms & Procedures	
xii.	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiii.	Any other details preferred by bidder with proper indexing.	

PART-I B		
	ENVELOPE – II superscribed as: PART-I (EMD/COST of TENDER) TENDER NO : NAME OF WORK : PROJECT:	

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	DUE DATE OF SUBMISSION:	
	CONTAINING THE FOLLOWING:-	
i.	1. Earnest Money Deposit (EMD) in the form as indicated in this Tender OR Documentary evidence for 'One Time EMD' with the Power Sector Region of BHEL floating the Tender	
	2. Cost of Tender (Demand Draft or copy of Cash Receipt as the case may be)	

	PART-II	
	PRICE BID consisting of the following shall be enclosed	
	ENVELOPE-III superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:	
	CONTAINING THE FOLLOWING	
i	Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I	
ii	Volume II – PRICE BID (Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)	

	OUTER COVER	
	ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE) superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION:	
	CONTAINING THE FOLLOWING:	
i	<ul style="list-style-type: none"> o Envelopes I o Envelopes II o Envelopes III 	

SPECIAL NOTE : All documents/ annexures submitted with the offer shall be properly annexed and placed in respective places of the offer as per enclosure list mentioned in the covering letter. BHEL shall not be responsible for any missing documents.

- 7.0 Deviation with respect to tender clauses and additional clauses/suggestions in Techno-commercial bid / Price bid shall NOT be considered by BHEL. Bidders are requested to positively comply with the same.
- 8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).

9.0 Assessment of Capacity of Bidders: Not Applicable

- 10.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.
- 11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 12.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.
- 13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.
- 14.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 15.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (1) above.**
- 16.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.
- 17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 19.0 BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction. .
- However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.
- 20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid,

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detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.

- 22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 23.0 Consortium Bidding (or Technical Tie up) shall be allowed only if specified in Pre Qualifying Requirement (PQR) criteria, and in such a case the following shall be complied with:
- 23.1 Prime Bidder and Consortium Partner or partners are required to enter into a consortium agreement with a validity period of six months initially. In case the consortium is awarded the contract, then the Consortium Agreement between the Prime Bidder and Consortium Partner or partners shall be extended till contractual completion period including extension periods if any applicable.
- 23.2 'Stand alone' bidder cannot become a **'Prime Bidder' or a 'Consortium bidder' or 'Technical Tie up bidder' in a consortium (or Technical Tie up) bidding**. Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non compliance, consortium bids of such Prime bidders will be rejected.
- 23.3 Number of partners for a consortium Bidding (or Technical Tie up) shall be as specified in the PQR
- 23.4 Prime Bidder shall be as specified in the Pre Qualification Requirement, else the bidder who has the major share of work
- 23.5 In order to be qualified for the tender, Prime Bidder and Consortium partner or partners shall satisfy (i) the Technical 'Pre Qualifying Requirements' specified for the respective package, (ii) "Assessment of Capacity of Bidder" as specified in clause 9.0
- 23.6 Prime Bidder shall comply with additional 'Technical' criteria of PQR as defined in 'Explanatory Notes for the PQR'
- 23.7 Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified
- 23.8 In case customer approval is required, then Prime Bidder and Consortium Partner or partners shall have to be individually approved by Customer for being considered for the tender.
- 23.9 Prime Bidder shall be responsible for the overall execution of the contract
- 23.10 In case of award of job, Performance shall be evaluated for Prime Bidder and Consortium Partner or partners for their respective scope of work(s) as per prescribed formats
- 23.11 In case the Consortium partner or partners back out, their SDs shall be encashed by BHEL. In such a case, other consortium partner or partners meeting the PQR have to be engaged by the Prime Bidder, and if not, the respective work will be withdrawn and executed on risk and cost basis of the Prime Bidder. The new consortium partner or partners shall submit fresh SDs as applicable.
- 23.12 In case the prime Bidder withdraws, the whole contract shall be considered cancelled and short closed.
- 23.13 After execution of work, the work experience shall be assigned to the Prime Bidder and the consortium partner or partners for their respective scope of work. After successful execution of two similar works with the same consortium partner or partners under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'stand alone' bidder for similar works, subject to certification from BHEL about the active involvement of the Prime Bidder for satisfactory execution of the works.
- 23.14 The consortium partner shall submit SD equivalent to 2% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value. In case there are two consortium partners, then each

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partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value.

- 23.15 In case of a Technical Tie up, all the clauses applicable for the Consortium partner shall be applicable for the Technical Tie up partner also
- 24.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self-certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.
- 25.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 26.0 Order of Precedence
In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:
- a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
 - b. Notice Inviting Tender (NIT)
 - c. Price Bid
 - d. Technical Conditions of Contract (TCC)—Volume-1A
 - e. Special Conditions of Contract (SCC) —Volume-1B
 - f. General Conditions of Contract (GCC) —Volume-1C
 - g. Forms and Procedures —Volume-1D

It may please be noted that guidelines/rules in respect of suspension of business dealings', 'Vendor evaluation format', 'Quality, Safety & HSE guidelines', etc may undergo change from time to time and the latest one shall be followed

for BHARAT HEAVY ELECTRICALS LTD

AGM Pur

Enclosure

1. Annexure-1: Pre Qualifying criteria.
2. Annexure-2: Check List .
3. Annexure-3: Important Information .
4. Other Tender documents as per this NIT.

ANNEXURE - 1

PRE QUALIFYING CRITERIA

JOB	DESIGN, SUPPLY, MANUFACTURING, RECEIPT AT SITE AND ERECTION OF PRE ENGINEERED AND RE-ERECTABLE TYPE CLOSED SHED WITH OFFICE; CLOSED SHED INCLUDING STRUCTURAL AND SHEET CLADDING WORKS AT 1 X800 MW WANAKBORI District: - Kheda Gujarat.
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SL NO	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		Name and Description of qualifying criteria	Page no of supporting document. Bidder must fill up this column as per applicability
A	Submission of Integrity Pact duly signed (if applicable) (Note: To be submitted by Prime Bidder & Consortium/Technical Tie up partner jointly in case Consortium bidding is permitted, otherwise by the sole bidder)	Not APPLICABLE	
B	<u>Technical</u> Bidder should have executed (Design, Supply and Construction/Erection) at least ONE Pre-engineered/ Pre-fabricated Shed of area 900 SQM or above in the last seven (7) years as on latest date of offer submission.	APPLICABLE	
C-1	<u>Financial TURNOVER</u> Bidders must have achieved an average annual financial turnover (Audited) of Rs 60 Lakhs or more over last three Financial Years (FY) i.e. 2011-2012, 2012-2013, 2013-14.	APPLICABLE	
C-2	<u>NETWORTH</u> (only in case of Companies) Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C-1' above should be positive	APPLICABLE	
C-3	<u>PROFIT</u> Bidder must have earned cash profit in any one of the three Financial Years as applicable in the last three Financial Years defined in 'C-1' above based on latest Audited Accounts.	APPLICABLE	
D	Assessment of Capacity of Bidder to execute the work as per sl no 9 of NIT (if applicable)	Not APPLICABLE	By BHEL
E	Approval of Customer (if applicable)	Not APPLICABLE	BY BHEL

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	Note: Names of bidders (including consortium/Technical Tie up partners in case consortium bidding is permitted) who stand qualified after compliance of criteria A to D shall be forwarded to customer for their approval.		
F	Price Bid Opening Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E	APPLICABLE	BY BHEL
F	Technical Tie up criteria (if applicable)	NOT APPLICABLE	
<p><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></p> <ol style="list-style-type: none"> 1. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated against C-1 above along with all annexures 2. In case audited Financial statements have not been submitted for all the three years as indicated against C-1 above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e total divided by three. 3. C-2:-NETWORTH : Shall be calculated based on the latest Audited Accounts as furnished for C-1 above. Net worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies) 4. C-3:- PROFIT : shall be NET profit (PAT + Non cash expenditure viz depreciation) earned during any one of the three financial years as in C-1 above 5. Time period for achievement of the 'Technical' criteria of PQR (as in 'B' above) will be the last 7 years ending on the 'latest date' of Bid submission 6. 'EXECUTED' means the Vendor should have achieved the criteria specified in the Technical criteria of PQR (as in 'B' above) even if the Contract has not been completed or closed 7. The value of work (Experience submitted against PQR B) shall be updated as per the PVC indices for "All India Avg. Consumer Price Index for Industrial Workers" with base month as date of execution (completion of contract/work) and indexed upto two months prior to bid opening month. 			

BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.

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ANNEXURE - 2

CHECK LIST

NOTE:- Tenderers are required to fill in the following details and no column should be left blank

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3.a	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
3.b	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
4	EMD DETAILS	DD No: Date : Bank : Amount: Please tick (✓) whichever applicable:- ONE TIME EMD / ONLY FOR THIS TENDER	
5	Validity of Offer	TO BE VALID FOR SIX MONTHS FROM DUE DATE	
		APPLICABILITY(BY BHEL)	ENCLOSED BY BIDDER
6	Whether the format for compliance with PRE QUALIFICATION CRITERIA (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
7	Audited profit and Loss Account for the last three years	Applicable/Not Applicable	YES/NO
8	Copy of PAN Card	Applicable/Not Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable/Not Applicable	YES/NO
10	Integrity Pact	Not Applicable	YES/NO
11	Declaration by Authorised Signatory	Applicable/Not Applicable	YES/NO
12	No Deviation Certificate	Applicable/Not Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable/Not Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable/Not Applicable	YES/NO

<p>Registered Office : BHEL House, Siri Fort, New Delhi – 110 049, India Website : www.bhel.com</p>

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15	Non Disclosure Certificate	Applicable/ Not Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable/ Not Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable/ Not Applicable	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Applicable/ Not Applicable	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable/ Not Applicable	YES/NO
20	Analysis of Unit rates	Applicable/ Not Applicable	YES/NO

NOTE : STRIKE OFF 'YES' OR 'NO', AS APPLICABLE. TENDER NOT ACCOMPANIED BY THE PRESCRIBED **ABOVE APPLICABLE DOCUMENTS** ARE LIABLE TO BE SUMMARILY REJECTED.

DATE :

AUTHORISED SIGNATORY
(With Name, Designation and Company seal)

IMPORTANT INFORMATION

Sealed Tenders shall be submitted at following address to AGM /Purchase BHEL PSWR NAGPUR:

BHEL PSWR, SRIMOHINI COMPLEX , 345 KINGSWAY, NAGPUR 440001, INDIA

All correspondences regarding this tender shall be addressed to AGM / PURCHASE BHEL PSWR at above address. Bidders may also opt to correspond with following BHEL officials regarding this tender through email at following email ids . However please be informed that sealed tenders shall necessarily be submitted in original at above address:

AGM Purchase, Email id: ska@bhelpswr.co.in. Ph: +91 – 712 – 3048633

Sr Engineer Purchase, Email: pgv@bhelpswr.co.in, Ph: +91 – 712 – 3048713

Engineer Purchase, Email id: svm@bhelpswr.co.in , Ph: +91 – 712 – 3048715

1. **The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site (www.bhel.com---> Tender Notification -> List of Banned Firms)**
2. **All Statutory Requirements as applicable for this project shall be complied with.**
3. **Please take note of following Revised Tender Clauses:**
 - i. Notice Inviting Tender: SI No 9
 - ii. General conditions of Contract: Clause No 1.15.13 (New), Clause No 2.8.3, 2.8.4 and 2.8.5
4. **Following Notes are added to Form F- 15 of Volume I D 'Forms & procedures'**
 - i. It is only indicative and shall be as per the online format issued by BHEL time to time.
 - ii. No request will be entertained after specified date of the current month w.r.t the changes requested in the scores of immediate previous month.
5. **PRICE VARIATION CLAUSE**

Price Variation Compensation Clause no. 2.17 of Vol I C GCC shall not be Applicable:
6. **OVER RUN COMPENSATION**

Over Run Compensation Clause no. 2.12 of Vol I C GCC shall not be Applicable

7. Broad Terms & Conditions of Reverse Auction

In continuation to Clause 19.0 of NIT (Notice Inviting Tender) following are the broad terms and conditions of Reverse Auction is given in Annexure V of NIT:

- 7.1. Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to “REVERSE AUCTION PROCEDURE” i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).
- 7.2. BHEL reserves the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids. In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit „online sealed bid“ in the Reverse Auction. Non-submission of „online sealed bid“ by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
- 7.3. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
- 7.4. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit ‘online sealed bid’ in the Reverse Auction. Non-submission of ‘online sealed bid’ by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
- 7.5. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
- 7.6. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
- 7.7. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
- 7.8. Bidders have to fax the Compliance form (annexure IV) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
- 7.9. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at “Total Cost to BHEL” like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for noncompliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
- 7.10. Reverse auction will be conducted on scheduled date & time.
- 7.11. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.

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- 7.12. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (Annexure VII) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
- 7.13. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.
- 7.14. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the "Business Rules of Reverse Auction", which will be communicated before the Reverse Auction.
- 7.15. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL guidelines, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
- 7.16. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
- 7.17. In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

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TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC) CONTENTS

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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – I: Project Information

1.0	Project Information
<p style="text-align: center;"><u>PROJECT INFORMATION</u></p> <p><u>INTRODUCTION</u></p> <p>Location : Wanakbori, District-Kheda, Gujarat</p> <p>Nearest Railway Station : Sevaliya (8KM) – Anand-Godhra main line</p> <p>Nearest Airport : Vadodara (85 KM from site), Ahmadabad (100 KM from site)</p> <p>Nearest Sea Port : Kandla</p> <p>Access By Road : 10KM from Dakor-Godhra NH No. 8, 02 KM from Balasinor-Sevaliya SH No. 59</p> <p>Major Towns/Cities: 13 KM from Balasinor and 10KM from sevaliya.</p> <p>Land: Within existing Thermal Power Station. North-East side of the existing plot.</p> <p>Source Of Coal: Indian coal sourced from captive mines Machha in Talchar, Orissa.</p> <p>Source Of Water: River Mahi, flowing by side of existing Wanakbori Power Station.</p> <p>Meteorological Data</p> <p>Dry bulb temperature</p> <p>(max&min.) : 40.8°C &10.8°C</p> <p>Humidity (min. & max.) : 42.5% to 81.5%</p> <p>Average Annual Rainfall : 750mm</p> <p>Wind speed : Basic wind speed of 39 m/sec as per IS -875(Part-3)</p> <p>Seismic Zone : Zone-III as per IS-1893</p>	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

TECHNICAL SPECIFICATION

2.00.01 SCOPE

This specification covers Design as per foundation drawing provided by BHEL, Manufacturing, Supply, Receipt at Site, assembly, Erection, Site Painting of steel structural closed sheds (***civil works shall be constructed by BHEL separately***), required hardware, Pre-Painted Galvanized iron sheets (PPGI sheet)/Galvalume sheet for roofing & wall cladding, sliding doors, windows, ventilators with canopy, exhaust fans over the wall cladding and Handing over of Closed Dismantle/Re-assemble type Pre-Engineered, Pre-fabricated Steel Storage Sheds in all respect. This also includes guarantee for **12 months** of operations for the design performance, materials supplied and erected by them covered under the scope of the contract. All the major fabrication jobs shall be done at contractor's works elsewhere and to be transported to designated sites for assembly, erections.

Bidders are requested to quote their offer as per the "Price-Bid" attached for the following:

Part - A

Closed shed with office and C&I room including associated finishing works as per detail specification. 01 Nos.

Part - B

Closed shed including associated finishing works as per detail specification. 05 Nos.

The quoted price of bidder for various sheds works shall include all applicable Duties and Taxes (For taxes & duties – refer Chapter-VIII of this tender) "except the Freight charges" which shall be paid as per actual on production of valid documentary proof.

Bidder has to necessarily submit the following documents along with their offer for evaluation and technical suitability. Incomplete offer shall not be considered for evaluation & shall be rejected by BHEL.

- 1) Super structures like columns, trusses, purlines for roofing and supporting structure for side cladding etc using PPGI/Galvalume sheet in line with minimum design inputs as given by BHEL elsewhere in this tender

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

documents.

- 2) Bill of quantities for various items (structural as well as non-structural items except civil works related items).

Foundation Bolts & nuts shall not be in the scope of Bidders & same shall be supplied & fixed by Civil agency of BHEL.

- The Design of sheds must fulfill the minimum requirement as per respective Technical Specifications. **Bidders are advised to raise their query well in advance**

All the items in BOQ shall be read in conjunction with the relevant Technical Specification attached with this tender specification and work shall be carried out accordingly. All the report shall be submitted in the prescribed proforma as mentioned in tender documents and No extra claim shall be entertained on this account.

2.00.03 GENERAL DESIGN CONSIDERATIONS

- **Size of Closed Shed – 15Mc/cX60Mc/cX5.25M** (Clear height from FFL to Bottom of Truss).
- Columns shall be **spanning** – 6.0M c/c in longer span & 5.0M c/c in shorter span.
- All Structural Members, roofing sheets and side cladding shall be fitted in such a way that they can be dismantled at any point of time.
- **Sliding door** of double shutter type of size 4.65 M Width x 5 M Height shall be provided at front centre entrance (gable end) of each closed shed (not in semi – closed shed). Suitable arrangements shall be made for easy operation of sliding door (gear operated).
- 1 No. **Man-Entry Gate** shall be provided at one side of Closed Shed i.e. adjacent to sliding door.
- Structural members shall be combination of built-up section / hot rolled section / cold rolled section / Tubular section as per the design requirements.
- All designs have to be carried out as per relevant IS codes.
- **Successful bidder shall submit the detail design & drawing for civil sub-structure as well as structural sheds (super structures, roofing, cladding etc.) duly vetted by reputed civil design agency / Registered Government Engineer / Institution for approval of BHEL before commencement of wok.**

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

- **Salient features of Civil Foundation Bidder to design Super Structure to match Civil foundation:**

- Civil works is carried out as per latest IS codes and standard specification.
- All foundation will be RCC and height of RCC columns/pedestal shall be +600mm from existing GL (Avg. ground level around the shed) Ref. indicative drawing
 - Minimum depth of foundation - 1.5m from GL.
 - Minimum grade of Concrete:
 - RCC – 1:1.5:3/ M20 for foundation, column, and plinth beam etc.
 - PCC for Foundation bed - 1:4:8
 - Minimum grade of cement – OPC 43
 - Minimum grade of steel – Fe 415
 - Minimum strength of bricks (burnt clay brick/fly ash bricks) – 35 Kg / CM²
 - Minimum cement / sand mortar ratio:
 - Brick masonry (refer drg.)
 - 230 mm thick wall: 1:6.
 - 115 mm thick wall: 1:4

2.00.05 STRUCTURAL STEEL WORK

All materials for structural steel works have to be supplied by the contractor and necessary test certificates of the materials procured for this work has to be submitted for scrutiny. All fabrication and erection of structures must be executed according to the specification and drawings. Erection of trusses is true to line and level and aligned properly, as per drawing and instruction of Engineer In-charge.

- Structural / steel members will have 1 coat of Zinc Chromate primer (surface preparation of the section as per the standards to suit the climatic conditions) followed by 2 coats of synthetic enamel paint, if not pre-coated. The roof truss should have bolted joints at crown and at both ends.
- **Welding** shall be strictly in accordance with IS 9595
- **Connection fasteners:** All primary connections fasteners shall be of high tensile strength bolts of grade 8.8 conforming to IS 1379 and Secondary connection fasteners shall be of Grade 4.6 machine bolted. Sheeting fasteners shall be self tapping/self drilling screws with EPDM washers and nuts with hexagonal heads complete from reputed manufacturer shall be included in the scope.

Since these are detachable sheds & to be in repetitive use at other

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

locations, proper marking (permanent) shall be made for identification to ease re-erection. The stores shed shall be so designed that it can be dismantled at any time and may be transported and to be re-erected at other location.

Material specifications:

The following is the list of the material standards and specifications for which the building components shall be designed.

S.NO.	Materials	Specifications	Steel Yields
1	Built-up Members	ASTM A572M Gr50	Fy = 345 MPa
2	Hot Rolled Secondary Members	IS: 2062 Gr.A	Fy = 250 MPa
3	Cold Formed Secondary Members	ASTM A 570 M Gr65	Fy = 450 MPa
4	Sheeting Panels	ASTM A 792 M	Fy = 550 MPa
5	X-Bracing Members, Roads	IS: 2062 Gr.A	Fy = 250 MPa
6	Anchor Bolts	IS: 2062 Gr.A	Fy = 250 MPa
7	High Strength Bolts for Primary Connections	ASTM A 325 M- ANSI 18.2.3.7/18.2.3.6M OR IS 4000-1992 CLASS 8.8	Grade 8.8
8	Machine Bolts for Secondary Connections	IS: 1367 Class 4.6 (Part 1 to 3)	Grade 4.6
9	Self Drilling Self Tapping Screws	AS 3566.1 – 2002 Corrosion Resistance Class-3	-
10	Welding	70 ksi Electrode	Futs=480Mpa

2.00.06 CLADDING:

- Roof and side cladding with min. 0.47mm & 0.50mm respectively of Pre-Painted Galvanized Iron (PPGI) with zinc coating not less than 120 gm/m² **OR** permanent colour coated Galvalume sheet with suitable profile and min. strength of 550 Mpa. Colour of the sheet shall be preferably light Gray and all structural members shall be dark blue colour. Translucent (Poly Carbonate) sheet/ FRP sheet of min. 1.5mm thick of approved make shall be provided for alternative bays on roof top (10% of the sheeting area) for natural lighting. Both roof and side cladding are to be made "Water Tight". Roof slope shall be 1:10.
- Purlins for wall & roof cladding shall be 'Z or C' shape made-up with pressed steel.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

- **Gutters:** 26G metallic Eaves gutter including all fixing accessories like clamps, drop end etc.
- a. **Down Take Pipes:** Sufficient HDPE Rain Water down Pipe shall be provided and properly connected with gutters all around the sheds.

2.00.07 CLOSED SHED WITH STORE OFFICE, COMPUTER ROOM, HALL AND C&I ROOM (Part - A of BOQ):

- **Insulated Wall paneling :**
Store in-charge Room of size 5M X 5M shall be made of 50 mm Thick PUF insulated sandwich Wall panels inside the shed. These panels are made out of 0.47 mm thick PPGI Sheet as exterior on both sides with PU Foam of density 40 ± 2 kg/M³. and tensile strength of 4 kg/Sq.Cm. Compressive strength (10 % deformation) 2.1 Kg/Sq.Cm. Thermal conductivity at 10 Deg 0.02 W/M Deg k Temperature Range - 80 Deg C to + 100 Deg C The PU Foam thickness is min. 50 mm.
- **False ceiling**
False ceiling shall be provided with sandwich panels of thickness 30 mm thick. The false ceiling shall be made out of anti corrosive painted 19mm square hollow section design to fix to the roof frame with suitable hangers. The clear height of ceiling shall be 3.50 M. from the finished floor level. Cut out should be made properly wherever necessary for fixing electrical fittings etc. False ceiling shall be done with polymeric section of minimum thickness 6 mm. These panels are to be joined together by tongue and groove using self tapping screws. The colour of PVC Ceiling should match with wall panels.
- **Door**
M.S. frame shall be made from pressed steel using CR (corrosive resistant) Steel of 1.5mm thick. Door shutter shall be made of suitable M.S. Frame covered with 0.5mm thick PPGI sheet both side with PUF insulation (of min density 40 ± 2 kg/M³) as to match with wall panel. High Quality Mortice Lock, Aldrop, Stopper, Handle & other accessories shall be provided.
- **Windows**
Glazed sliding type windows of required dimension (min 2.00 M length X1.20 M height) shall be made out of PVC extruded sections with horizontal two tracks sliding. Windows shall be fitted with 4mm thick Tinted Glass with proper locking

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

arrangement. Safety Aluminum Grills / guard bars of suitable sections shall be provided in all windows. Window sill shall be decided as per the height of work station (approx. 900mm above floor). All Windows shall be fitted with Rain-shed (canopy) made from 1.0 mm thick color coated sheet. Canopy shall be folding type with proper holding and locking arrangement and shall be used as a protective cover to the glazed window.

Ventilators

- Ventilators of size 600 mm (W) x 450 mm (H) shall be provided at every bay of column in all direction at a height of 4.5m from FFL made of suitable Aluminum section with wired glass open-able type and canopy for closed shed only.
- **Store office and Computer / System Room** of size 5M X 5M shall be constructed with all around wall paneling and false ceiling including following items and furniture.
 - Door: 1.0M (W) X 2.1 (H) – 1No.
 - Window: 3.0M (W) X 1.2m (H) – 1No.
 - Table: 1.2M (L) X 0.60M (W) X 0.750M (H) with a drawer of 3 partitions and also having provision for CPU and Key board – 1No.
 - Executive Chair– 1No.
 - File cabinet - 900mm length X 450mm width X 900 mm depth with having two compartments – 1No.
 - Single side steel file /book rake - consisting of 3 rakes of size 900mm width X 1850mm height X 316mm depth shall be provided.
- **C&I ROOM** of size 5MX10M shall be constructed adjacent to Computer room with wall paneling and false ceiling including following item
 - Door: 1.0M (W) X 2.1 (H) – 2Nos.

2.00.08 **CLOSED SHED (Part - B of BOQ):**

Specification of Closed shed shall be same as Closed shed with office and C&I room except Store office and Computer / System Room and C&I Room facilities and associated furnishing works and items.

2.00.10 **GENERAL**

All works shall be carried out in proper workmanship. Items of works covered by the following specification shall be carried out as per the best practices and according to the direction of the Engineer In-charge / BHEL, Site Engineer

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

and to his satisfaction. Unless otherwise specified in this section or in the description of item, the cost of stage of works including all materials mentioned hereunder shall be deemed to have been included in the rates of items provided in the schedule.

Bidders may take note of the following points while sending their offers:

- a) The quoted prices shall include receipt, unloading, stacking and handling of materials at site, assembly and erection and all Taxes, duties, local taxes including Works Contract Tax (if any).
- b) Agency shall submit two sets of proposed drawings of Sheds along with structural, cladding and furniture arrangements etc., to BHEL before commencement of work for approval. Successful bidder shall submit **five sets of final drawings** along with one soft copy in CD to BHEL immediately after finalization of design.
- c) Bidders are requested to gather all relevant information & prevailing local laws etc. in the specified regions. No claim shall be entertained on account of lack of knowledge of site condition.
- d) The above technical specification is a minimum requirement and idea for the bidders only. However, bidder may suggest better & economical design considering the durability of structural sheds in their offer.
- e) The materials and workmanship must be of good quality and accepted standards and specifications. The site engineer reserves the right to reject any material not up to the specification. All taxes, levies and duties on construction materials will be on contractor's account. After completion of work, the building and areas around them should be cleared of all rubbish, debris etc. and handed over in fit condition for occupation.
- f) Quoted Price shall be inclusive of all the above.

2.00.11 EXTRA WORKS:

Bidder has to design the sheds in such a way that it should be elegant, easy to use, convenient and fulfill all functional requirements. No extra claim shall be entertained over and above the final quoted/negotiated price.

2.00.12 Samples: Sample of the materials to be used shall be submitted by bidders during Techno-commercial discussions if asked by BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.00.13 Inspection & acceptance of goods: It is subject to BHEL inspection at supplier's works before dispatch or on receipt of materials at destinations as the case may be, as per the agreed/approved quality plant. Final/ stage inspection will be carried out at the destination/ supplier's works by the authorized inspection officials in line with agreed quality plant. Wherever preliminary or stage inspection is to be carried out at supplier's work, the same is subject to final acceptance after receipt of material at destination and the decision of purchaser shall be final. Since delivery period includes the time for pre-dispatch inspection by BHEL, the supplier shall intimate the readiness of materials for inspection well in advance to expedite the inspection process and to enable the supplier for timely delivery.

2.00.14 Quality Plan: Vendor to submit quality plant along with the offer for approval of BHEL. The quality plant is expected to cover generally specification of item, the stage inspection to be carried out, Guarantee/ Warranty/Test certificate/Inspection report, sampling plan as per relevant IS. The bidder/vendor shall furnish the details of the inspection facilities available with him in the quality plan, as applicable. The quality plan will be finalized before proceeding with execution of PO. The vendor is requested to ensure completion of QP in all aspect before proceeding with PO. The vendor should provide calibrated instrument etc. for carrying out the inspection as per the quality plan.

2.00.15 Rejection: The seller shall intimate the purchaser in writing within 15 days after receipt of rejection advice regarding the disposal of rejected material and action plan for replacement. If no information is received within this time, the purchaser shall be at liberty to return the material at the risk and cost of the seller after recovering the cost if any, including inward freight and other incidental charges incurred. The purchaser will not be responsible for the rejected material thereafter and no claim will rest on them.

2.00.16 Packing, Marking and Forwarding

Packing: The supplier shall arrange for secure protecting packing of the goods suitable for tropical condition to avoid loss, damage or atmosphere action during transit by road. The packing standard shall comply with relevant National standards wherever available, carrier's conditions of packing or established trade practice. The seller shall be liable to replace the material or reimburse the value of the loss notwithstanding whether insurance is arranged by him or not. The packing materials and cases and packing charges are included in the quoted price unless otherwise agreed.

Marking: The following marking shall be made on each package in black bold capital letter.

BHEL-PSWR

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

- A) Name of CONSIGNOR – (“Supplier’s name)
- B) Name of CONSIGNEE – Bharat Heavy Electricals Limited - PSWR
- C) WEIGHT: Gross & Net

The above marking should be stenciled or written in bold letter on the package. Should the packages too small, suitable cards/metal tags giving these details may be tagged or nailed. Copy of the packing slip should be kept in each package without failed.

Dispatch Intimation: Immediately after dispatch, the seller shall intimate AGM/FEX BHEL PSWR Nagpur. The details of the items dispatched Quantity, Order Reference and LR/RR no and date by Fax/e-mail.

Name of the officials –

Sr. ENGINEER/FEX - BHEL PSWR
Shrimohini complex
345, Kingsway, Nagpur. 440001
Mobile: 7767835533

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1	ESTABLISHMENT			
3.1.1	FOR CONSTRUCTION PURPOSE:			
a	Open space for office (as per availability)	Yes		Location will be finalized after joint survey with owner
b	Open space for storage (as per availability)	Yes		Location will be finalized after joint survey with owner
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
d	Bidder's all office equipments, office / store / canteen consumables		Yes	
e	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	
f	Fire fighting equipments like buckets, extinguishers etc		Yes	
g	Fencing of storage area, office, canteen etc of the bidder		Yes	
3.1.2	FOR LIVING PURPOSES OF THE BIDDER			
a	Open space for labour colony (as per availability)		Yes	
b	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	
3.2.0	ELECTRICITY			

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL

SI.No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.2.1	ELECTRICITY FOR CONSTRUCTION PURPOSES 3 PHASE OF VOLTAGE 415/440 V (TO BE SPECIFIED WHETHER CHARGEABLE OR FREE)			FREE
a	Single point source	Yes		Electricity shall be given at one point nearer to shed area. However it is responsibility of contractor to arrange power by using required capacity of DG sets if power is not available due to breakage or any other reasons.
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.2	ELECTRICITY FOR THE OFFICE, STORES, CANTEEN ETC OF THE BIDDER (TO BE SPECIFIED WHETHER CHARGEABLE OR FREE)			Chargeable
a	Single point source		Yes	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.3	ELECTRICITY FOR LIVING ACCOMMODATION OF THE BIDDER'S STAFF, ENGINEERS, SUPERVISORS ETC		Yes	
a	Single point source		Yes	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.3.0	WATER SUPPLY			

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
	PART I			
3.3.1	FOR CONSTRUCTION PURPOSES: (TO BE SPECIFIED WHETHER CHARGEABLE OR FREE)			
a	Making the water available at single point		Yes	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.2	<u>Water supply for bidder's office, stores, canteen etc</u>			
a	Making the water available at single point	Yes		
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.3	<u>Water supply for Living Purpose</u>		Yes	
a	Making the water available at single point		Yes	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.4.0	LIGHTING			
a	For construction work (supply of all the necessary materials) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
b	For construction work (execution of the lighting work/ arrangements) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
c	Providing the necessary consumables like bulbs, switches, etc during the course of project work		Yes	
d	Lighting for the living purposes of the bidder at the colony / quarters		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL

SI.No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.5.0	COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER			
a	Téléphone, fax, internet, intranet, e-mail etc		Yes	
3.6.0	COMPRESSED AIR WHEREVER REQUIRED FOR THE WORK			Not Required
3.7.0	DEMOBILIZATION OF ALL THE ABOVE FACILITIES		YES	
3.8.0	TRANSPORTATION			
a	For site personnel of the bidder		Yes	
b	For bidder's equipments and consumables (T&P, Consumables etc)		Yes	

SI.No	Description PART II 3.9.0 ERECTION FACILITIES	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.9.1	Engineering works for construction:			NOT APPLICABLE
a	Providing the erection/constructions drawings for all the equipments covered under this scope	Yes		For Details PI refer Chapter-II-
b	Drawings for erection/construction methods	Yes	Yes	In consultation with BHEL
c	As-built drawings – where ever deviations observed and executed and also based on the decisions taken at site- example – routing of small bore pipes			NOT APPLICABLE
d	Shipping lists etc for reference and planning the activities			NOT APPLICABLE

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL

Sl.No	Description PART II 3.9.0 ERECTION FACILITIES	Scope / to be taken care by		Remarks
		BHEL	Bidder	
e	Preparation of site erection schedules and other input requirements		Yes	In consultation with BHEL
f	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes	Yes	In consultation with BHEL
g	Weekly erection schedules based on SI No. e		Yes	In consultation with BHEL
h	Daily erection / work plan based on SI No. g		Yes	In consultation with BHEL
i	Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months.		Yes	
j	Preparation of preassembly bay			NOT APPLICABLE
k	Laying of racks for gantry crane if provided by BHEL or brought by the contractor /bidder himself			NOT APPLICABLE
L	Arranging the materials required for preassembly			NOT APPLICABLE

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – IV : T&Ps and MMEs to be deployed by Contractor

ALL REQUISITE T&Ps FOR THE SUBJECT JOB IS IN THE SCOPE OF CONTRACTOR

A: TOOL & PLANTS

SN	DESCRIPTION
1	BHEL shall not provide any Tools and Plants (T&Ps). Contractor shall deploy all necessary T&P to meet the schedules & as prescribed by BHEL engineer and required for completion of work in time without any delay.

B: MEASURING AND MONITORING DEVICES (MMD):

AS PER REQUIREMENT TO BE FINALIZED AT SITE.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – V : T & Ps AND MME TO BE DEPLOYED BY BHEL ON
SHARING BASIS

BHEL WILL NOT PROVIDE ANY MATERIAL OR ANY T & P's FOR THIS WORK

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Time Schedule

6.1 TIME SCHEDULE & MOBILIZATION

6.1.1 INITIAL MOBILIZATION AND TENTATIVE SCHEDULE

Contractor shall reach site, make his site establishment and be ready to commence the work within two weeks from the date of fax Letter of Intent or as per directions of Construction Manager/ Project Manager of BHEL.

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

Milestone activities - Break up activities completion period:

SI.No	ACTIVITY	TENTATIVE SCHEDULE OF COMPLETION
1	Fabrication at works and delivery of fabricated structure at site (6 sheds)	Delivery within 5 weeks for 1 st shed & thereafter in phased manner within 2 months from date of LOA
2	Erection of Closed shed with office and C&I room (01 Nos): <ul style="list-style-type: none">• Structural column erection.• Tie runner for side cladding• Roof truss• Sheeting - Roofing and side cladding• Sliding door, widows, doors, ventilators and exhaust fan etc• All remaining works like painting, gutters etc	Within 2nd months from date of issue of LOA.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Time Schedule

3	Erection of Closed shed (05 Nos): <ul style="list-style-type: none">• Structural column erection.• Tie runner for side cladding• Roof truss• Sheeting - Roofing and side cladding• Sliding door, ventilators and exhaust fan etc• All remaining works like painting, gutters etc	Within 4 TH months from date of issue of LOA.
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THE OVERALL CONTRACT PERIOD SHALL BE **4 (four) MONTHS**.

6.1.2

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 under take works concurrently in all possible fronts as made available to contractor.

CONTRACTOR SHALL NOTE THAT INDIVIDUAL MILESTONES AS ABOVE SHALL BE ACHIEVED AS PER SCHEDULE FURNISHED ABOVE.ISSUE OF LOI DATE SHOULD BE RECKONED AS START DATE.

The contractor shall complete all the work in the scope of this contract within the contract period

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: TERMS OF PAYMENT

7.00 Stages of Progressive Payments (applicable to each shed)

❖ Closed shed with office and C&I room

- a) On Supply and receipt at site of fabricated structural materials like structural members , cladding and roofing sheets, wall paneling as per approved drawings/ BOQ - **60%** (of accepted price)
- b) Completion of erection of structural items, roof and side cladding – **20%**
- c) Wall paneling for rooms etc including furnishing and finishing works – **10%**
- d) Handing over to BHEL in all respect – **5.0%**
- e) Balance amount of **5%** payment will be released after the guarantee period of 12 months as per the provision of GCC. The guarantee period shall commence from the date of completion and handed over of each shed to BHEL.

❖ Closed shed

- a) On Supply and receipt at site of fabricated structural materials like structural members , cladding and roofing sheets, wall paneling as per approved drawings/ BOQ - **70%** (of accepted price)
- b) Completion of erection of structural items, roof and side cladding including finishing works – **20%**
- c) Handing over to BHEL in all respect – **5.0%**
- d) Balance amount of **5%** payment will be released after the guarantee period of 12 months as per the provision of GCC. The guarantee period shall commence from the date of completion and handed over of each shed to BHEL

The RA bill payment shall be made as made as per Cl no 10.0 of Chapter –X of SPECIAL CONDITIONS OF CONTRACT (SCC): RA Bill Payments & General Conditions of Contract (GCC) clause no: 2.22, 2.23.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

8.0 TAXES, DUTIES, LEVIES (Consolidated Rev 03 dated 09/04/2013)

8.1

8.1.1

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.

8.1.2 Service Tax & Cess on Service Tax

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. (i.e. rates quoted by bidder shall be inclusive of Service Tax, VAT/WCT and all other taxes and duties)

However, Since the proposed work is in the nature of 'Works Contract service' as per Service tax law, Hence, For non-corporate contractors being Individual, HUF, Proprietary Firm, Partnership Firm or Association of Persons (AOP), BHEL shall recover the applicable Service Tax under reverse charge mechanism from the contractor and remit the same with the Government as per the provisions of Law. Necessary advice/confirmation of remittance shall be issued to the contractor. The contractor shall not be eligible for any refund/reimbursement of such service tax from BHEL. It shall be the responsibility of the contractor to submit proper invoice giving all the requisite details as per Service Tax Law for the determination of the service tax liability of BHEL under reverse charge mechanism. BHEL reserves the right to determine such liability based on the invoice submitted by the contractor or otherwise independently and remittance of the same with the Government.

8.1.3 VAT (Sales Tax /WCT)

As regards Value Added Tax (VAT)/CST 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 inclusive of the same and in no case input or output VAT/CST will be reimbursed extra.

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. Contractor will submit all the details of VAT/CST paid for the contract in the prescribed format of the respective state VAT laws. Also, the contractor will issue the tax Invoices to BHEL as per the Tax laws of respective state on monthly basis. Contractor shall also be required to furnish to BHEL necessary proof of VAT remittance on monthly basis.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

Deduction of tax at source shall be made as per the provisions of law and is to be construed as an advance tax paid by the contractor and no reimbursement thereof will be made.

Further, if BHEL, at the instance of customer or otherwise adopts the specific route for discharging output VAT liability itself, benefit of the reduction in liability of the contractor will be passed on to BHEL.

In case, BHEL is forced to pay any VAT liability on behalf of contractor, the same will be recovered from contractor's bill or otherwise as deemed fit

8.2 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.

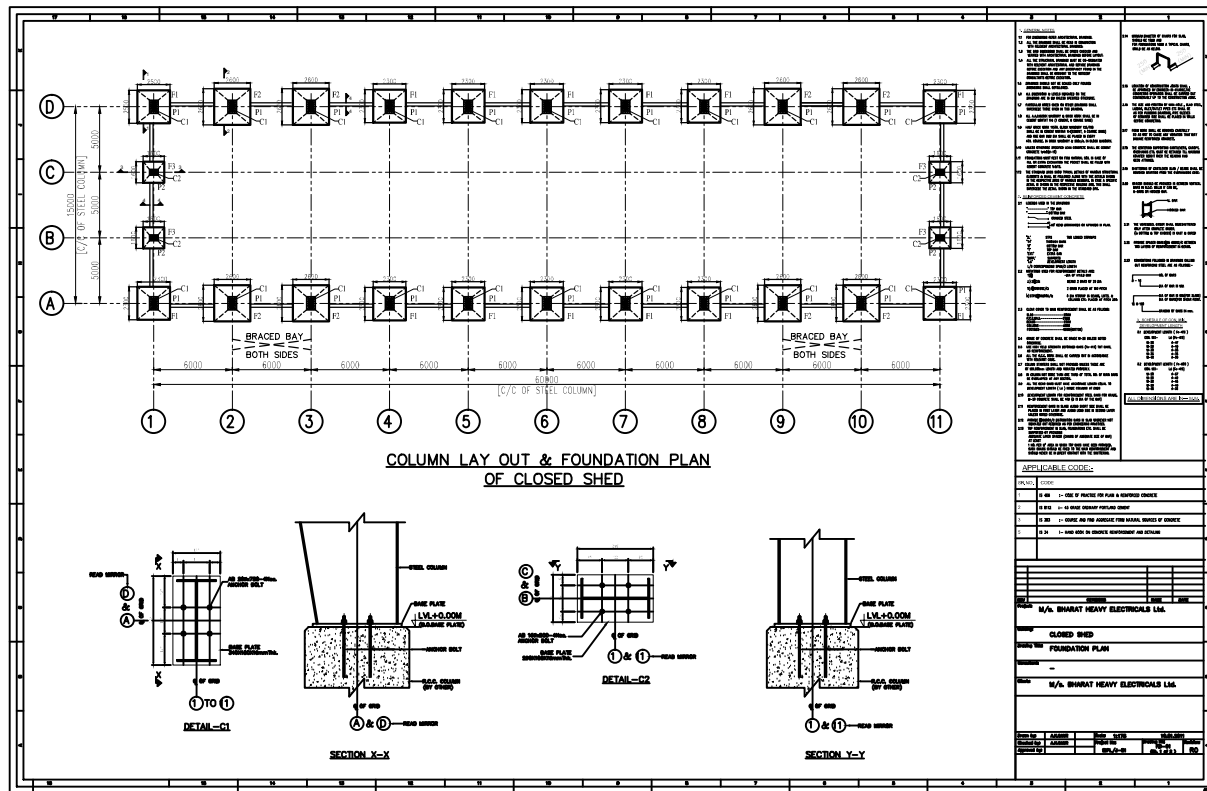
TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX DRAWINGS

FOLLOWING DRAWINGS ARE ENCLOSED WITH THE TENDER.

SL.NO.	DRAWING/SKETCH No.	TITLE
1.	BHEL/PW/PEB – COS –01	FRONT ELEVATION OF CLOSED SHED WITH OFFICE AND C & I ROOM
2.	BHEL/PW/PEB – COS –02	PLAN OF CLOSED SHED WITH OFFICE AND C & I ROOM
3.	BHEL/PW/PEB – CS --01	FRONT ELEVATION OF CLOSED SHED
4.	BHEL/PW/PEB – CS --02	PLAN OF CLOSED SHED
5.	BHEL/PW/PEB-CS-03	CIVIL FOUNDATION DETAILS.

These drawings are for tendering purpose. The work shall be executed with the approval of drawings by BHEL during execution.

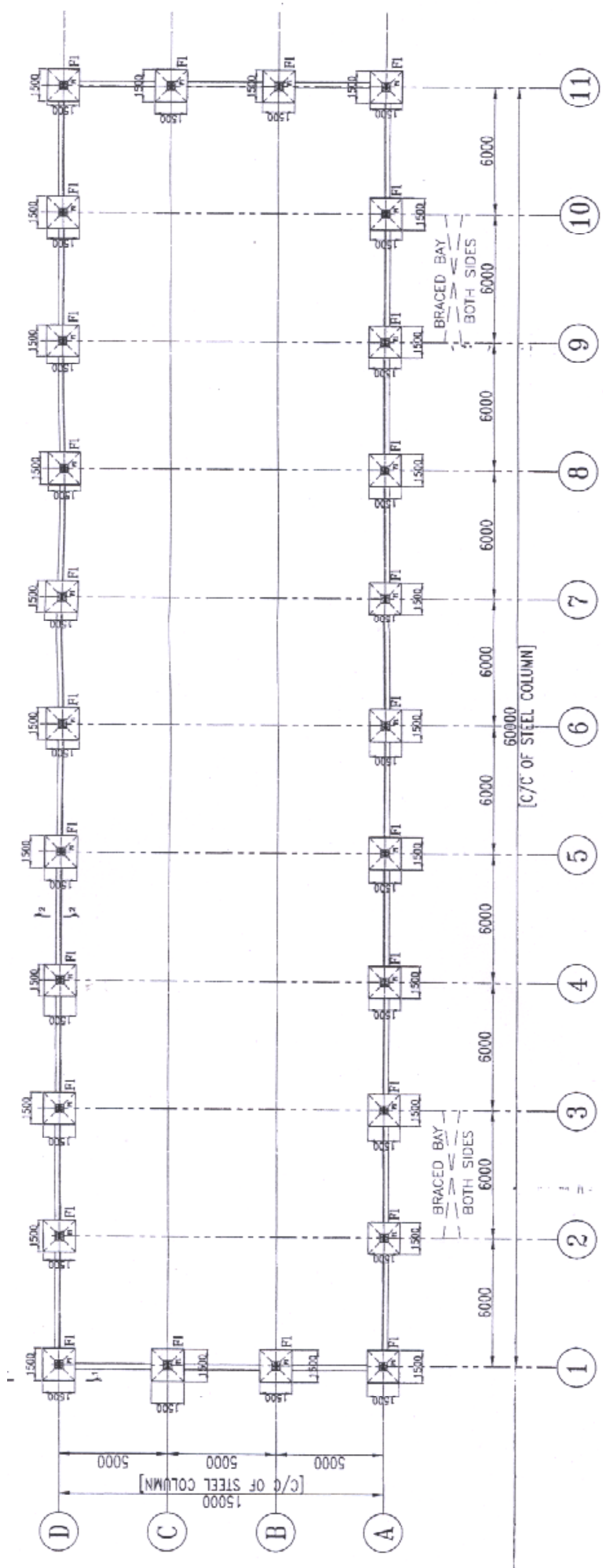


1. GENERAL NOTES:
 - 1.1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 - 1.2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INDIAN STANDARDS (IS) SPECIFIED HEREIN.
 - 1.3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
 - 1.4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
 - 1.5. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ENGINEER.
 - 1.6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES AND STRUCTURES.
 - 1.7. ALL FOUNDATION WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS FOR FOUNDATION ENGINEERING.
 - 1.8. THE CONTRACTOR SHALL MAINTAIN RECORDS OF ALL WORK DONE AND SUBMIT THEM TO THE ENGINEER UPON COMPLETION.
 - 1.9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL WORKERS AND THE PUBLIC.
 - 1.10. ALL WASTE MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
 - 1.11. THE CONTRACTOR SHALL MAINTAIN A NEAT AND ORDERLY WORK SITE AT ALL TIMES.
 - 1.12. ALL WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.
 - 1.13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSURANCE COVERAGE.
 - 1.14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT PROPERTIES AND UTILITIES.
 - 1.15. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ENGINEER.
 - 1.16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL WORKERS AND THE PUBLIC.
 - 1.17. ALL WASTE MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
 - 1.18. THE CONTRACTOR SHALL MAINTAIN A NEAT AND ORDERLY WORK SITE AT ALL TIMES.
 - 1.19. ALL WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.
 - 1.20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSURANCE COVERAGE.
2. MATERIALS TO BE USED:
 - 2.1. ALL MATERIALS SHALL BE OF THE BEST QUALITY AND SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ENGINEER.
 - 2.2. ALL MATERIALS SHALL BE STORED PROPERLY ON SITE TO PREVENT DAMAGE AND LOSS.
 - 2.3. ALL MATERIALS SHALL BE IDENTIFIED AND LABELED PROPERLY.
 - 2.4. ALL MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ENGINEER.
 - 2.5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY TEST REPORTS FOR ALL MATERIALS.
3. WORKMANSHIP:
 - 3.1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INDIAN STANDARDS (IS) SPECIFIED HEREIN.
 - 3.2. ALL WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ENGINEER.
 - 3.3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE QUALITY OF ALL WORK DONE.
 - 3.4. ALL WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.
 - 3.5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY TEST REPORTS FOR ALL WORK DONE.

APPLICABLE CODES:

IS: 800	STEEL STRUCTURES
IS: 801	STEEL STRUCTURES - DESIGN AND CONSTRUCTION
IS: 802	STEEL STRUCTURES - CONNECTIONS
IS: 803	STEEL STRUCTURES - BRACING
IS: 804	STEEL STRUCTURES - CORROSION PROTECTION
IS: 805	STEEL STRUCTURES - PAINTING
IS: 806	STEEL STRUCTURES - WELDING
IS: 807	STEEL STRUCTURES - BOLTING
IS: 808	STEEL STRUCTURES - FABRICATION
IS: 809	STEEL STRUCTURES - ERECTION
IS: 810	STEEL STRUCTURES - MAINTENANCE

DRAWN BY: _____
 CHECKED BY: _____
 DATE: _____
 PROJECT: CLOSED SHED
 FOUNDATION PLAN
 SCALE: _____
 CLIENT: M/S. BHARAT HEAVY ELECTRICALS LTD.
 ADDRESS: _____
 CITY: _____
 STATE: _____
 PIN CODE: _____
 PROJECT NO: _____
 DRAWING NO: _____
 SHEET NO: _____ OF _____
 TOTAL SHEETS: _____



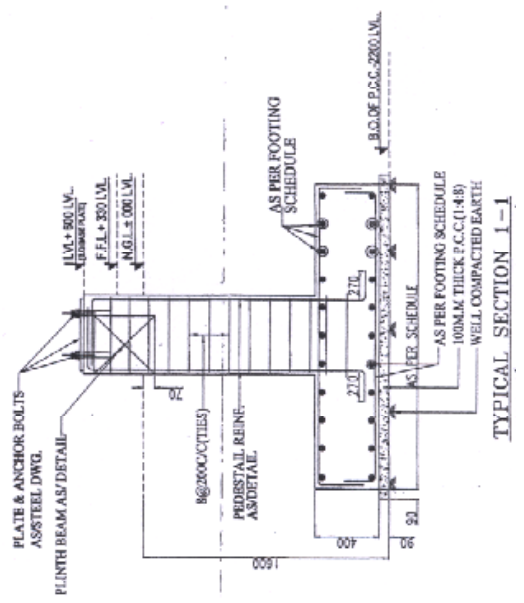
**COLUMN LAY OUT & FOUNDATION PLAN
OF CLOSED SHED**

NOTES:-

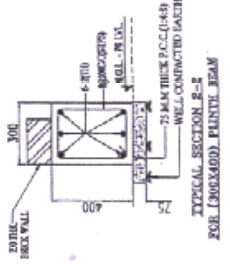
* MINIMUM DISTANCE 6Mtr. (C/C STEEL COLUMN) SHOULD BE MAINTAINED BETWEEN TWO BUILDINGS IN A SAME ROW.

SIDE WALL PEDESTAL DETAIL

C.MIX:-	M-20
TIES	
MAIN BARS SIZE	4-16@4-12#(b)
TIES	8# @ 200 C/C (2 SETS)
SHAPE	
DETAIL NAME	F1



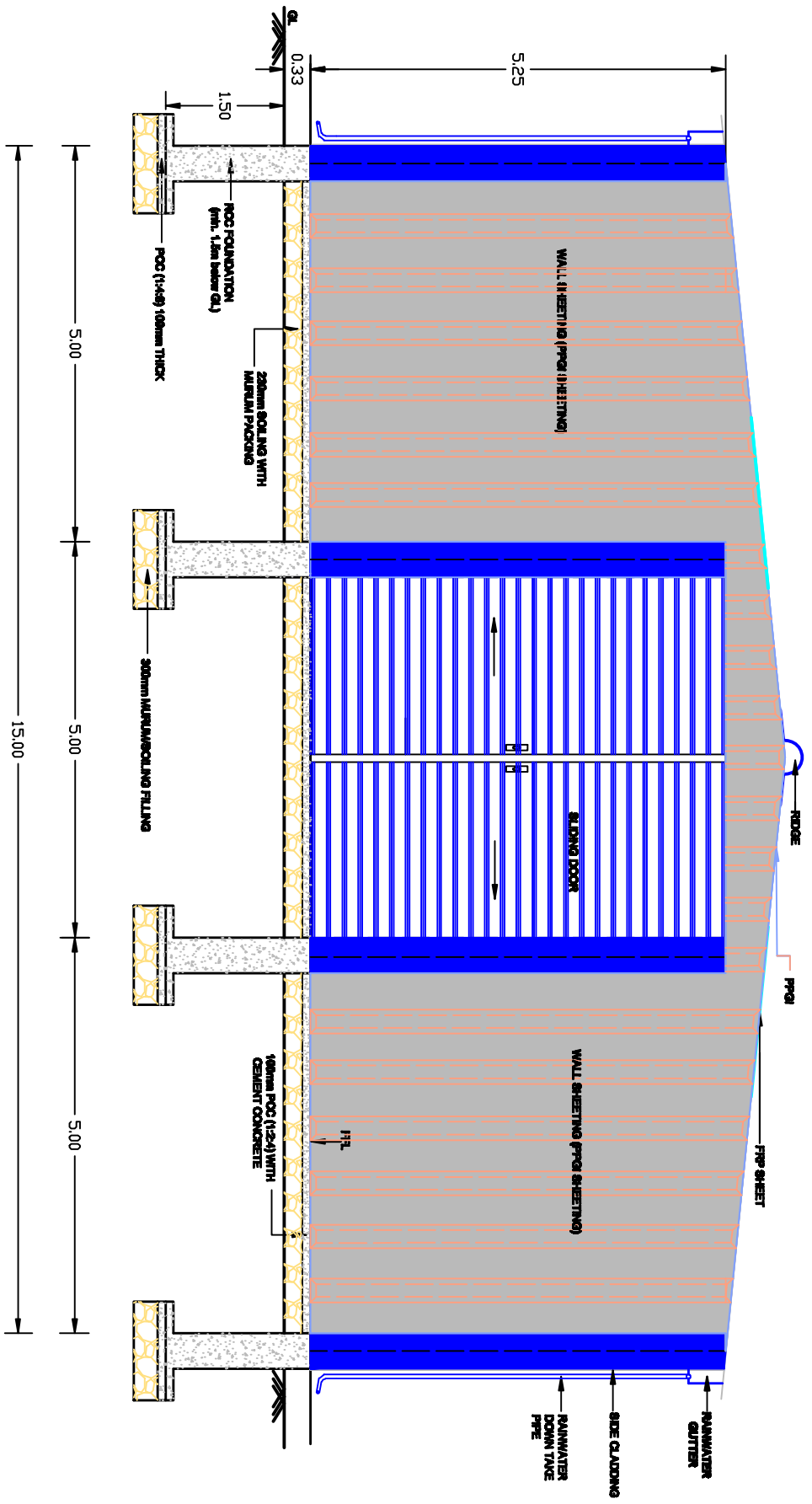
TYPICAL SECTION I-I



FOOTING DETAIL CONC MIX. (M-20)

SR/NO.	FOOTING SIZE	REINFORCEMENT
F1	1500x1500	TOP REINF. 10# @ 200 C/C BOTHWAYS BOTTOM REINF. 12# @ 200 C/C BOTHWAYS

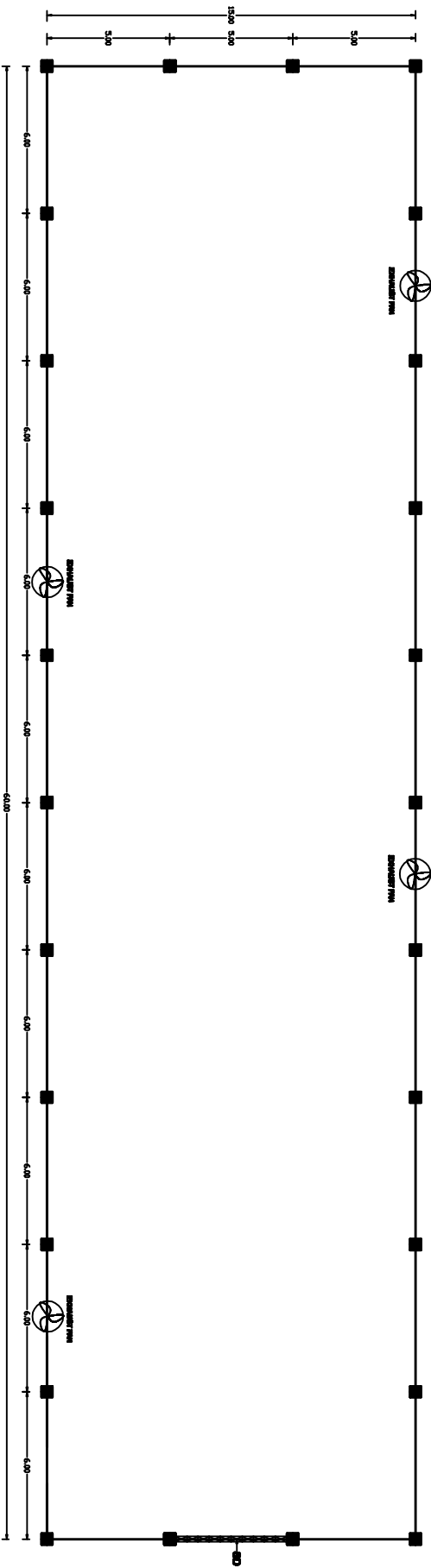
2/12



NOTE:- ALL DIMENSIONS ARE IN METER
 * SLOPE OF ROOF :- RATIO 1:10
 (CROWN HT. FROM BOTTOM OF TRUSS) = 750mm

**TENTATIVE FRONT ELEVATION OF CLOSED SHED WITH OFFICE AND
 C&I ROOM (ABOVE G.L.)**

PROJECT:-	
TITLE	:- TENTATIVE FRONT ELEVATION OF CLOSED SHED WITH OFFICE AND C & I ROOM (ABOVE G.L.)
DRG NO.	:- BHEL/PW/PES - COS - 01
OWNER	:- BHEL-PSWR NAGPUR



NOTE:- ALL DIMENSIONS ARE IN METER
SD- SLIDING DOOR

**PLAN OF CLOSED SHED (60M X 18M)
(G/C COLUMN - 6m IN LONGER DIRECTION)**

PROJECT:-	
TITLE	-> PLAN OF CLOSED SHED(60M X 18M) (6m IN LONGER DIRECTION)
DWG NO.	-> SHELF/SHEDS - C3 - 02
OWNER	-> BHTEL-PSMR NAGPUR

