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## TENDER SPECIFICATION

**TENDER NO. BHEL/ NR/SCT/TANDA/EW- II/1029**

**FOR**

**“DESIGN, MANUFACTURING, SUPPLY, RECEIPT AT SITE,  
CONSTRUCTION AND DEVELOPMENT OF REMOVABLE, RE-  
ERECTABLE, PRE-ENGINEERED, PRE-FABRICATED OFFICE AND  
CLOSED STORAGE SHED FOR 2X660 MW ESP, TANDA TPP,  
TANDA, U.P”**

### **PART I – TECHNICAL BID**



**Bharat Heavy Electricals Limited**  
(A Govt. Of India Undertaking)  
**Power Sector – Northern Region,**  
**Plot No. 25 , Sector - 16A ,**  
**Distt. Gautam Budh Nagar, NOIDA – 201 301.INDIA**



ISO 9001, ISO 14001,  
OHSAS 18001 & SA 8000  
certified company  
SubContract and Purchase Deptt.

**Bharat Heavy Electricals Limited**  
(A Govt. Of India Undertaking)  
**Power Sector – Northern Region,**  
**Plot No. 25 , Sector - 16A ,**  
**Distt. Gautam Budh Nagar, NOIDA – 201 301(INDIA)**  
**Phone: 0091-0120- 2416511/2416262**  
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**Email:aditi@bhelpsnr.co.in/susmitabasu@bhelpsnr.co.in**

**TENDER NO. BHEL/ NR/SCT/TANDA/EW- II/1029**

**IMPORTANT NOTE**

PURCHASER OF THIS TENDER DOCUMENT IS ADVISED TO CHECK AND ENSURE COMPLETION OF ALL PAGES OF TENDER DOCUMENT AND REPORT ANY DISCREPANCY TIMELY FOR CORRECTIVE ACTION, IF ANY, TO THE ISSUING AUTHORITY BEFORE THE BIDS ARE SUBMITTED. ORIGINAL COPY OF TENDER DOCUMENT COMPLETE IN ALL RESPECTS MUST BE SUBMITTED BACK AS PART OF THE BID WITHOUT WHICH THE SAME IS LIABLE TO BE REJECTED BY BHEL.

THIS TENDER SPECIFICATION ISSUED TO:

M/S-----

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Rev 01  
1<sup>st</sup> Jun  
2012

# NOTICE INVITING TENDER

(Document No PS:MSX:NIT)

Bharat Heavy Electricals Limited



Ref: BHEL/ NR/SCT/TANDA/EW- II/1029

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**NOTICE INVITING TENDER (NIT)**

**NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES**

**OR**

**PURCHASE TENDERS FROM THIS OFFICE ALSO**

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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	<b><i>BHEL/ NR/SCT/TANDA/EW- II/1029</i></b>
ii	Broad Scope of job	DESIGN, MANUFACTURING, SUPPLY, RECEIPT AT SITE, CONSTRUCTION AND DEVELOPMENT OF REMOVABLE, RE-ERECTABLE, PRE-ENGINEERED, PRE-FABRICATED OFFICE AND CLOSED STORAGE SHED FOR 2X660 MW ESP, TANDA TPP, TANDA, U.P
iii	<b>DETAILS OF TENDER DOCUMENT</b>	
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> <span style="float: right;"><i>Applicable</i></span>
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i> <span style="float: right;"><i>Applicable</i></span>
c	Volume-IC	<i>General Conditions of Contract (GCC)</i> <span style="float: right;"><i>Applicable</i></span>
d	Volume-ID	<i>Forms and Procedures</i>
e	Volume-II	<i>Price Schedule (Absolute value).</i> <span style="float: right;"><i>Applicable</i></span>
iv	Issue of Tender Documents	<ol style="list-style-type: none"> <li><b><u>Sale from BHEL PS Regional office at Noida, U.P.</u></b>  <b>Start : 19 /03/2016, Time :900 HRS</b>  <b>Closes: 11/04/2016 , Time : 1200 HRS</b></li> <li>From BHEL website (<a href="http://www.bhel.com">www.bhel.com</a>)  Tender documents will be available for downloading from website till due date of submission</li> </ol> <span style="float: right;"><i>Applicable</i></span>
v	DUE DATE & TIME OF OFFER SUBMISSION	<b>Date : 11/04/2016, Time : 1500 HRS</b> <b>Place : Noida</b> <span style="float: right;"><i>Applicable</i></span>

vi	<b>OPENING OF TENDER</b>	<b>Date : 11 /04/2016 , Time : 1530 HRS</b> (within 2 hours of 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	<b>EMD AMOUNT</b>	Rs 200000/-	Applicable
viii	<b>COST OF TENDER</b>	Rs 2000/-.	Applicable
ix	<b>LAST DATE FOR SEEKING CLARIFICATION</b>	<b>Five days before bid submission due date</b> Along with soft version also, addressing to undersigned & to others as per contact address given below	Applicable
x	<b>SCHEDULE OF Pre Bid Discussion (PBD)</b>		Not applicable.
xi	<b>INTEGRITY PACT &amp; DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)</b>		Not Applicable
xii	<b>Latest updates</b>	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) <b>and not in the newspapers</b> . 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 Noida 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 Noida, 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 Noida. 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)
  - 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
<b>Part-I A</b>		
	<b>ENVELOPE – I superscribed as :</b> PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:  <b>CONTAINING THE FOLLOWING:-</b>	
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.  <b>Note:</b> a. 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. b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding. i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL ii). 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.	

<b>PART-I B</b>		
	<b>ENVELOPE – II superscribed as:</b> PART-I (EMD/COST of TENDER)	

	TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:  <b>CONTAINING THE FOLLOWING:-</b>	
i.	1. Earnest Money Deposit (EMD) in the form as indicated in this Tender <b>OR</b> 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)	

	<b>PART-II</b>	
	<b>PRICE BID</b> consisting of the following shall be enclosed	
	<b>ENVELOPE-III</b> superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:  <b>CONTAINING THE FOLLOWING</b>	
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)	

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

**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:

**Bidders capacity for executing the job under tender shall be assessed 'LOAD' wise and 'PERFORMANCE' wise as per the following:**

- I. **LOAD:** Load takes into consideration **ALL** the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The 'Load' is the sum of the unit wise identified packages (refer Table-1) for contracts with BHEL Regions. The cut off month for reckoning 'Load' shall be the month, two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

(Note: For example if latest bid submission is in Aug 2011, then the 'load' shall be calculated upto and inclusive of June 2011)

- i). Total number of Packages

Total number of Packages in hand = P

Where

- 'P' is the sum of all unit wise identified packages under execution with BHEL Regions as of the cut off month defined above, including packages yet to be commenced, excepting packages which are on HOLD due to reasons not attributable to Bidder..

- II. **PERFORMANCE:** Here 'Monthly Performance' of the bidder for all the packages (**under execution/** executed during the 'Period of Assessment' in all the Power Sector Regions of BHEL) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced shall be taken into consideration. The 'Period of Assessment' shall be 6 months preceding the cut off month. The cut off month for reckoning 'Period of Assessment' shall be the month two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

(**Note:** For example if 'latest date of bid submission' is in Aug 2011, then the 'performance' shall be assessed for a 6 month period upto and inclusive of June 2011, for all the unit wise identified packages (refer Table I)

- i). Calculation of Overall 'Performance Rating' for 'similar Package/Packages' for the tendered scope under execution at Power Sector Regions for the 'Period of Assessment':

This shall be obtained by summing up the 'Monthly Performance Evaluation' scores obtained by the bidder in all Regions for all the similar Package/packages', divided by the total number of Package months for which evaluation should have been done, as per procedure below:

- $P_1, P_2, P_3, P_4, P_5, \dots, P_N$  etc be the packages (**under execution/** executed during the 'Period of Assessment' in all Regions) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of similar packages for all Regions =  $P_T$  ( i.e  $P_T = P_1 + P_2 + P_3 + P_4 + \dots + P_N$  )
- Number of Months ' $T_1$ ' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package  $P_1$ . Similarly  $T_2$  for package  $P_2$ ,  $T_3$  for package  $P_3$ , etc for the tendered scope. Now calculate cumulative total months ' $T_T$ ' for total similar Packages ' $P_T$ ' for all Regions ( i.e  $T_T = T_1 + T_2 + T_3 + T_4 + \dots + T_N$  )
- Sum ' $S_1$ ' of 'Monthly Performance Evaluation' Scores ( $S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots, S_{1-N}$  ) for similar package  $P_1$ , for the 'period of assessment' ' $T_1$ ' ( i.e  $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots + S_{1-N}$  ). Similarly  $S_2$  for package  $P_2$  for period  $T_2$ ,  $S_3$  for package  $P_3$  for period  $T_3$ , etc for the tendered scope for all Regions. Now calculate cumulative sum ' $S_T$ ' of 'Monthly Performance Evaluation' Scores for total similar Packages ' $P_T$ ' for all Regions ( i.e ' $S_T = S_1 + S_2 + S_3 + S_4 + S_5 + \dots + S_N$  )
- Overall Performance Rating ' $R_{BHEL}$ ' for the similar Package/Packages (under execution/** executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL):

**Aggregate of Performance scores for all similar packages in all the Regions**

$$= \frac{\text{Aggregate of months for each of the similar package for which performance should have been evaluated in all the Regions}}{S_T}$$

$$= \frac{T_T}{S_T}$$

e) Bidders to note that the risk of non evaluation or non availability of the ‘Monthly Performance Evaluation’ reports as per relevant formats is to be borne by the Bidder

f) Table showing methodology for calculating ‘a’, ‘b’ and ‘c’ above

Sl no	Item Description	Details for all Regions							Total
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
1	Similar Packages for all Regions → (under execution/ executed during period of assessment)	P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>	P <sub>4</sub>	P <sub>5</sub>	...	P <sub>N</sub>	Total No of similar packages for all Regions = P <sub>T</sub> ie Sum (Σ) of columns (iii) to (ix)
2	Number of Months for which ‘Monthly Performance Evaluation’ as per relevant formats should have been done in the ‘period of assessment for corresponding similar Package ( as in row 1)	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	...	T <sub>N</sub>	Sum (Σ) of columns (iii) to (ix) = T <sub>T</sub>
3	Monthly performance scores for the corresponding period (as in Row 2)	S <sub>1-1</sub> , S <sub>1-2</sub> , S <sub>1-3</sub> , S <sub>1-4</sub> , ... S <sub>1-T1</sub>	S <sub>2-1</sub> , S <sub>2-2</sub> , S <sub>2-3</sub> , S <sub>2-4</sub> , ... S <sub>2-T2</sub>	S <sub>3-1</sub> , S <sub>3-2</sub> , S <sub>3-3</sub> , S <sub>3-4</sub> , ... S <sub>3-T3</sub>	S <sub>4-1</sub> , S <sub>4-2</sub> , S <sub>4-3</sub> , S <sub>4-4</sub> , ... S <sub>4-T4</sub>	S <sub>5-1</sub> , S <sub>5-2</sub> , S <sub>5-3</sub> , S <sub>5-4</sub> , ... S <sub>5-T5</sub>	.. ... ...	S <sub>N-1</sub> , S <sub>N-2</sub> , S <sub>N-3</sub> , S <sub>N-4</sub> , ... S <sub>N-TN</sub>	-----
4	Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3)	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>	...	S <sub>N</sub>	Sum (Σ) of columns (iii) to (ix) = S <sub>T</sub>

ii) Calculation of Overall ‘Performance Rating’ (R<sub>BHEL</sub>) in case ‘similar Package/Packages’ for the tendered scope ARE NOT AVAILABLE, during the ‘Period of Assessment’:

This shall be obtained by summing up the ‘Monthly Performance Evaluation’ scores obtained by the bidder in all Regions for ALL the packages, divided by the total number of Package months for which evaluation should have been done. ‘R<sub>BHEL</sub>’ shall be calculated subject to availability of ‘performance scores’ for at least 6 ‘package months’ in the order of precedence below:

- a) ‘Period of Assessment.
- b) 12 months preceding the cut-off month
- c) 24 months preceding the cut-off month
- d) 36 months preceding the cut-off month

In case, R<sub>BHEL</sub> cannot be calculated as above, then Bidder shall be treated as ‘NEW VENDOR’. Further eligibility and qualification of this bidder shall be as per definition of ‘NEW VENDOR’ described in ‘Explanatory Notes’

iii) Factor “L” assigned based on Overall Performance Rating ( $R_{BHEL}$ ) at Power Sector Regions.:

Sl no	Overall Performance Rating ( $R_{BHEL}$ )	Corresponding value of ‘L’
1	$\leq 60$	NA
2	$> 60$ and $\leq 65$	0.4
3	$> 65$ and $\leq 70$	0.35
4	$> 70$ and $\leq 75$	0.25
5	$> 75$ and $< 80$	0.2
6	$\geq 80$	NA

III. **‘Assessment of Capacity of Bidder’:**

‘Assessment of Capacity of Bidder’ is based on the Maximum number of packages for which a vendor is eligible, considering the performance scores of similar packages, as below:

Max number of packages  $P_{Max} = (R_{BHEL} - 60)$  divided by corresponding value of ‘L’  
i.e.  $(R_{BHEL} - 60)/L$

**Note:**

- In case the value of  $P_{Max}$  results in a fraction, the value of  $P_{Max}$  is to be rounded off to next whole number
- For  $R_{BHEL} = 60$ ,  $P_{Max} = '1'$
- For  $R_{BHEL} \geq 80$ , there will be no upper limit on  $P_{Max}$

The Bidder shall be considered ‘Qualified’ as per ‘Assessment of Capacity of Bidder’ for the subject Tender if  $P \leq P_{Max}$

(where P is calculated as per clause 9.1)

IV. **Explanatory note:**

- Similar package means Boiler or ESP or Piping or Turbine or Civil or Structure or Electrical or CI, etc at the individual level irrespective of rating of Plant, and irrespective of whether the subject tender is a single package or as part of combined/composite packages. Normally Boiler, ESP, Piping, Turbine, Electrical, CI, Civil, Structure, etc is considered individual level of package. For example in case the tendered scope is a Boiler Vertical Package comprising of Boiler, ESP and Power Cycle Piping (i.e the ‘identified packages as per Table-1 below), the ‘PERFORMANCE’ part against sl no II above, needs to be evaluated considering all the identified packages (ie Boiler, ESP and Power Cycle Piping) and finally the Bidder’s capacity to execute the tendered scope is assessed in line with III above

- Identified Packages (Unit wise)

**Table-1**

	Civil	Electrical & CI	Mechanical
	i). Enabling works ii). Pile and Pile Caps iii). Civil Works including foundations iv). Structural Steel Fabrication & Erection v). Chimney vi). Cooling Tower vii). Others (Civil)	i). Electrical ii). CI iii). Others (Elec & CI)	i). Boiler & Aux (All types including CW Piping if applicable) ii). Power Cycle Piping/Critical Piping iii). LP Piping iv). ESP v). Steam Turbine Generator set & Aux vi). Gas Turbine Generator set & Aux vii). Hydro Turbine Generator set & Aux viii). Turbo Blower (including Steam Turbine) ix). Material Handling x). Material Management xi). Material Handling & Material Management xii). Others (Mechanical)

- c) Bidders who have not been evaluated for at least six package months in the last 36 months in the online BHEL system for contractor performance evaluation in BHEL PS Regions, wef July'2010 shall be considered "NEW VENDOR".

A 'NEW VENDOR' shall be considered qualified subject to satisfying all other tender conditions

A 'NEW VENDOR' if awarded a job (of package/packages identified under this clause) shall be tagged as "FIRST TIMER" on the date of first LOI/ LOA from BHEL.

The "FIRST TIMER" tag shall remain till execution of work for a period of not less than 09 months, from the commencement of work of first package

A Bidder shall not be eligible for the next job as long as the Bidder is tagged as "FIRST TIMER" excepting for the Tenders which have been opened on or before the date of the bidder being tagged as 'FIRST TIMER'.

After removal of 'FIRST TIMER' tag, the Bidder shall be considered 'QUALIFIED' for the future tenders subject to satisfying all other tender conditions including 'Capacity Evaluation of Bidders'.

In case assessment of 'FIRST TIMER' cannot be done for 9 months due to **completion of work in less than 9 months**, the 'FIRST TIMER' tag will be removed and the vendor shall be considered as 'NEW VENDOR' for any new tender/s, provided the average score for which Performance Evaluation has been done, is not less than 60%.

- d) In the unlikely event of all bidders shortlisted against Technical and Financial Qualification criteria not meeting the criteria on 'Assessment of Capacity of Bidders' detailed above, OR leads to a single tender response on applying the criteria of 'Assessment of Capacity of Bidders' or due to non-approval by Customer, then BHEL at its discretion reserves the right to consider the further processing of the Tender based on the **Overall Performance Rating 'R<sub>BHEL</sub>'** only, starting from the upper band.

- e) 'Under execution' shall mean works in progress as per the following:

- i. up to Boiler Steam Blowing in case of Steam Generator and Auxiliaries
- ii. upto Synchronisation in case of all other works excepting sl no (i) and (iii)
- iii. Upto execution of at least 90% of anticipated contract value in case of Civil & Structures (unit wise), Enabling works and upto 90% of material unloading (in tonnage) as per the original contract in case of MM Package.

Note : BHEL at its discretion can extend (or reduce in exceptional cases in line with Contract conditions) the period defined against (i), (ii) and (iii) above, depending upon the balance scope of work to be completed.

- f) Performance evaluation in CL 9 above is applicable to Prime bidder and consortium partner (or Technical tie up partner) for their respective scope of work.

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, 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 **Not Used**

- 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 The offers of the bidders who are on the banned/ hold list as also the offer of the bidders, who engage the services of the banned/ hold firms, shall be rejected. The list of **banned/ hold firms** is available on BHEL web site [www.bhel.com](http://www.bhel.com).
- 27.0 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 RA.

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.”

Information and General Terms and Conditions governing RA shall form part of the RFQ/ Enquiry.

- 28.0 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. The abridge version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' is available on [www.bhel.com](http://www.bhel.com) on "**supplier registration page**".
- 29.0 **Micro and Small Enterprises (MSE)**  
Any Bidder falling under MSE category, shall furnish the following details & submit documentary evidence/ Govt. Certificate etc. in support of the same along with their techno-commercial offer

Type under MSE	SC/ST owned	Others
Micro		
Small		

**Note:** - If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSE category.

MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM-II certificate having deemed validity (five years from the date of issue of acknowledgement in EM-II) or valid NSIC certificate or EM-II certificate along with attested copy of a CA certificate (format enclosed as Annexure – 4 where deemed validity of EM-II certificate of five years has expired) applicable for the relevant financial year (last audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bids at par with other bidders. No benefits shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer.

MSEs shall be exempted from payment of tender fee.

MSEs shall be exempted from payment of earnest money at the time of tender deposit. However, there is no exemption of security deposit submission.

- 30.0 The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall

immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

### 31.0 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

for BHARAT HEAVY ELECTRICALS LTD  
(SCT)

### **Enclosure:-**

- (i) Annexure-1: Pre Qualifying criteria.
- (ii) Annexure-2: Check List.
- (iii) Annexure-3: Modification / Deletions in Standard Clause of General Conditions of Contract (GCC) or Special Conditions of Contract (SCC)
- (iv) Annexure-4: Chartered Accountant certificate for MSMED
- (v) Annexure-5: General Terms and Conditions of Reverse Auction (RA)
- (vi) Annexure-6: Authorization of representative who will participate in the online Reverse Auction Process
- (vii) Other Tender documents as per this NIT.

**ANNEXURE - 1****PRE QUALIFYING REQUIREMENTS**

JOB	<b>DESIGN, MANUFACTURING, SUPPLY, RECEIPT AT SITE, CONSTRUCTION AND DEVELOPMENT OF REMOVABLE, RE-ERECTABLE, PRE-ENGINEERED, PRE-FABRICATED OFFICE AND CLOSED STORAGE SHED FOR 2X660 MW ESP, TANDA TPP, TANDA, U.P</b>
TENDER NO	<b>BHEL/ NR/SCT/TANDA/EW- II/1029</b>

SL NO.	Name and Description of qualifying criteria	Bidders claim in respect of fulfilling the PQR Criteria	
			Page no. of supporting document
A	<b>Submission of Integrity Pact duly signed</b>	<b>Not Applicable</b>	
B	<b>Assessment of Capacity of Bidder to execute the work as per sl. no. 9 of NIT</b>	<b>Applicable</b>	<b>By BHEL</b>
C	<b><u>Technical</u></b>	<b>Applicable</b>	
C-1	<b><u>Bidder who wish to participate should have:</u></b> Experience of having successfully Executed <b>Similar Works</b> during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following:		
C-1.1	Three (03) similar completed works costing not less than the amount equal to <b>Rs. 49.2 Lacs.</b>		
	<b>OR</b>		
C-1.2	Two (02) similar completed works costing not less than the amount equal to <b>Rs. 61.5 Lacs.</b>		
	<b>OR</b>		
C-1.3	One (01) similar completed work costing not less than amount equal to <b>Rs. 98.4 Lacs.</b>		
D	<b><u>FINANCIAL</u></b>	<b>Applicable</b>	
D-1	<b><u>TURNOVER</u></b> Bidders must have achieved an average annual financial turnover (Audited) of <b>Rs. 37 Lacs</b> or more over last three Financial Years (FY) i.e. (2012-2013, 2013-2014, 2014-2015). Bidder shall submit audited accounts (balance sheets and profit & loss account) in support of this.  In case audited financial statements have not been submitted for all the three years as indicated 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  If Financial Statements are not required to be audited statutorily, then instead of audited financial statements, financial statements are required to be certified by Chartered Accountant.		
D-2	<b><u>NET WORTH</u></b> Net worth of the Bidder based on the latest Audited Accounts as furnished for 'D-1' above should be positive.	<b>Applicable</b>	

	Net Worth = Paid up share capital* + Reserves. (*: Share Capital OR Partnership Capital OR Proprietor Capital as the case may be.)		
D-3	<b><u>PROFIT</u></b> Bidder should have earned cash profit in any one of the three financial years as applicable in the last three financial years defined in 'D-1' above based on latest Audited accounts.  Profit shall be NET profit (PAT +Non cash expenditure viz. depreciation) earned during any one of the three financial years as in 'D-1' above.	<b>Applicable</b>	
E	<b>Approval of Customer</b>	<b>Not Applicable</b>	
F	<b>Consortium Criteria</b>	<b>Not Applicable</b>	
	<b><u>Explanatory Notes for QR 'C'</u></b> <ul style="list-style-type: none"> <li>• For QR 'C' above the word 'Executed' means the bidder should have achieved the Technical Criteria, specified in the QR (as in 'C' above), even if the total contract has not been completed or closed. (The Bidder shall submit the work completion certificate issued by Customer/ Contractor.)</li> <li>• For QR 'C' value of work is to be updated as per the PVC formula of GCC with Indices for "All India Avg. Consumer Price Index for Industrial Workers" with base month as date of execution and indexed up to two months prior to the bid opening month. This condition will be applicable only for the completed jobs and not for the jobs in progress as on date of technical bid opening.</li> <li>• If the Qualifying work is executed in the last seven years period, as specified above, even if it has been started earlier, the same will also be considered meeting the qualifying requirements.</li> <li>• The word '<b>Similar Works</b>' means Supplying &amp; Construction/Erection of Pre-Fabricated, Pre-Engineered Buildings (Residential/ Commercial / Industrial etc.)</li> <li>• Relevant documents, meeting above requirements at C &amp; D, shall be submitted by bidders.</li> </ul>		

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

**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 ( <input type="checkbox"/> ) 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 <b>PRE QUALIFICATION CRITERIA</b> (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/ <del>Not Applicable</del>	YES/NO
8	Copy of PAN Card	Applicable/ <del>Not Applicable</del>	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable/ <del>Not Applicable</del>	YES/NO
10	Integrity Pact	Applicable/ <del>Not Applicable</del>	YES/NO
11	Declaration by Authorised Signatory	Applicable/ <del>Not Applicable</del>	YES/NO
12	No Deviation Certificate	Applicable/ <del>Not Applicable</del>	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable/ <del>Not Applicable</del>	YES/NO
14	Declaration for relation in BHEL	Applicable/ <del>Not Applicable</del>	YES/NO
15	Non Disclosure Certificate	Applicable/ <del>Not Applicable</del>	YES/NO
16	Bank Account Details for E-Payment	Applicable/ <del>Not Applicable</del>	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable/ <del>Not Applicable</del>	YES/NO

18	Tie Ups/Consortium Agreement are submitted as per format	<del>Applicable/Not Applicable</del>	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	<del>Applicable/Not Applicable</del>	YES/NO
20	Analysis of Unit rates	<del>Applicable/Not Applicable</del>	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)

**Annexure-3****Modification / Deletions in Standard Clause of General Conditions of Contract (GCC) or  
Special Conditions of Contract (SCC)****SCC Clauses:**

- I. Clause No. 4.1.4, 4.1.9 & 4.1.10 (Consumables & Other Items) shall not be applicable.
- II. Clause No. 4.2.2 (Obligations in respect of T&Ps and MMEs provided by BHEL) shall not be applicable.
- III. Clause No. 8.3.2, 8.3.3 and 8.3.4 (Statutory Inspection of Work) shall not be applicable.
- IV. HSE Plan for Site Operation by Sub-Contractor "Document No. HSEP 14 Rev. 00"
  - a. Clause No. 7.1 (Qualification for HSE Personnel) shall not be applicable.
  - b. Clause No. 8.4.4 (Provision of Shelter during Rest) shall not be applicable
  - c. Clause No. 8.4.6 (Provision for Canteen Facilities) shall not be applicable.
  - d. Clause No. 8.4.8 (Provision for Emergency Vehicle) shall not be applicable.
  - e. Clause No. 8.4.9 (Pest Control) shall not be applicable.
  - f. Clause No. 8.4.10 (Scrapyard) shall not be applicable.
  - g. Clause No. 8.4.11 (Illumination) shall not be applicable.
  - h. Clause No. 11.3.6 (Chemical Handling) shall not be applicable.

**GCC Clauses:**

- I. Clause No. 2.12 of GCC (ORC) shall not be applicable.
- II. Clause No. 2.13 of GCC (Interest bearing recoverable advance) shall not be applicable.
- III. Clause No. 2.14.1 of GCC (Quantity Variation) shall not be applicable.
- IV. Clause No. 2.17 of GCC (PVC) shall not be applicable.

**ANNEXURE - 4****Certificate by Chartered Accountant on letter head**

This is to Certify that M/S ..... ,  
 (hereinafter referred to as 'company') having its registered office at  
 ..... is registered under MSMED Act 2006, (Entrepreneur  
 Memorandum No (Part—II) ..... dtd:..... ,  
 Category: ..... (Micro/Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per  
 the latest audited financial year ..... as per MSMED Act 2006 is as follows:

- 1. For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No. S.O.1722(E) dated October 5, 2006:

Rs.....Lacs

- 2. For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the **MSMED** Act, 2006:

Rs.....Lacs

**(Strike off which is not applicable)**

The above investment of Rs.....Lacs is within permissible limit of  
 Rs.....Lacs for ..... Micro / Small **(Strike off which is not applicable)**

Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/Small) (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is ..... (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name -

Membership number -

Seal of Chartered Accountant

**GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION (RA)**

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).

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. 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.
3. 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.
4. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax the Compliance form before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
7. 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 non-compliance 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.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. 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, as provided on case-to-case basis to Service provider within two working days of Auction without fail.
11. 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.
12. 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.

13. 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.
14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
15. In case BHEL decides to go for reverse auction, the H1(s) bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

**Authorization of representative who will participate in the on line Reverse Auction Process;**

1	NAME & DESIGNATION OF OFFICIAL	
2	POSTAL ADDRESS (COMPLETE)	
3	TELEPHONE NOS. (LAND LINE & MOBILE BOTH)	
4	FAX NO.	
5	E-MAIL ADDRESS	
6	NAME OF PLACE/ STATE/ COUNTRY, WHEREFROM S/HE WILL PARTICIPATE IN THE REVERSE AUCTION	

**ANNEXURE – 7****Feedback Form: From where did you get information reg. this tender**

1	NEWSPAPER ADVERTISEMENT (NAME)	
2	BHEL WEBISTE (TENDER NOTIFICATION)	
3	CENTRAL PUBLIC PROCUREMENT PORTAL OF GOVERNMENT OF INDIA (CPP PORTAL)	
4	EMAIL COMMUNICATION FROM BHEL	
5	ANY OTHER SOURCE	

# TECHNICAL CONDITIONS OF CONTRACT (TCC)



## VOLUME- IA: TECHNICAL CONDITIONS OF CONTRACT (TCC)

### NAME OF WORK:

DESIGN, MANUFACTURING, SUPPLY, RECEIPT AT SITE, CONSTRUCTION AND DEVELOPMENT OF REMOVABLE, RE-RECTABLE, PRE-ENGINEERED, PRE-FABRICATED OFFICE AND CLOSED STORAGE SHED FOR 2X660 MW ESP, TANDA THERMAL POWER PLANT, TANDA, UTTAR PRADESH.

BHARAT HEAVY ELECTRICALS LIMITED



# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- I: Project Information**

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<b>Sl. No.</b>	<b>Title</b>	<b>Description</b>
1.	Name of the Owner	<b>NATIONAL THERMAL POWER CORPORATION LTD. (NTPC)</b>
2.	Address	TANDA Thermal Power Station Village: BAHADURPUR, District: AMBEDKAR NAGAR (U.P.)
3.	New Installation	2 x 660 MW
4.	Nearest Railway station	AKBARPUR (20 KM) on North Central Railway
5.	Nearest Road	FAIZABAD (65 KM)
6.	Nearest City	FAIZABAD (65 KM)
7.	Nearest Airport	LUCKNOW (240 KM), VARANASI (165 KM)
8.	Highest Temperature	44 deg C
9.	Lowest Temperature	4 deg C
10.	Elevation	102 metres from MSL

**Note: - The bidder is advised to visit and examine the site of WORKS and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into the CONTRACT. All costs for and associated with site visits shall be borne by the bidder.**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

<b>2.0</b>	<b>GENERAL SCOPE OF WORK</b>
<b>2.1</b>	The Broad Scope of Work is as below:
<b>2.1.1</b>	<b>Office:</b> This specification covers Design, Manufacturing, Supply, Receipt at Site, Erection & Finishing works if any etc. and Handing over to site Removable / Re-erectable type Pre-Engineered, Pre-Fabricated OFFICE using Plastocrete / PUF Panels including Foundation, Electricals, Furniture, Sanitary, Septic tank, water tank & its supporting structure, internal & external plumbing & sewage connections all complete. This also includes guarantee for 1 year of operations for the design performance, materials supplied & erected by him covered under the scope of the contract.
<b>2.1.2</b>	<b>Closed Storage Shed:</b> This specification covers Design, Manufacturing, Supply, Receipt at Site, Erection, Site Painting etc. including Civil works, Foundations, Electricals, Furniture, Lighting & Fixtures etc. all complete and Handing over to site, Removable/Re-erectable type Pre-Engineered, Pre-Fabricated Closed Storage Shed. This also includes guarantee for 1 year of operations for the design performance, materials supplied & erected by him covered under the scope of the contract.
<b>2.1.3</b>	For detailed scope of work, refer Part II: Chapter-2 Technical Specification for Office & Chapter-3 Technical Specification for Closed Storage Shed.
<b>2.2</b>	<b>RESPONSIBILITY OF CONTRACTOR</b>
<b>2.2.1</b>	Designing of the Pre-Fabricated, Pre-Engineered, Removable / Re-Erectable type Office and Closed Storage Sheds as per the relevant IS Codes, Technical Specifications, and Layout Drawings provided at Part-II of this specification and submitting the design drawings and BOQ to BHEL for approval.
<b>2.2.2</b>	Furnishing all labour, materials, supervision, construction plans, equipment, supplies, transport to and from the site, fuel, compressed air, water and all other incidental items and temporary works not shown or specified but reasonably implied or necessary for the proper completion and handing over the works, in accordance with the stipulations and specifications laid down in the contract documents and additional stipulations as may be provided by the BHEL Engineer during the course of works.
<b>2.2.3</b>	Furnishing samples of all materials required by the BHEL Engineers for testing / inspection and approval, for use in the works.
<b>2.2.4</b>	Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the BHEL Engineer.
<b>2.2.5</b>	Giving all notices, paying all fees, taxes etc., in accordance with the General conditions of contract that is required for all works including temporary works.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

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<b>2.2.6</b>	The contractor shall provide BHEL such assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used.
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**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)**

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Sl.No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
<b>3.1</b>	<b><u>TEMPORARY ESTABLISHMENT</u></b>			
<b>3.1.1</b>	<b><u>FOR CONSTRUCTION PURPOSE:</u></b>			
A	<i>OPEN SPACE FOR BIDDER'S OFFICE AND STORAGE SPACE</i>	Yes		Limited space ( free of charge) as and where made available by customer (NTPC)
B	<i>FIRE FIGHTING EQUIPMENT LIKE BUCKETS, EXTINGUISHERS ETC.</i>		Yes	
C	<i>FENCING OF STORAGE AREA, OFFICE, CANTEEN ETC. OF THE BIDDER</i>		Yes	
<b>3.1.2</b>	<b><u>FOR LIVING PURPOSES OF THE BIDDER</u></b>			
A	<i>OPEN SPACE</i>		Yes	Contractor have to make their own arrangement
B	<i>LIVING ACCOMMODATION / LABOUR COLONY</i>		Yes	
<b>3.2</b>	<b><u>ELECTRICITY</u></b>			
<b>3.2.1</b>	<b><u>ELECTRICITY FOR CONSTRUCTION PURPOSES</u></b>	<b>Yes</b>		Electricity at 415 V shall be provided free of charge at a single point.
3.2.1.1	<i>SINGLE POINT SOURCE</i>	<b>Yes</b>		
3.2.1.2	<i>FURTHER DISTRIBUTION FOR THE WORK TO BE DONE WHICH INCLUDE SUPPLY OF MATERIALS, ENERGY METER AND EXECUTION</i>		Yes	
<b>3.2.2</b>	<b><u>ELECTRICITY FOR THE OFFICE, STORES, CANTEEN ETC. OF THE BIDDER WHICH INCLUDE</u></b>	<b>Yes</b>		Electricity at 415 V shall be provided free of charge at a single point.
3.2.2.1	<i>DISTRIBUTION FROM SINGLE POINT INCLUDING SUPPLY OF MATERIALS AND SERVICE</i>		Yes	

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)**

Sl.No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.2.2.2	<i>SUPPLY, INSTALLATION AND CONNECTION OF ENERGY METER INCLUDING OPERATION AND MAINTENANCE, MAINTAINING POWER DRAWL FACTOR OF 0.8.</i>		Yes	
3.2.3	<b><u>ELECTRICITY FOR LIVING ACCOMMODATION OF THE BIDDER'S STAFF, ENGINEERS, SUPERVISORS ETC. ON THE ABOVE LINES.</u></b>		Yes	Contractor have to make their own arrangement
3.2.3.1	<i>DUTIES AND DEPOSITS INCLUDING STATUTORY CLEARANCES FOR THE ABOVE</i>		Yes	
3.3	<b><u>WATER SUPPLY</u></b>			
3.3.1	<b><u>FOR CONSTRUCTION PURPOSES:</u></b>			
3.3.1.1	<i>MAKING THE WATER AVAILABLE AT SINGLE POINT</i>		Yes	Contractor has to arrange for construction water at his own cost by resorting to the methods like bore well, water tankers etc.
3.3.1.2	<i>FURTHER DISTRIBUTION AS PER THE REQUIREMENT OF WORK INCLUDING SUPPLY OF MATERIALS AND EXECUTION</i>		Yes	
3.3.2	<b><u>WATER SUPPLY FOR BIDDER'S OFFICE, STORES, CANTEEN ETC.</u></b>		Yes	
3.3.2.1	<i>MAKING THE DRINKING WATER AVAILABLE AT SINGLE POINT</i>		Yes	Bidder shall arrange for safe drinking water for staff and labour at his own cost.
3.3.2.2	<i>FURTHER DISTRIBUTION AS PER THE REQUIREMENT OF WORK INCLUDING SUPPLY OF MATERIALS AND EXECUTION</i>		Yes	
3.4	<b><u>LIGHTING</u></b>			

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)**

Sl.No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.4.1	<b><u>FOR CONSTRUCTION WORK (SUPPLY OF ALL THE NECESSARY MATERIALS)</u></b> 1. At office / storage area 2. At the construction site /area		Yes	
3.4.2	<b><u>FOR CONSTRUCTION WORK (EXECUTION OF THE LIGHTING WORK/ ARRANGEMENTS)</u></b> 1. At office / storage area 2. At the construction site /area		Yes	
3.4	<b><u>CONSTRUCTION FACILITIES</u></b>			
3.4.1	<b><u>ENGINEERING WORKS FOR CONSTRUCTION:</u></b>			
3.4.1.1	PROVIDING THE CONSTRUCTION/ LAYOUT DRAWINGS	<b>Yes</b>		BHEL shall provide tentative drawings only for tendering purpose.
3.4.1.2	DRAWINGS FOR CONSTRUCTION METHODS / DETAILED DESIGN DRAWINGS AS PER SITE REQUIREMENT		Yes	In consultation with BHEL.
3.4.1.3	PREPARATION OF SITE CONSTRUCTION SCHEDULES AND OTHER INPUT REQUIREMENTS		Yes	
3.4.1.4	REVIEW OF PERFORMANCE AND REVISION OF SITE CONSTRUCTION SCHEDULES IN ORDER TO ACHIEVE THE END DATES AND OTHER COMMITMENTS	Yes	Yes	
3.4.1.5	WEEKLY CONSTRUCTION SCHEDULES BASED ON SL. No 3.4.1.3		Yes	
3.4.1.6	DAILY CONSTRUCTION / WORK PLAN BASED ON SL. No 3.4.1.5		Yes	

**Note:**

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)**

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1. **OPEN SPACE:** Limited Open Space for Building the temporary Office and Store (if any) of the Contractor shall be provided by BHEL inside the Plant premises as and where made available by its customer (NTPC), free of charge.
  
2. **ELECTRICITY:** Bidders to note that Electricity for the purpose of Construction at Site and for use in Bidder's Office, Canteen and Store shall be provided free of cost at a single point source at 415 V, wherever made available by Customer (NTPC), however Bidders have to arrange Electricity for the Living Accommodation of the Bidder's Staff, Engineers, Supervisors, Labour Colony (if any) etc. at their own cost.  
BHEL is not responsible for any loss or damage to the contractor's equipment as a result of variations in voltage / frequency or interruptions in power supply.
  
3. **WATER:** Bidder has to make his own arrangement for Water for construction Purpose and also for the safe drinking/potable water for the Bidder's Staff and Workers at his own cost.
  
4. **Lighting Facility:** Adequate lighting facilities such as flood lamps, hand lamps and area lighting shall be arranged by the contractor at the site of construction, and contractor's material storage area etc. at his cost.
  
5. **Bid Drawing:** Drawings enclosed in this tender in Part II, chapter- 4 & chapter-5 are for information and detailed design / construction drawings shall be prepared and submitted by the bidder.

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

<b>A</b>	<b><u>TOOL &amp; PLANTS (T&amp;Ps)</u>- INDICATIVE LIST OF T &amp; Ps</b>
<b>Sl. No.</b>	<b>EQUIPMENT</b>
1	CONCRETE MIXER M/C OF SUITABLE CAPACITY
2	CONCRETE VIBRATORS
3	JCB, EXCAVATOR
4	TRUCKS/LORRIES/TRACTORS/DUMPERS
5	WATER TANKER
6	DEWATERING PUMP
7	WINCHES
8	WELDING / GRINDING / CUTTING MACHINES
9	TYRE MOUNTED MOBILE CRANES / HYDRA (14MT TO 20MT)
NOTES:	<p>1 The above list is only indicative and these T&amp;Ps may not be required for entire contract period but contractor will ensure that these T &amp; Ps are provided as per need. Contractor will assess actual quantity and period of requirement based on his experience. <b>Contractor has to mobilize / maintain adequate numbers of equipment for meeting the work schedule and intermediate milestones as notified by BHEL Engineer.</b></p> <p>2 Other terms and conditions regarding T&amp;Ps / MMEs please also refer clause for T&amp;Ps &amp; MMEs in SCC.</p> <p>3 All the tools and plants required for this scope of work are to be arranged by the contractor within the quoted rates. The list is suggestive in nature. Any additional T&amp;Ps required to be arranged by the contractor.</p> <p>4 If work gets delayed due to non-availability of T&amp;Ps, BHEL reserves the right to get the work done at the risk and cost of contractor without prejudice to rights of BHEL as in GCC.</p>

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

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<b>B</b>	<b><u>MONITORING AND MEASURING EQUIPMENTS (MMEs)</u>- INDICATIVE LIST OF MMEs</b>
<b>SL NO</b>	<b>EQUIPMENT</b>
1	TOTAL STATION
2	AUTO LEVEL
3	MEASURING TAPE
4	PLUMB BOBS
NOTES:	<ol style="list-style-type: none"> <li>1. The above list is only indicative and these MMEs may not be required for entire contract period but contractor will ensure that required MMEs are provided as per need. Contractor will assess actual quantity and period of requirement based on his experience.</li> <li>2. Other terms and conditions regarding T&amp;Ps / MMEs please also refer clause for T&amp;P &amp; MMEs in SCC.</li> <li>3. All the MMEs required for this scope of work are to be arranged by the contractor within the quoted rates. The list is suggestive in nature. Any additional MMEs required to be arranged by the contractor.</li> <li>4. If work gets delayed due to non-availability of MMEs, BHEL reserves the right to get the work done at the risk and cost of contractor without prejudice to rights of BHEL as in GCC.</li> </ol>

**NOT APPLICABLE**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- VI: Time Schedule

<b>TIME SCHEDULE</b>	
<b>6.0</b>	<b>MOBILIZATION, TIME SCHEDULE AND CONTRACT PERIOD</b>
<b>6.1</b>	<b>INITIAL MOBILIZATION</b> After receipt of fax LOI, Contractor shall discuss with Project Manager / Construction Manager regarding initial mobilization. Contractor shall mobilize necessary resources within one (01) week of issue of fax letter of intent or as per the directive of Project Manager / Construction Manager. Such resources shall be progressively augmented to match the schedule of milestones as directed by BHEL Engineer.
<b>6.2</b>	<b>START DATE / ZERO DATE</b> The schedule date of start (Zero Date) of work shall be the date after 7 days of issue of LOI. However the actual date of start of work shall be certified by BHEL Engineer after handing over the site of work to the Contractor.
<b>6.3</b>	<b>COMPLETION PERIOD</b> Entire work as detailed in tender specification <b>shall be completed within 03 months from the start of contract period (Zero Date)</b> . Contractor has to mobilize adequate resources to meet BHEL's commitments to their customer as indicated from time to time.
<b>6.4</b>	Detailed Work completion schedule shall be submitted to BHEL for approval by the successful bidder within 2 weeks of issue of LOI.
<b>6.5</b>	In case due to reasons not attributable to the contractor, the work gets delayed and scheduled completion gets extended, time extension will be accordingly granted by BHEL.
<b>6.6</b>	The work under the scope of this contract is deemed to be completed in all respects, only when all the works are carried out as per satisfaction of BHEL. The decision of BHEL on completion date shall be final and binding on the contractor.
<b>6.7</b>	In order to meet above schedule in general, and any other intermediate targets set, to meet customer/ project schedule requirements, contractor shall arrange & augment all necessary resources from time to time on the instructions of BHEL.
<b>6.8</b>	<b>MILESTONES FOR COMPLETION OF WORKS</b>
<b>6.8.1</b>	<b>COMPLETE WORKS :</b> <b>Three (03) Months from the Date of Start of Contract Period (Zero Date)</b> with indicative milestones as below.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- VI: Time Schedule

<b>6.8.2</b>	<b><u>WORK A: Pre-Engineered /Pre-Fabricated Office.</u></b>	
	A. Submission of complete set of Detailed Design / Construction Drawings including schematic layouts for Electrical, Sanitary and Furniture Work along with BOQ after approval from BHEL.	<b><i>Within 2 weeks from Zero Date</i></b>
	B. Completion of Civil Works i.e. Foundations, Plinth Beam etc. at Site as per approved Drawings, BOQ and Technical Specifications.	<b><i>Within 1.5 Months from Zero Date</i></b>
	C. Completion of All Supplies i.e. Pre-Fabricated Wall Panels, Doors, Windows, Ventilators, Structure Steel Column & Trusses, Roof Sheeting, False Ceiling, Electrical cables, wires, lightings & fixtures, Furniture & Furnishing Items, Sanitary, Water Supply, Networking and other Misc. Items at Site as per approved Drawings, BOQ and Technical Specifications.	<b><i>Within 2 Months from Zero Date</i></b>
	D. Completion of Erection, Installation, Finishing, Illumination, Furnishing and all other related works complete and handing over to Site, Office as per approved drawings, BOQ and Technical Specifications.	<b><i>Within 3 Months from the Zero Date</i></b>
<b>6.8.3</b>	<b><u>WORK B:Pre-Engineered / Pre-Fabricated Closed Storage Shed</u></b>	
	A. Submission of complete set of Detailed Design / Construction Drawings including schematic layouts for Electrical and Furniture Work along with BOQ after approval from BHEL.	<b><i>Within 2 weeks from Zero Date</i></b>
	B. Completion of Civil Works i.e. Foundations, Plinth Beam, Flooring etc. at Site as per approved Drawings, BOQ and Technical Specifications.	<b><i>Within 1.5 Months from Zero Date</i></b>
	C. Completion of All Supplies i.e. Pre-Fabricated Roof Sheeting, Wall Cladding, Structure Steel Columns, Trusses, PUF Panels, False Ceiling Panels, Electrical, Furniture & Furnishing and other Misc. Items at Site as per approved Drawings, BOQ and Technical Specifications.	<b><i>Within 2 Months from Zero Date</i></b>
	D. Completion of Erection, Installation, Finishing, Illumination and all other related works complete and handing over to Site, Closed Storage Shed as per approved drawings, BOQ and Technical Specifications.	<b><i>Within 3 Months from the Zero Date</i></b>
<b>6.9</b>	<b><u>CONSEQUENCE OF DELAY</u></b>	
	In case of delay in completion is attributable to the contractor, BHEL may impose LD on the contractor as per GCC.	

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- VII: Terms of Payment

<b>7.0</b>	<b>TERMS OF PAYMENT</b>
<b>7.1</b>	The 'Engineer' will certify regarding the actual work executed in the measurement books and bills, which shall be accepted by the contractor in measurement book.
<b>7.2</b>	Payment shall be released on the Pro-rata Basis from the Site for the Contracted Works as Follows:
<b>7.2.1</b>	<b>Work A: Pre-Engineered /Pre-Fabricated Office:</b>
<b>7.2.1.1</b>	5% of Total Amount for "Work A" on completion of Submission of approved Detailed Design / Construction Drawings along with BOQ.
<b>7.2.1.2</b>	25% of Total Amount for "Work A" on completion of Civil Works as per approved BOQ, Drawings and Technical Specifications.
<b>7.2.1.3</b>	40% of Total Amount for "Work A" on completion of Supplies as per approved BOQ, Drawings and Technical Specifications.
<b>7.2.1.4</b>	25% of Total Amount for "Work A" on completion of Erection, Installation, Finishing and Other Related Works as per approved BOQ, Drawings and Technical Specifications.
<b>7.2.1.5</b>	5% of Total Amount for "Work A" on handing over to site, Removable / Re-erectable, Pre-Engineered, Pre-Fabricated Office.
<b>7.2.2</b>	<b>Work B: Pre-Engineered / Pre-Fabricated Closed Storage Shed</b>
<b>7.2.2.1</b>	5% of Total Amount for "Work B" on completion of Submission of Detailed Design / Construction Drawings along with BOQ.
<b>7.2.2.2</b>	25% of Total Amount for "Work B" on completion of Civil Works as per approved BOQ, Drawings and Technical Specifications.
<b>7.2.2.3</b>	40% of the Total Amount for "Work B" on completion of Supplies as approved BOQ, Drawings and Technical Specifications.
<b>7.2.2.4</b>	25% of Total Amount for "Work B" on completion of Erection, Installation, Finishing and Other Related Works.
<b>7.2.2.5</b>	5% of Total Amount for "Work A" on handing over to site, Removable / Re-erectable, Pre-Engineered, Pre-Fabricated Closed Storage Shed.
<b>7.3</b>	The Contractor shall be paid running bill as per chapter -X of SCC and Clause Nos. 2.22 & 2.23 of GCC. The format for billing shall be approved by BHEL before raising invoices. Further part payments for facilitation of works may also be permitted to the contractor against above-mentioned % payments on certification of Engineer I/C.
<b>7.4</b>	The contractor on certification of the BHEL Engineer at site is entitled for payments of his running bills which shall be subject to any deduction/retention specifically under clauses 2.22 & 2.23 of GCC and 10.0 of SCC.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- VIII: Taxes & Duties

<b>8.0</b>	<b>TAXES &amp; DUTIES</b> <p>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 &amp; services consumed and output goods &amp; 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.</p> <p>However, provisions regarding <b>Service Tax</b> and <b>Value Added Tax (VAT)</b> on output services and goods shall be as per following clauses.</p>
<b>8.1</b>	<b>Service Tax &amp; Swachh Bharat Cess on Service Tax</b> <p>Service Tax and Swachh Bharat Cess on Service Tax as applicable on output Services are included in contractor's scope; therefore contractor's price/rates shall be <b>inclusive</b> of Service Tax and Swachh Bharat Cess on Output Services. BHEL shall not reimburse any amount to Service Tax A/c due to any reason whatsoever.</p> <p>Contractor shall obtain prior written consent of BHEL before billing the amount towards such taxes. The Service Tax Rules permit more than one option or methodology for discharging the liability of tax/levy/duty and BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor. Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract.</p> <p>Contractor shall submit serially numbered Service Tax and Swachh Bharat Cess Invoices, signed by him or a person authorized by him in respect of taxable service provided, and shall contain the following, namely:</p> <ul style="list-style-type: none"><li>A. The name, address and registration number of the contractor</li><li>B. The name and address of the party receiving taxable service (BHEL)</li><li>C. Description, classification and value of taxable service provided and</li><li>D. The Service Tax and/or Swachh Bharat Cess payable thereon. (Service Tax and Swachh Bharat Cess should not be combined.)</li></ul> <p>All the conditions shall be fulfilled in the invoice for payment of Service Tax and/or Swachh Bharat Cess by BHEL. Where more than one nature of Service under Service Tax Rules is involved, the invoice mentioned above shall contain the breakup of all values for each nature of Service.</p> <p>Name and address of the contractor should be same in the service tax invoice and monthly bill. Any change in the name and address in past should be supported by documentary evidence duly certified by the registering authority.</p>

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- VIII: Taxes & Duties

	<p>Purpose of above requirements, inter alia, is to enable availment of CENVAT credit by BHEL. As per recent amendment time restrictions for taking cenvat credit is within 12 months from date of invoice. Wherever CENVAT credit could not be availed by BHEL within statutory time limit of 12 months due to delay in submission of invoice or for any other reason attributable to contractors, liability towards loss of such CENVAT credit shall be passed on to contractors.</p>
<b>8.2</b>	<b>VAT (Sales Tax /WCT)</b>
<b>8.2.1</b>	<p><b>Civil Works:</b></p> <p>As regards Value Added Tax (VAT) on transfer of property in goods involved in Works Contract (previously known as Works Contract Tax) applicable as per local laws, the price quoted by the contractor shall be <b>inclusive</b> of the same. Contractor shall obtain prior written consent of BHEL before billing the amount towards such taxes. In case contractor opts for composition, it will be with the prior express consent of BHEL. The VAT Rules permit more than one option or methodology for discharging the liability of tax/levy/duty and BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor. BHEL also reserves the right to demand “Tax Invoice” under the relevant VAT Act, from the Contractor. The contractor has to take all necessary steps to <b>minimize tax on input goods</b> by purchasing the materials from any registered dealer of the concerned state only.</p>
<b>8.3</b>	<p><b>New Taxes/Levies &amp; Changes in Tax Laws:</b></p> <p>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. The reimbursement on account of new levy/tax is limited to direct transaction between BHEL &amp; Subcontractor.</p> <p>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.</p> <p>No reimbursement/recovery on account of increase/reduction in the rate of taxes, levies, duties etc. on input goods/services/work of the sub-contractor 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.</p>

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter- IX: Materials and Other Requirements

<b>9.0</b>	<b>MATERIALS</b>
<b>9.1</b>	The contractor shall, at his own expenses (Inclusive of Taxes), provide all materials required for the work.
<b>9.2</b>	All materials to be provided by the Contractor shall be of the best kind in conformity with the specifications laid down in the contract or as per relevant Indian standard and the Contractor shall, if requested by the BHEL Engineer, furnish proof to the satisfaction of BHEL Engineer that the materials so comply.
<b>9.3</b>	The Contractor shall, at his own expense and without delay, supply to the BHEL Engineer samples of materials proposed to be used in the works. The BHEL Engineer shall within seven days of supply of samples or within such further period as he may require will intimate to the Contractor in writing, whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the BHEL Engineer for his approval fresh samples complying with the specifications laid down in the Contract. Any delay in approval of samples (original or fresh ones) shall not make the contractor eligible for any compensation.
<b>9.4</b>	The BHEL Engineer shall have full powers for removal of any or all of the materials brought to site by the Contractor which are not in accordance with the Contract specifications or do not conform in character or quality to samples approved by him. In case of default on the part of the Contractor in removing rejected materials, the BHEL Engineer shall be at liberty to have them removed by other means. The BHEL Engineer shall have full powers to procure other proper material to be substituted for rejected materials and in the event of the Contractor refusing to comply; he may cause the same to be supplied by other means. All costs, which may attend upon such removal and / or substitution, shall be borne by the Contractor.
<b>9.5</b>	The Contractor shall indemnify BHEL, its representatives or employees against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties or other charges which may be payable in respect of any article or material or part thereof included in the Contract. In the event of any claim being made or action being brought against BHEL or any agent, servant or employee of BHEL in respect of any such matters as aforesaid, the Contractor shall immediately be notified thereof, provided that such indemnity shall not apply when such infringement has taken place in complying with the specific directions issued by BHEL but the Contractor shall pay any royalties or other charges payable in respect of any such use, the amount so paid being reimbursed to the Contractor only if the use was the result of any drawings / specifications issued after submission of the tender.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter- IX: Materials and Other Requirements

<b>9.6</b>	The BHEL Engineer shall be entitled to have tests carried out as specified in the Contract for any materials supplied by the Contractor other than those for which, as stated above, satisfactory proof has already been furnished, at the cost of the Contractor and the Contractor shall provide at his expense all facilities which the BHEL Engineer may require for the purpose. If no tests are specified in the Contract, and such tests are required by the BHEL Engineer, the Contractor shall provide all facilities required for the purpose and the charges for these tests shall be borne by the Contractor only. The cost of materials consumed in tests shall be borne by the Contractor in all cases except when otherwise provided.
<b>9.7</b>	In addition, the Contractor shall perform / submit at his own cost such tests / samples as may be required by the BHEL Engineer out of the materials used by the company except for the costs of materials used in such tests/ samples.
<b>9.8</b>	After acceptance of the Contract, if Contractor desires BHEL to supply any other materials, such material may be supplied by BHEL, if available, at rates to be fixed by the BHEL Engineer along with prevailing departmental charges (current rate of 30%). BHEL reserve the right not to issue any material. The non-issue of such material will not entitle the Contractor for any compensation whatsoever either in time or in cost.
<b>9.9</b>	Material required for the works, whether brought by the Contractor or supplied by BHEL, shall be stored by the Contractor only at places approved by the Engineer. Storage and safe custody of material shall be the responsibility of the contractor.
<b>9.10</b>	BHEL's officials concerned with the Contract shall be entitled at any time to inspect and examine any materials intended to be used in or on the works, either on the Site or at factory or workshop or other place(s) where such materials are assembled, fabricated, manufactured or at any place (s) where these are lying or from which these are being obtained and the Contractor shall give such facilities as may be required for such inspection and examination.
<b>9.11</b>	All materials brought to the Site shall become and remain the property of BHEL and shall not be removed off the Site without the prior written approval of the BHEL Engineer. But whenever the Works are finally completed and advance (if any), in respect of any such material is fully recovered, the Contractor shall at his own expense forthwith remove from the Site all surplus material originally supplied by him and upon such removal, the same shall re-vest in and become the property of the Contractor.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- X: Other Important Conditions

<b>10.0</b>	<b>EXECUTION OF WORK</b>
<b>10.1</b>	The work shall be executed in a workman like manner and to the entire satisfaction of the BHEL Engineer and as per technical specification issued with tender, IS codes, CPWD specifications as applicable. In case of conflict, the decision of the <b>BHEL</b> Engineer shall be final & binding.
<b>10.2</b>	<p><b><u>Site Visit by the Bidder</u></b></p> <p>The bidder shall, prior to submitting his tender for the work, visit and examine the site of works and its surroundings at his own expense, and obtain and ascertain for himself on his own responsibility all information that may be necessary for preparing his tender and entering into a contract, and take the same into account in the quoted contract price for the work.</p> <p><b>Note:</b></p> <p>The bidder should note that information, if any, in regard to the local conditions, as contained in these tender documents, has been given to tenderer merely for guidance and is not warranted to be complete.</p> <p>A bidder shall be deemed to have full knowledge of the site, whether he inspects it or not, and no extra charges consequent on any misunderstanding or otherwise shall be allowed.</p>
<b>10.3</b>	<p><b><u>WORKMANSHIP:</u></b></p> <p>Scope of work covered under this specification requires quality workmanship, engineering along with the supply of all consumables, tools and tackles and testing instruments. The contractor shall ensure timely completion of work. The contractor shall have adequate tools, measuring instruments etc. in his possession. He shall also have adequate trained, qualified and experienced engineers, supervisory staff and skilled personnel. The manpower deployment identified by contractor shall match with above scope of works.</p>
<b>10.3.1</b>	All the necessary certificates and licenses required to carry out this scope of work are to be arranged by the contractor then and there at no extra cost.
<b>10.3.2</b>	The work shall be executed under the usual conditions without affecting power plant construction / operation and in conjunction with other operations and contracting agencies at site. The contractor and his personnel shall co-operate with the personnel of other agencies, co-ordinate his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter- X: Other Important Conditions

<b>10.3.3</b>	All the work shall be carried out as per instructions of BHEL engineer. BHEL engineer's decision regarding the correctness of the work and method of working shall be final and binding on the contractor.
<b>10.3.4</b>	Contractor shall execute the supply and works as per sequence prescribed by BHEL Site Engineer. No claims for extra payment from the contractor will be entertained on the grounds of deviation from the methods of execution of similar job in any other site or for any reasons whatsoever.
<b>10.3.5</b>	If required by BHEL, the contractor shall change the sequence of his operation so that work on priority sectors can be completed within the projects schedule. The contractor shall afford maximum assistance to BHEL in this connection without causing delay to agreed completion date.
<b>10.3.6</b>	Contractor shall, transport all materials to site and unload at site / working area for inspection and checking. All material handling equipment required shall be arranged by the contractor.
<b>10.3.7</b>	Contractor shall retain all T&P / Testing instrument / Material handling equipment etc. at site as per advice of BHEL engineer and same shall be taken out from site only after getting the clearances from BHEL Construction Manager / Site In-charge.
<b>10.3.8</b>	The contractor at his cost shall arrange necessary security measures for adequate protection of his machinery, equipment, tools, materials etc. BHEL shall not be responsible for any loss or damage to the contractor's construction equipment and materials. The contractor may consult the BHEL Site Engineer on the arrangements made for general site security for protection of his machinery equipment tools etc.
<b>10.3.9</b>	The contractor must obtain the signature and permission of the security personnel of the customer / BHEL for bringing any of their materials inside the site premises. Without the Entry Gate Pass these materials will not be allowed to be taken outside.
<b>10.3.10</b>	The contractor is strictly prohibited from using BHEL's regular components like angles, channels, beams, plates, pipe / tubes, and handrails etc. for any temporary supporting or scaffolding works. Contractor shall arrange himself all such materials. In case of such misuse of BHEL materials, a sum as determined by BHEL engineer will be recovered from the contractor's bill. The decision of BHEL engineer is final and binding on the contractor.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- X: Other Important Conditions

<b>10.3.11</b>	No member of the already erected structure / buildings, other component and auxiliaries should be removed / modified without specific approval of BHEL engineer.
<b>10.3.12</b>	On Completion of work, all the temporary buildings, structures, pipe lines, cable etc. shall be dismantled and levelled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event of his failure to do so, the expenditure towards clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.
<b>10.3.13</b>	The contractor's work shall not hinder other work, either underground or over ground, such as electrical, phone lines, water or sewage lines, etc. In areas of overlap, the contractor shall work in coordination with other related contractors. Any damage to such utilities will be penalized and contractor shall be responsible for cost for such damages.
<b>10.4</b>	<b><u>SITE INSPECTION:</u></b> BHEL / Customer will have full power and authority to inspect the works at any time, either on the site or at the contractor's premises. The contractor shall arrange every facility and assistance to carry out such inspection. Wherever the performance of work by the contractor is not satisfactory in respect of workmanship, deployment of sufficient labour or equipment, delay in execution of work or any other matter, BHEL shall have the right to engage labour at normal ruling rates and get the work executed through other agency and debit the cost to the contractor and the contractor shall have no right to claim compensation thereof. In such a case, BHEL shall have the right to utilize the materials and tools brought by the contractors for the same work.
<b>10.5</b>	<b><u>DOCUMENTATION</u></b> The following information shall be furnished by the bidder within one week of award of contract for approval. a) Bar chart covering planned activities at site b) Detailed organization chart
<b>10.6</b>	<b><u>SETTING OUT</u></b>
<b>10.6.1</b>	All the works shall be set out to the true lines, grades and elevation indicated on the drawing. The contractor shall be responsible to locate and set out the works.
<b>10.7</b>	<b><u>SITE DRAINAGE</u></b>
<b>10.7.1</b>	All water including sub-soil water which may accumulate on the Site during the progress of the works or in trenches and excavations, including monsoon period

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- X: Other Important Conditions

	shall be removed by the contractor from the Site to the satisfaction of the BHEL Engineer. It will also be responsibility of the contractor to de-water all the foundation pits, trenches with suitable de-watering methods like, pumping out, well point system etc. considering the depth of water table at plant site. All such expenditure on de-watering shall be deemed to be included in quoted rates.
<b>10.8</b>	<b>INSPECTION AND STAGE APPROVAL OF THE WORK</b>
<b>10.8.1</b>	All work embracing more than one process shall be subject to examination and approval at each stage thereof and the Contractor shall give due notice in writing to the BHEL Engineer when each stage is ready. In default of such notice being received, the BHEL Engineer shall be entitled to approve the quality and extent thereof at any time he may choose and in the event of any dispute, the decision of the BHEL Engineer thereon shall be final and conclusive.
<b>10.9</b>	<b>NUISANCE</b>
<b>10.9.1</b>	The Contractor shall not at any time do, cause or permit any nuisance on Site or do anything which shall cause unnecessary disturbance or inconvenience to owners, tenants or occupiers of other properties near the Site and to the public generally.
<b>10.10</b>	<b>MATERIAL OBTAINED FROM EXCAVATION</b>
<b>10.10.1</b>	Materials of any kind obtained from excavation on the Site shall remain the property of BHEL / its client and shall be disposed of as the BHEL Engineer may direct.
<b>10.12</b>	<b>PROTECTION OF WORKS</b>
<b>10.12.1</b>	Trees designated by the BHEL Engineer shall be protected from damage during the course of the Works and earth level within 1 meter of each such tree shall not be charged. Where necessary, such trees shall be protected by providing temporary fencing.
<b>10.12.2</b>	The contractor shall provide and maintain at his own expense all lights, guards, fencing and watching when and where necessary or required by the BHEL Engineer for the protection of the Works or for the safety and convenience of those employed on the Works or the public.
<b>10.12.3</b>	The contractor shall have total responsibility for protecting his works till it is finally taken over by the BHEL. No claim will be entertained by the BHEL for any damage or loss to the contractor's works and the contractor shall be responsible for the complete restoration of the damaged works to its original condition to comply with the specifications and drawings. Should any such damage to the contractor's works occur because of other party not under his supervision or control, the contractor shall make his claim directly with the party concerned. The contractor shall not cause any delay in the repair of such damaged works because of any delay in the resolution of such disputes.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- X: Other Important Conditions

	The contractor shall proceed to repair the work immediately and no cause thereof will be assigned pending resolution of such disputes.
<b>10.13</b>	<b>COMPLETION OF WORK</b>
<b>10.13.1</b>	The works shall be completed to the entire satisfaction of the BHEL Engineer and in accordance with the completion schedule as specified in the Contract, and all unused stores and materials, tools, plant, equipment, temporary buildings, site office, labour hutments and other things shall be removed and the site and work cleared of rubbish and all waste materials and delivered up clean and tidy to the satisfaction of the BHEL Engineer at the Contractor's expenses.
<b>10.13.2</b>	BHEL shall have power to take over from the Contractor from time to time such sections of the work as have been completed to the satisfaction of the BHEL Engineer. Such work however shall not be treated as have been completed until the extra works are executed to the satisfaction of BHEL Engineer.
<b>10.14</b>	<b>COMMENCEMENT OF GUARANTEE PERIOD</b>
<b>10.14.1</b>	<b>The Guarantee period shall commence only after completion &amp; handing over of the entire works.</b> The BHEL Engineer shall certify to the contractor the date on which the work is completed & handed over and the date thereof for commencement of Guarantee Period. The duration of Guarantee Period shall be as per GCC.
<b>10.15</b>	<b>METHOD OF MEASUREMENT</b>
<b>10.15.1</b>	Method of measurements if not specified in the tender, shall be as per relevant IS Codes / CPWD codes.
<b>10.16</b>	<b>HSE &amp; OHSAS:</b> <b>The contractor shall comply with the requirements / stipulations of Chapter-IX of SCC towards Health, Safety and Environment.</b>
<b>10.17</b>	<b>DISCREPANCIES AND ADJUSTMENT OF ERRORS:</b>
<b>10.17.1</b>	The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawings and figures dimensions in preference to scale and special conditions in preference to general conditions.
<b>10.17.2</b>	In case of discrepancies between the specification and / or the drawings, the following order of preference shall be observed: (a) Technical Conditions of Contract (b) Drawings (c) Special Conditions of Contract (d) General conditions of contract
<b>10.17.3</b>	If there are varying or conflicting provisions made in any one document forming part of the contract, the BHEL Engineer shall be the deciding authority with regard to the document.

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- XI: Annexures**

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**UNPRICED RATE SCHEDULE**

**SCOPE OF WORK:** DESIGN, MANUFACTURING, SUPPLY, RECEIPT AT SITE, CONSTRUCTION AND DEVELOPMENT OF REMOVABLE, RE-ERECTABLE, PRE-ENGINEERED, PRE-FABRICATED OFFICE AND CLOSED STORAGE SHED FOR 2X660 MW ESP, TANDA THERMAL POWER PLANT, TANDA, UTTAR PRADESH.

<b>SL.NO.</b>	<b>Description of Item</b>	<b>Lump sum Price ( "X") in Rupees (in figures and words)</b>
<b>1.0</b>	<b>Lump sum price for the work of</b> "DESIGN, MANUFACTURING, SUPPLY, RECEIPT AT SITE, CONSTRUCTION AND DEVELOPMENT OF REMOVABLE, RE- ERECTABLE, PRE-ENGINEERED, PRE- FABRICATED OFFICE AND CLOSED STORAGE SHED FOR 2X660 MW ESP, TANDA TPP, TANDA, U.P."	

**Notes:**

**The rates of different items for the entire scope shall be worked out & awarded as per "Annexure-I"**

## RATE SCHEDULE

**Scope of Work:** Design, Manufacturing, Supply, Receipt at Site, Construction and Development of Removable, Re-Erectable, Pre- Engineered, Pre-Fabricated Office and Closed Storage Shed for 2X660 MW ESP, Tanda Thermal Power Plant, TANDA, UTTAR PRADESH.

Sl. No.	Description	UOM	Qty	Factor	Amount= Factor*X (Rs.) -In Figure	Amount (Rs.)- In words
1	<b>Work A:</b> Design, Manufacturing, Supply Receipt at Site, Erection & Finishing Works if any etc. and handing over to site, removable/ re-erectable type pre-engineered, pre-fabricated Office using Plastocrete / PUF Panels including Foundation, Electricals, Furniture, Sanitary, Septic tank, Water tank & its supporting structure, internal & external plumbing & sewage connections etc. all complete.	L.S.	1	0.33		
2	<b>Work B:</b> Design ,Manufacturing, Supply, Receipt at site, Erection, Site Painting etc. including Civil works, Foundations, Electricals, Furniture, Lighting & Fixtures etc. all complete and Handing over to site, removable /re-erectable type pre-engineered, pre-fabricated closed storage shed.	L.S.	1	0.67		
<b>GRAND TOTAL FOR WORK A &amp; WORK B</b>						
<b>NOTES:</b>						
1	Bidder's quoted price above shall be complete in all respect for the full scope defined in specification and in accordance with all terms & conditions of tender.					
2	Contractor shall fully understand the scope of works as per Tender Docuements. No extra payment shall be made for any works which are covered under the Tender's scope.					
3	Conditional price bids with any deviation / clarification etc. are liable to be rejected. No cutting / erasing / over writing shall be done.					
4	In case of any mis-match in rate and amount on price discrepancy, the same will be dealt as per clause no. 1.4 of GCC.					

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter-1: Deletion / Modification in General Conditions of Contract, Special Conditions of Contract**

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<b>1.0</b>	<p><b>MODIFICATION/ DELETION OF GCC &amp; SCC CLAUSES:</b></p> <p><b><u>SCC Clauses:</u></b></p> <ul style="list-style-type: none"><li>I. Clause No. 4.1.4, 4.1.9 &amp; 4.1.10 of SCC (Consumables &amp; Other Items) shall not be applicable.</li><li>II. Clause No. 4.2.2 of SCC (Obligations in respect of T&amp;Ps and MMEs provided by BHEL) shall not be applicable.</li><li>III. Clause No. 8.3.2, 8.3.3 and 8.3.4 of SCC (Statutory Inspection of Work) shall not be applicable.</li><li>IV. HSE Plan for Site Operation by Sub-Contractor “Document No. HSEP 14 Rev. 00”<ul style="list-style-type: none"><li>a. Clause No. 7.1 (Qualification for HSE Personnel) shall not be applicable.</li><li>b. Clause No. 8.4.4 (Provision of Shelter during Rest) shall not be applicable</li><li>c. Clause No. 8.4.6 (Provision for Canteen Facilities) shall not be applicable.</li><li>d. Clause No. 8.4.8 (Provision for Emergency Vehicle) shall not be applicable.</li><li>e. Clause No. 8.4.9 (Pest Control) shall not be applicable.</li><li>f. Clause No. 8.4.10 (Scrapyard) shall not be applicable.</li><li>g. Clause No. 8.4.11 (Illumination) shall not be applicable.</li><li>h. Clause No. 11.3.6 (Chemical Handling) shall not be applicable.</li></ul></li></ul> <p><b><u>GCC Clauses:</u></b></p> <ul style="list-style-type: none"><li>I. Clause No. 2.12 of GCC (ORC) shall not be applicable.</li><li>II. Clause No. 2.13 of GCC (Interest bearing recoverable advance) shall not be applicable.</li><li>III. Clause No. 2.14.1 of GCC (Quantity Variation) shall not be applicable.</li><li>IV. Clause No. 2.17 of GCC (PVC) shall not be applicable.</li></ul>
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TECHNICAL CONDITIONS OF CONTRACT (TCC)  
Chapter-2: Technical Specification for Office

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**TECHNICAL SPECIFICATION FOR OFFICE**



**Bharat Heavy Electricals Limited**  
**Project Management Department**  
**Power Sector – Northern Region, Plot No. 25, Sector- 16A**  
**Noida – 201301, Uttar Pradesh**

	TITLE: <b>PRE-FABRICATED OFFICE INCLUDING</b>	SPECIFICATION NO. PSNR-PMX-OFC-001-
	<b>FOUNDATION, ELECTRICAL, FURNITURE,</b>	VOLUME – I
	<b>TOILET &amp; OTHER ALLIED ITEMS AT BHEL</b>	REV.NO. 02
	<b>SITE</b>	DATE 29/02/2016

## TECHNICAL SPECIFICATION

### 1. SCOPE

This specification covers Design, Manufacturing, Supply, Receipt at Site, Erection & Finishing works if any etc. and Handing over to site Removable / Re-erectable type Pre-Engineered, Pre-Fabricated OFFICE using Plastocrete / PUF Panels including Foundation, Electricals, Furniture, Sanitary, Septic tank, Water tank & its supporting structure, internal & external plumbing & sewage connections all complete.

### DETAILED SPECIFICATION

#### OFFICE:

SIZE:	10M C/c x 15 M C/c x 3.0M (approximate).
CLEAR HEIGHT:	Between FFL & Bottom of truss / Structural Member– 3.0 M.
<b>MAIN STRUCTURE&amp;WALLS:</b>	<p>The Structural walls shall be made out of the following:</p> <ul style="list-style-type: none"> <li>• 25mm thick Plastocrete, concrete filled, Polymeric section filled with high density cellular concrete. Inner face shall be polymeric paneling finish, outer face shall be provided weather proof protective finish.</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>• PUF Panels with colour coated GI sheet of 0.47 mm thickness on Inner and Outer Side and 60 mm thick PUF of 38 Kg /m<sup>3</sup> sandwiched between the sheets. Inner side Finishing shall be done with Polymeric panels of approved colour, make, and thickness including approved framing.</li> </ul> <p>The fixture should be joined together by tongue and groove method to ensure 100% leak proof. The Outer framing structure shall be</p>



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**ROOF:**

fabricated with ISMC 75x40x3mm or as per approved design, MS "T" welded for securing panels. The above columns will be grouted to the Plinth Beam by means of expansion fasteners. The entrance will be provided with 1no-portico should have an aesthetic look of size min 4m X 3m.

Roof truss should be made up of anti-corrosive painted 40 mm square tubular section or as per approved design to suit roof structure with 0.47mm thick pre-coated profiled GI (i.e. PPGI) roof sheet fixed with fasteners all complete.

**FLOORING:**

Office flooring shall be consisting of all around RCC 1:2:4 plinth beam of section 230 x150 mm with minimum reinforcement above 300 mm high brick work 230 mm wide (with cement mortar 1:6). Floor Level shall be raised by filling the Earth / Sand in Layers not more than 150 mm including watering and compaction etc. complete. 75 mm thick PCC (1:3:6) shall be provided below finish floor.

Finish flooring above PCC shall be of vitrified floor tiles 600x600mm (min 8 mm thick) of 1st quality conforming to IS: 15622 of approved make in colors such as White, Ivory, Grey, Fume Red Brown, to be laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) including pointing the joints with white cement and matching pigment etc. all complete. The Finished Floor Level (FFL) shall be minimum 300 mm up from the Natural Ground Level (NGL).



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**FALSE CEILING:**

False ceiling shall be provided to entire office area including corridors, toilet blocks etc. Frame works shall be made of anti-corrosive painted GI structural members i.e. Tees, Angles, Channels etc. to form a grid pattern, the frame work shall be suspended from the Roof Trusses with the help of level adjusting hangers and False ceiling shall be done with 6 mm thick polymeric panels and these panels are joined together by tongue and groove using self-tapping screws. Cut-outs should be made where ever necessary for Fixing of electrical fittings.

**PARTITION:**

Double side partition for cubicles/work stations, part cabins of approx. height 5' made up of anti-corrosive painted 25 x 50 mm MS Frame and double side paneling with polymeric section (min. 6 mm thick) /part glazed section (glazing with min. 4 mm thick float glass) with an air gap of minimum 4 mm these panels are joined together by tongue and groove using self-tapping screws.

**MODULAR FURNITURE /  
 FURNISHINGS:**

Following Modular Furniture / Furnishing of **approved make** shall be provided by the contractor for Office:

- (a) Maestro type table for Site in-charge including fixed side return table, mobile pedestal- 01 No.
- (b) Conference hall table- approx. size 12'x5' of seating capacity minimum 12 nos (including chairs):- 01 No.
- (c) For Modular Office type Cubicle & part cabins: Tables 1200mm X 750 mm with necessary file storage racks, supporting pedestal, Keyboard tray as per enclosed furniture layout drawing:
  - i) 4 Seater Cubicle: 02 Nos.



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<p><b>DOOR &amp; WINDOWS:</b></p>	<p>ii) 2 Seater Cubicle: 01 Nos.          iii) 1 Seater Cubicle: 02 Nos.          iv) Part Cabins: 03 Nos.</p> <p>(d) Chairs for senior executives- 04 Nos.,          (e) Chairs for executives- 13 Nos.          (f) Chairs for visitors- 08 Nos.          (g) Three seater sofa- 02 Nos.          (h) Tea Poi- 01 No.</p> <p><b>Outer Doors:</b> Outer Doors shall be Colour anodized Aluminium framed with pre laminated particle board paneling (min. 12 mm thick confirming to IS: 12823 Grade I type II, with decorative lamination on both side) with necessary EPDM rubber/ neoprene gasket, aluminium snap beading for glazing/ paneling, C.P. Brass / stainless steel screws, hinges, handle, door stopper, Double Action Hydraulic Floor Springs, mortise lock and pad locks etc. complete with all accessories. A covered portico of 4m x 3m shall be provided at the entrance as per the layout drawings.</p> <p><b>Windows:</b> All Windows shall be made of Aluminium Frame with glazing of 4 mm thick clear float glass. The aluminium windows shall be of sliding type, roller blinds of approved make, color &amp; fabric shall be provide for windows. Suitable nos. of Windows shall be provided for enough ventilation &amp; natural light.</p> <p><b>Internal Doors:</b> Internal Doors for Site-In charge room, conference hall and common Toilet Block shall be made of 25 mm thick wooden flush shutters with outer Colour anodized Al Frame including, necessary</p>
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**TOILET:**

hinges, handles, mortice locks, door closures, stoppers, L drops etc. complete. Internal Doors for Toilets attached to conference room, Site-in charge Room and for EWCs shall be PVC Doors with PVC outer frame with all necessary fittings and fixtures complete.

- 1 no. Toilet with 1 EWC, 1 Urinal, 1 Wash Basin for Site-in-charge room.
- 1 no. Toilet with 1 EWC, 1-urinal, 1 Wash basin shall be provided for conference hall.
- A common toilet Block consisting 3 urinals, 2 EWC, & 2 Wash basin shall be provided. All EWC in toilets shall be provided with PVC louvered exhaust fan ventilators as per approved drawings.

All toilets should have required Towel Rods, Soap Dispenser and Glazed Mirrors etc. with automatic flushing system including total required Plumbing. All Toilets should contain EWC with Health Faucet, Paper Holder, Bottle Traps, Brass Bib Cocks, Stop Cocks, Gate Valves etc. all complete.

**PANTRY:**

Pantry shall be provided with a SS kitchen Sink with drain board (size: 510X1040 with min bowl depth 200 mm) including stop cocks, pillar taps, waste water pipe, necessary fittings and connections etc. all complete and a Granite working platform of min. 18 mm thick Black Granite Stone laid over angle support structures monolithic with outer frame structure at a specified height as per approved drawings and as directed by BHEL Engineer.



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**WATER SUPPLY:**

A separate structure shall be provided with steel sections to support 1 no. 1000 litre water tank at a minimum height of 4m. The structure shall be designed with steel as per standard IS specification to withstand the water tank load and wind load in full & the legs of structure shall be suitably anchored to the ground. Supply and Fixing of Water Tank as approved by BHEL Engineer including inlet connection to Water Tank from the Existing nearby water supply line and further Distribution of water from the Water Tank to the Office Toilets, Pantry etc. using the GI / PVC Pipes of approved specifications and make, laying on surface/ recessed is also included in contractors scope.

**SEWAGE / WATER  
 SUPPLY  
 CONNECTIONS:**

Sanitary fitting (EWCs, wash basins, urinals etc.) along with sewage connections shall be provided with septic tank and soak pit. All internal and external plumbing (from water tank to distribution system like toilet and pantry) including providing and fixing necessary GI / PVC Pipe, SW Pipe, stop cocks, bib cocks, full way valves, Gully Traps, Nahni Traps, water faucet etc. shall be provided as per approved drawings, BOQs and as directed by BHEL Engineer.

**ELECTRICAL WORKS:**

Bidder to supply & install electrical items like Distribution Boards, LT Cables, Main switch with Earth leakage protection (30A TPN), suitable sockets/switch units for required A/C points, wires, PVC conduits, tees, bends, clamps, JBs, 5amps socket, Modular Switch boards & points for computers & telephone for each table/desk, earthing wires, Lighting system shall be designed as modular type suitable for False ceilings.



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<p><b>NETWORKING:</b></p>	<p>Also, the bidder should take care of aesthetics and energy conservation. A detailed schematic with BOM of the electrical fittings shall be submitted to BHEL for approval before execution. Supplying and Installation of Main Distribution Board and making the connection from the Single Point Source (as and where made available by customer) to the Distribution Board using the PVC Insulated aluminium armoured LT Cables (3&amp;1/2 core) of appropriate size and capacity, including laying underground as per standard procedures and specifications and making the connections from the Main Distribution Board to the Office through a Wall mounted MCB Distribution Board, including supplying, Installation and commissioning of MCB distribution board for safe and leak proof Electrical Installation is also in the scope of Bidder. Following Electrical Fitting / equipment of approved make are also in the scope of the contractor, the quantity is only indicative, the final quantities shall be as per the approved drawings / BOM:</p> <ol style="list-style-type: none"> <li>1. Fluorescent Light Fittings with choke, aluminum frame including accessories, necessary fittings and fixtures etc. to be fitted on the false ceiling: 20 Sets.</li> <li>2. Wall Mounted Fan: 08 Nos.</li> <li>3. Pedestal Fan: 04 Nos.</li> <li>4. Exhaust Fan: 05 Nos.</li> </ol> <p>Bidder to Supply, Install and commission the following networking equipment in appropriate quantities required for Modular Office as per approved drawings and as directed by BHEL Engineer:</p> <ol style="list-style-type: none"> <li>1. 9U WALL MOUNTABLE RACK WITH 5 AMPS HORIZONTAL POWER STRIP</li> </ol>
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<b>AIR CONDITIONING:</b>	<ol style="list-style-type: none"> <li>2. 24 PORT LOADED PATCH PANEL WITH 1 U HORIZONTAL CABLE MANAGER</li> <li>3. TELEPHONE JUNCTION BOXES (MDF) KRONE TYPE WITH LOCK &amp; KEY</li> <li>4. 10 PAIR KRONE STRIP</li> <li>5. 50 PAIR RAISER CABLE CONNECT EPABX</li> <li>6. ERECTION OF LAN SYSTEM EQUIPMENT SUCH AS JACK/PATCH CORD. ETC INCLUDING I/O AND CAT6 CABLE</li> <li>7. ERECTION OF VOICE LINE SYSTEM EQUIPMENT SUCH AS I/O AND 2PAIR TELEPHONE CABLE.</li> </ol> <p>Split Air-conditioner (1.5 T) shall be provided for every 200 Sq. Ft. area with complete installation including ancillary works, voltage stabilizer, testing and commissioning as per manufacturers guidelines and specification.</p>
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## 2. SALIENT TECHNICAL REQUIREMENTS:

- Contractor shall submit two sets of proposed drawings of office along with foundation, furniture arrangements, Electrical, Plumbing & other fittings etc., to BHEL before commencement of work for approval within ten (10) days from the receipt of LOI. Also a detail BOQ shall be submitted along with the design drawing.
- All designs have to be carried out as per relevant IS/International codes.
- Since this is a detachable office shed & to be in repetitive use at other locations, proper marking (permanent) shall be made for identification to ease of re-erection. The shed shall be so designed that it can be dismantled at any time and may be transported to be re-erected at other location.
- The roof truss should have bolted joints at crown /at both ends. Both roof and side cladding are to be made “Water Tight”.

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- The bidder should submit a guarantee for 1 year of operations for the materials supplied and erected by him.
- Bidder shall submit two sets of proposed drawings of the Office to BHEL before commencement of work. Two sets of final drawings, along with one soft copy in CD and one reproducible, shall be handed over to BHEL immediately after finalization of design.
- Bidders should take care of all Indian site conditions, prevailing local laws etc.
- No claim shall be entertained to lack of knowledge of site condition.
- After completion of work, the building and areas around it should be cleared of all rubbish, debris etc. and handed over in fit condition for occupation.
- Design & Execution of civil works shall be carried out as per latest IS codes, standard specification and drawings as per the instruction of BHEL Engineer.

### 3. SPECIFIC TECHNICAL REQUIREMENT FOR ERECTION AT SITE

- The materials and workmanship must be of good quality and accepted standards and specifications. The BHEL Engineer reserves the right to reject any material not up to the specification.

### 4. Any one of the following brand for various items to be installed:

Item	Brand
Cladding/Roof Sheeting & Structural	BLUE SCOPE/LLOYDS/PENNAR/UNIMET/AURA
Toilet/Sanitary Items	Hindware / Parryware/Prayag
AC with Stabilizer	LG/ Blue Star/ Voltas/Panasonic/Samsung
Furniture / Furnishing Items	Delite / AFC / Saviton / Geeken

	TITLE: <b>PRE-FABRICATED OFFICE INCLUDING</b>	SPECIFICATION NO. PSNR-PMX-OFC-001-
	<b>FOUNDATION, ELECTRICAL, FURNITURE,</b>	VOLUME - I
	<b>TOILET &amp; OTHER ALLIED ITEMS AT BHEL</b>	REV.NO. 02
	<b>SITE</b>	DATE 29/02/2016

<b>Electrical Component</b>	<b>Brand</b>
LT ACB	L&T /TM/SIEMENS/GEC ALSTOM/GE POWER CONTROLS / SCHNEIDER / C&S / SPACEAGE HYUNDAI
Fuse Switch Unit	ALSTOM / SIEMENS / L&T / CGL / STANDARDS / HAVELS / SCHNEIDER / C&S / GE POWER
MCB	STANDARD / MDS / INDO KOPP / C&S / SIEMENS / ABB
MCCB	STANDARD / MDS / INDO KOPP / C&S / SIEMENS / ABB
HRC Fuses	SIEMENS / L & T / ALSTOM / S & S / STANDARD / INDO ASIAN / HAVELS / GE POWER
Control switches	SIEMENS / ALSTOM / L & T / KAYCEE
Indicating lamps (LEDs)	SIEMENS / L & T / GE.
Lighting Fittings	PHILIPS / BAJAJ / CROMPTON / GE.
Switch Socket outlet	ALSTOM / CGL / BEST & CROMPTON / ESSEN
Modular switches	ANCHOR / ELLORA / MAK ELECTRIC / ALSTOM
Power & Control Cables	ASIAN CABLES / CCI / UNIVERSAL / NICCO / DELTON CABLES / FINOLEX / OMEGA / RADIANT CABLES / POLYCAB / KEI.
Terminal Blocks	ESSEN / CONNECT WELL / ELMEX / PHOENIX / WAGO

**Note:** Approval of BHEL Engineer is to be obtained before procurement of materials. The make of material mentioned if not available in the market or is not suiting the site conditions or the make of any material is not mentioned in the above list equivalent make may be used after the approval from BHEL Engineer.

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter-3: Technical Specification for Closed Storage Shed**

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**TECHNICAL SPECIFICATION**  
**FOR CLOSED STORAGE SHED**




Bharat Heavy Electricals Limited

Project Management Department

Power Sector – Northern Region, Plot No. 25, Sector- 16A

Noida- 201301

	TITLE:	SPECIFICATION NO. PSNR-PMX-CSS-001
	REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED	VOLUME - I
		REV.NO. 02
		DATE 29/02/2016

## TECHNICAL SPECIFICATION

### 1. SCOPE

This specification covers the following:

Design, Manufacturing, Supply, Receipt at Site, Erection, Site Painting etc. including Civil Works, Foundations, Electricals, Furniture, Lighting & Fixtures etc. all complete and Handing over to site, Removable/Re-erectable type Pre-Engineered, Pre-fabricated Steel Storage Shed.

### 2. DETAILED SPECIFICATIONS

<b>DESIGN CONSIDERATIONS FOR CLOSED STORAGE SHED</b>	<ol style="list-style-type: none"> <li>1. Size of Closed Shed – 15Mc/c X 60Mc/c X 6.0M (approximate).</li> <li>2. Clear Height of closed Shed (between FFL &amp; Bottom of truss/ Structural Member) – 6.0M.</li> <li>3. Columns shall be spanning – 6.0M c/c long span &amp; 5.0M c/c short span.</li> <li>4. All side cladding/ roof sheets shall be fitted in such a way that they can be removed at any point of time.</li> <li>5. Sliding doors with all rollers, guides, locking arrangements complete (approx. size: 4.65 M Width x 5 M Height) of pressed steel sections shall be provided at front entrance of each covered shed at center location. Suitable arrangement shall be made for easy operation of gates (mechanical gear operated).</li> <li>6. One man-entry gate to be provided on at one side of shed (front entrance by the side of sliding door).</li> <li>7. The bidder should submit a guarantee for 12 months of operations for the materials supplied and erected by him.</li> <li>8. All designs have to be carried out as per relevant IS code.</li> </ol>
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TITLE:

REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED

SPECIFICATION NO. PSNR-PMX-CSS-001

VOLUME - I

REV.NO. 02

DATE 29/02/2016

**CIVIL WORK**

1. Grade of RCC shall be 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) / confirming to design requirements as per approved drawings & Reinforcement Steel shall be confirmed to Fe 415.
2. Grade of PCC 1:3:6.
3. Brick masonry using first class brick of strength 50 Kg/Sq.Cm. with masonry in CM1:5, plastering with CM1:6 of min. 12mm thick.
4. Flooring shall be 52 mm thick heavy duty cement concrete flooring consisting of top layer of 12 mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate 6 mm nominal size) and an under layer of 40 mm thick cement concrete 1:2:4 as per standard specification including providing and fixing 4 mm thick glass strips to make grid pattern etc. complete. 100 mm thick PCC (1:3:6) shall be provided below 52 mm thick finished concrete floor. Floor Level shall be raised by filling the good earth / sand in layers of 150 mm thick including watering, compaction etc.
5. All the exposed face of Masonry & concrete should be painted with cement paint.
6. Civil works includes but not limited to Foundations, Floors & Brick cladding up to 0.900 m high X 230 mm thick brick wall height along periphery.
7. Height of RCC Column foundation shall be + 0.60 m from above existing G.L. However, before starting the work the Vendor has to visit site to collect actual information.
8. RCC Ramp to be provided at the entrance of each shed.
9. 750 mm wide plinth protection of 75 mm thick with PCC (1:3:6) shall be provided all around the closed storage shed.



TITLE:

**REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED**

SPECIFICATION NO. PSNR-PMX-CSS-001

VOLUME - I

REV.NO. 02

DATE 29/02/2016

**STRUCTURAL STEEL WORK**

Design of structural steel work shall be carried out as per latest IS codes, standard Specification and drawings as per the instruction of Engineer In-charge.

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 standard IS specification and drawings. Erection of trusses shall be true to line and level and aligned properly, as per drawing and instruction of BHEL Engineer.

1. 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.
2. All accessories like G.I. bolts, EPDM washers and nuts complete from reputed manufacturer shall be included in the scope. All bolts, nuts (IS 4759) shall be galvanized (hot dip) min. 270gm/m<sup>2</sup>. Galvanized spring/plain washer shall be as per IS 1573.
3. Since these are detachable sheds & to be in repetitive use at other 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 to be re-erected at other location.
4. Cladding : Roof and Side Cladding shall be with pre-caoted profiled GI Sheet of 0.47 mm thickness (min) with zinc coating not less than 150 gm/Sqm (both side) of approved make. Translucent (Poly Carbonate) sheet of approved make shall be provided for alternative bays (10% of the sheeting area) for natural lighting. Both roof and side cladding are to



TITLE:

REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED

SPECIFICATION NO. PSNR-PMX-CSS-001

VOLUME - I

REV.NO. 02

DATE 29/02/2016

**OTHER WORKS**

be made "Water Tight. ". Purlins for wall & roof cladding shall be 'z' shape made-up with pressed steel.

1. Providing ventilators 900 mm (W) x 600 mm (H) – 16 no's should be at a height of 4.5m from FFL, made of suitable Aluminium section with wired glass open-able type for closed shed only.
2. Store in-charge room: Approx. Size of Store In-charge Room is 3M X 3M. Location of Store In-charge Room shown in drawing is tentative. However actual location shall be decided at site in consultation of BHEL Site Engineer. It shall be made of 50 mm Thick PUF insulated sandwiched panels. These panels are made out of 0.47 mm thick colour coated G.I. Sheet as exterior on both sides with PU Foam of density 38 kg/Cu.Mtr. False ceiling shall be provided with 12 mm thick gypsum board. 1no. table of 1200 mm width X 600mm depth X 750mm height consisting 3 drawer unit left side, should also have CPU & keyboard provision (table in beech / black colour), 1nos executive chair & 3nos visitor chairs.  
1nos. file cabinet consisting 4 drawers of size 470mm width X 1320mm height X 620mm depth and 1 nos. single side steel file/book rake consisting of 3 rakes of size 900mm width X 1850mm height X316mm depth and a mobile unit containing of 3 drawers shall be provided.  
**Electrical:** 1nos Flush mounted tube light with fitting & 1nos ceiling fan, 03 Nos. 5/15A switch sockets along with necessary wiring in PVC conduits (recessed / surface) with necessary earthing, MCB / RCCB etc. Complete.
3. Suitable long span MS shelve system shall be provided throughout the length of both opposite longitudinal spans of closed sheds. It should



TITLE:

REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED

SPECIFICATION NO. PSNR-PMX-CSS-001

VOLUME - I

REV.NO. 02

DATE 29/02/2016

**ELECTRICAL WORK:**

have two shelves with one shorter top & one wider middle rack at height of 600mm from floor adding to a total height of 1200mm. The shelves shall be design to with stand SKU loading (not less than 125 Kg/Sq.M) with suitable angle section. The width of top shelf shall be of 600mm & intermediate/middle shelf is 750mm.


Supply & installation of electrical items are to be carried out strictly as per approved drawings and executed through licensed electricians.

1. Bidder to supply & install electrical items like Distribution Boards, LT Cables, Main switch (30A TPN), ELCB, wires, conduit, tees, bends, clamps, JBs, Switch boards, earthing wires etc. as required for lighting the closed storage shed with 18 Nos. 40 W Fluorescent Light Fittings. The supply fixing and Installation of Fluorescent Lights with battens, fixing brackets, tubes, chokes etc. is included in contractor's scope. 02 nos. EXHAUST FAN of size 600 mm of suitable capacity on both sides on the gable ends to be supplied and fitted.
2. Outside the shed 1nos sodium vapor lamp (min. 150 Watt) shall be provided at the entrance.
3. A detailed schematic with BOM of the electrical fittings shall be submitted to BHEL for approval before execution.

**3. SALIENT TECHNICAL REQUIREMENTS:**

All works shall be carried out in proper workmen like manner. Items of works covered by the following specification shall be carried out as per the best practices and according to the direction of the BHEL Engineer and to his satisfaction.

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

	TITLE:	SPECIFICATION NO. PSNR-PMX-CSS-001
	REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED	VOLUME - I
		REV.NO. 02
		DATE 29/02/2016


- (a) The design for shed shall be submitted by the bidder within 10 days of the receipt of the LOI to BHEL for approval.
- (b) The quoted prices shall include transit freight, handling at site, assembly and erection and all Taxes, duties, local taxes including Works Contract Tax (if any).
- (c) Contractor shall submit two sets of proposed drawings of the shed to BHEL before commencement of work for approval. Two sets of final / approved drawings, along with one soft copy in CD and one reproducible, shall be handed over to BHEL immediately after finalization of design.
- (d) Quoted Price shall be inclusive of all the above.
- (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.

**4. SPECIFIC TECHNICAL REQUIREMENT FOR ERECTION AT SITE**

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.

**5. Any one of the following brand for various items to be installed:**

Item	Brand
Cladding/Roof Sheeting & Structural	BLUE SCOPE/LLOYDS/PENNAR/UNIMET/AURA
<b>Electrical Component</b>	<b>Brand</b>
LT ACB	L&T /TM/SIEMENS/GEC ALSTOM/GE POWER CONTROLS / SCHNEIDER / C&S / SPACEAGE HYUNDAI

	TITLE:	SPECIFICATION NO. PSNR-PMX-CSS-001
	REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED	VOLUME - I
		REV.NO. 02
		DATE 29/02/2016

Fuse Switch Unit	ALSTOM / SIEMENS / L&T / CGL / STANDARDS / HAVELS / SCHNEIDER / C&S / GE POWER
MCB	STANDARD / MDS / INDO KOPP / C&S / SIEMENS / ABB
MCCB	STANDARD / MDS / INDO KOPP / C&S / SIEMENS / ABB
HRC Fuses	SIEMENS / L & T / ALSTOM / S & S / STANDARD / INDO ASIAN / HAVELS / GE POWER
Control switches	SIEMENS / ALSTOM / L & T / KAYCEE
Indicating lamps (LEDs)	SIEMENS / L & T / GE.
Lighting Fittings	PHILIPS / BAJAJ / CROMPTON / GE.
Switch Socket outlet	ALSTOM / CGL / BEST & CROMPTON / ESSEN
Piano switch	ANCHOR / ELLORA / MAK ELECTRIC / ALSTOM
Power & Control Cables	ASIAN CABLES / CCI / UNIVERSAL / NICCO / DELTON CABLES / FINOLEX / OMEGA / RADIANT CABLES / POLYCAB / KEI.
Terminal Blocks	ESSEN / CONNECT WELL / ELMEX / PHOENIX / WAGO

**Note:** Approval of BHEL Engineer is to be obtained before procurement of materials. The make of material mentioned if not available in the market or is not suiting the site conditions or the make of any material is not mentioned in the above list equivalent make may be used after the approval from BHEL Engineer.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-4: Drawings for Office

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### **DRAWINGS FOR OFFICE:**

The following drawings are enclosed strictly for the guidance of the bidder.

- Schematic sketch of OFFICE BUILDING (BHEL:PSNR:PMX:OFC :001)
- Water supply and Sanitary system Layout (BHEL:PSNR:PMX:OFC:002)
- Septic tank & water tank structure- (BHEL:PSNR:PMX:OFC:003)
- Footing cross sectional view-C1 (BHEL:PSNR:PMX:OFC :004)
- Flooring Details for Office (BHEL:PSNR:PMX:OFC:005)
- Furniture Drawing (BHEL:PSNR:PMX:OFC:008)

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

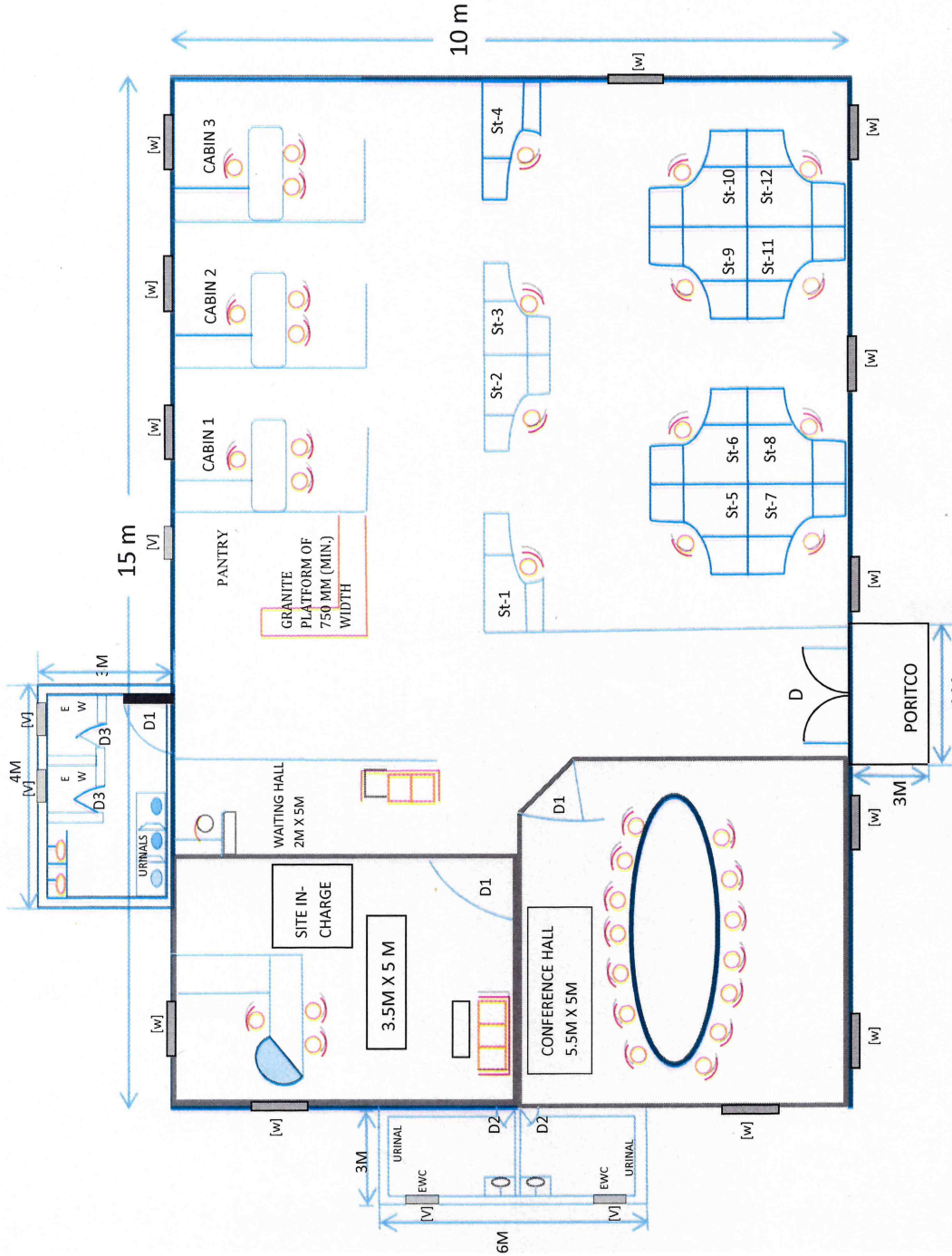
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## **DRAWINGS FOR CLOSED STORAGE SHEDS:**

Following drawings are enclosed strictly for the guidance of the Bidders:

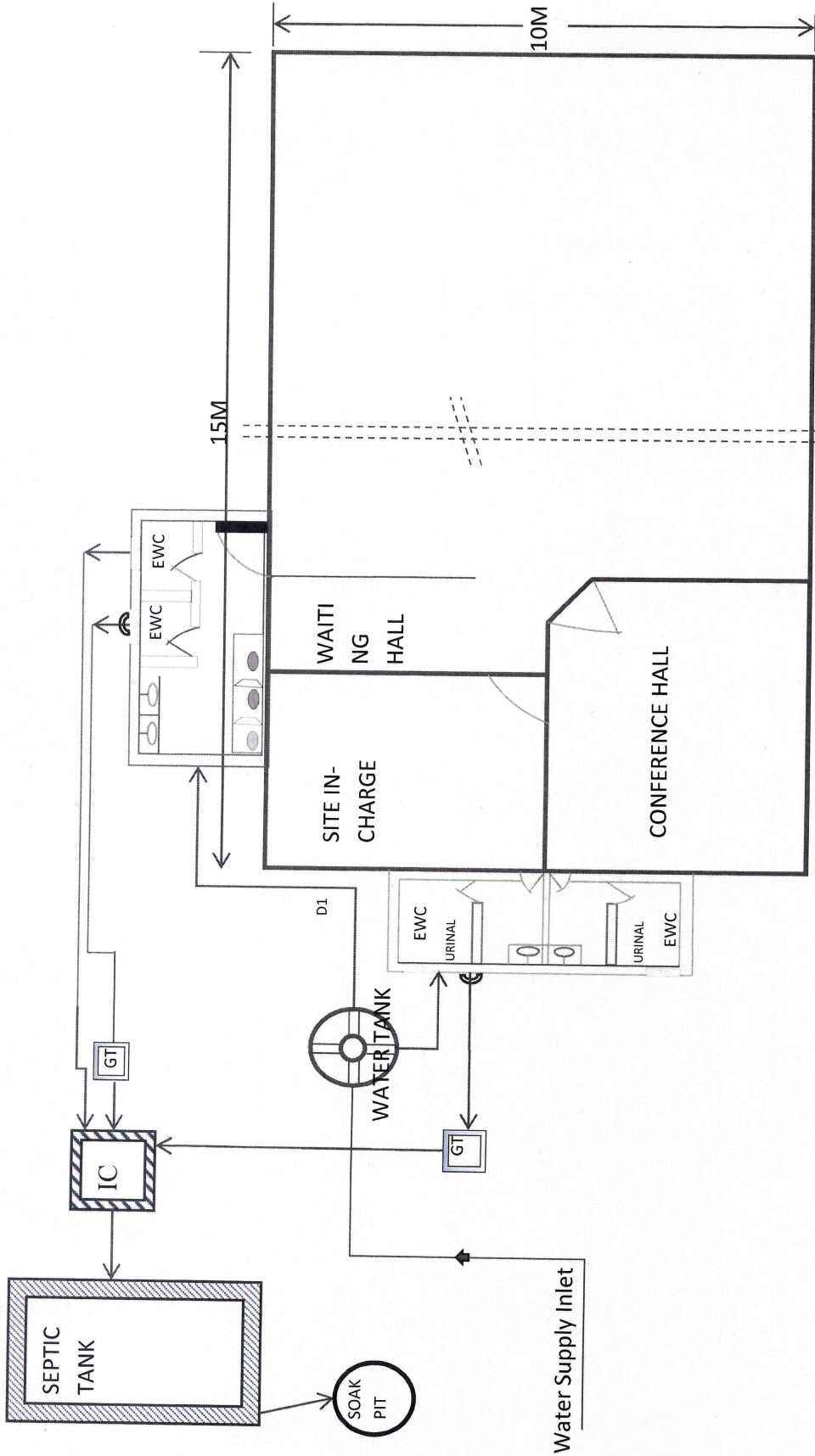
- Layout for Closed Storage Shed (ELECTRICAL LAYOUT) BHEL/PSNR/PROJ/CVL/PEB/005
- Layout for Closed Storage Shed (PLAN) BHEL/PSNR/PROJ/CVL/PEB/006
- Closed Storage Sheds (VIEW A) BHEL/PSNR/PROJ/CVL/PEB/007
- Closed Storage Sheds (ELEVATION) BHEL/PSNR/PROJ/CVL/PEB/008
- Closed Storage Sheds (VIEW B) BHEL/PSNR/PROJ/CVL/PEB/009
- Closed Storage Sheds (SECTIONAL VIEW AT X-X) BHEL/PSNR/PROJ/CVL/PEB/010

SCHEDULE OF FURNITURE	
DESCRIPTION	QUANTITY
CHAIRS FOR SR. EXECUTIVES	04 NOS.
CHAIRS FOR EXECUTIVES	13 NOS.
CHAIR FOR VISITORS	08 NOS.
CONF. HALL CHAIRS	12 NOS.
CONF. HALL TABLE (12' X 5')	01 NO.
4-SEATER CUBICLE	02 NOS.
2-SEATER CUBICLE	01 NOS.
1-SEATER CUBICLE	02 NOS.
PART CABIN	03 NOS.
SITE-INCHARGE TABLE	01 NO.
3-SEATER SOFA	02 NOS.
TEA POI	01 NOS.




SCHEDULE OF DOORS, WINDOWS & VENTILATORS		
TYPE	SIZE (HEIGHT X WIDTH)	QUANTITY
DOOR-D	1950 MM X 1800 MM	01 NOS.
DOOR- D1	1950 MM X 880 MM	03 NOS.
DOOR- D2	1950 MM X 880 MM	02 NOS.
DOOR- D3	2090 MM X 750 MM	02 NOS.
WINDOW [W]	1200 MM X 935 MM	12 NOS.
VENTILATOR [V] (FIXED TYPE)	300 MM X 300 MM	04 NOS.

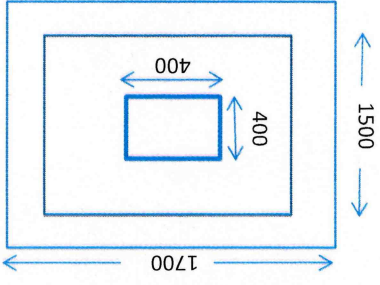
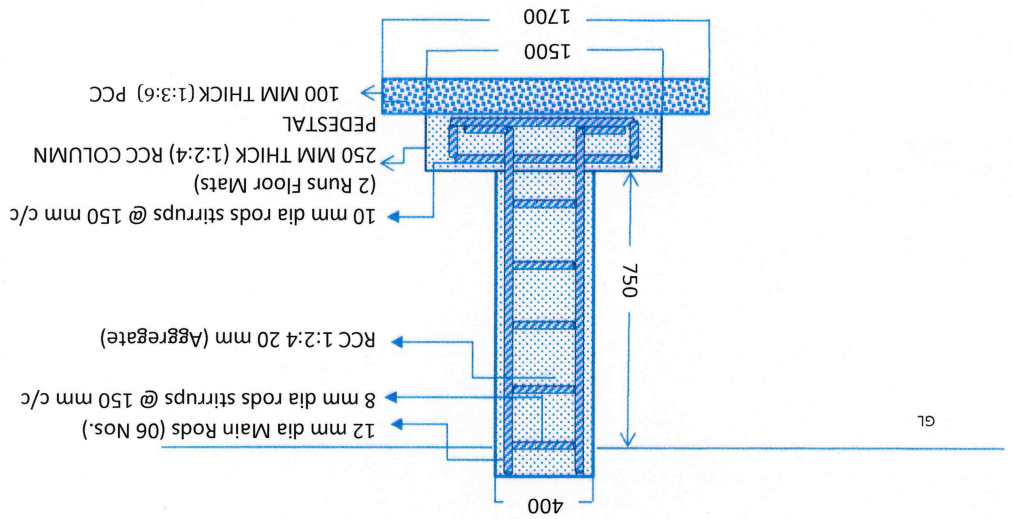
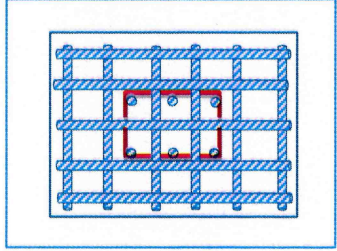
	<b>BHARAT HEAVY ELECTRICALS LTD.</b> POWER SECTOR – NORTHERN REGION/NOIDA
TITLE: SCHEMATIC SKETCH OF OFFICE BUILDING	
DEPT.	CIVIL
SIGN	
DATE	15.10.2015
	SHEET 1 OF 1
	REV. NO. 00

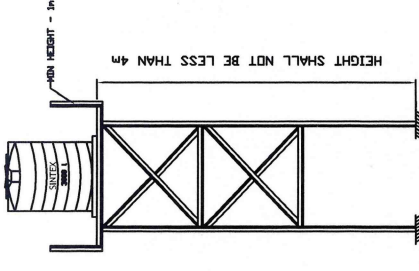


**BHARAT HEAVY ELECTRICALS LIMITED**  
**POWER SECTOR – NORTHERN REGION NOIDA**

<b>TITLE:</b>	<b>WATER SUPPLY AND SANITARY SYSTEM LAYOUT</b>		
<b>DEPT.:</b>	CIVIL	<b>BHEL DRG. NO.</b>	BHEL:PSNR:PMX:OFC:002
<b>SIGN:</b>	<i>[Signature]</i>	<b>SHEET 1 OF 1</b>	REV. 00
<b>DATE:</b>	29.02.2016		

DATE	29.02.2016	SHEET 1 OF 1	REV. NO. 00
SIGN	<i>M. Gupta</i>	BHEL:PSNR:PMX:OFC:004	
DEPT.	CIVIL	BHEL DRAWING NO.:	
TITLE: FOOTING CROSS SECTIONAL VIEW			
		POWER SECTOR - NORTHERN REGION NOIDA	

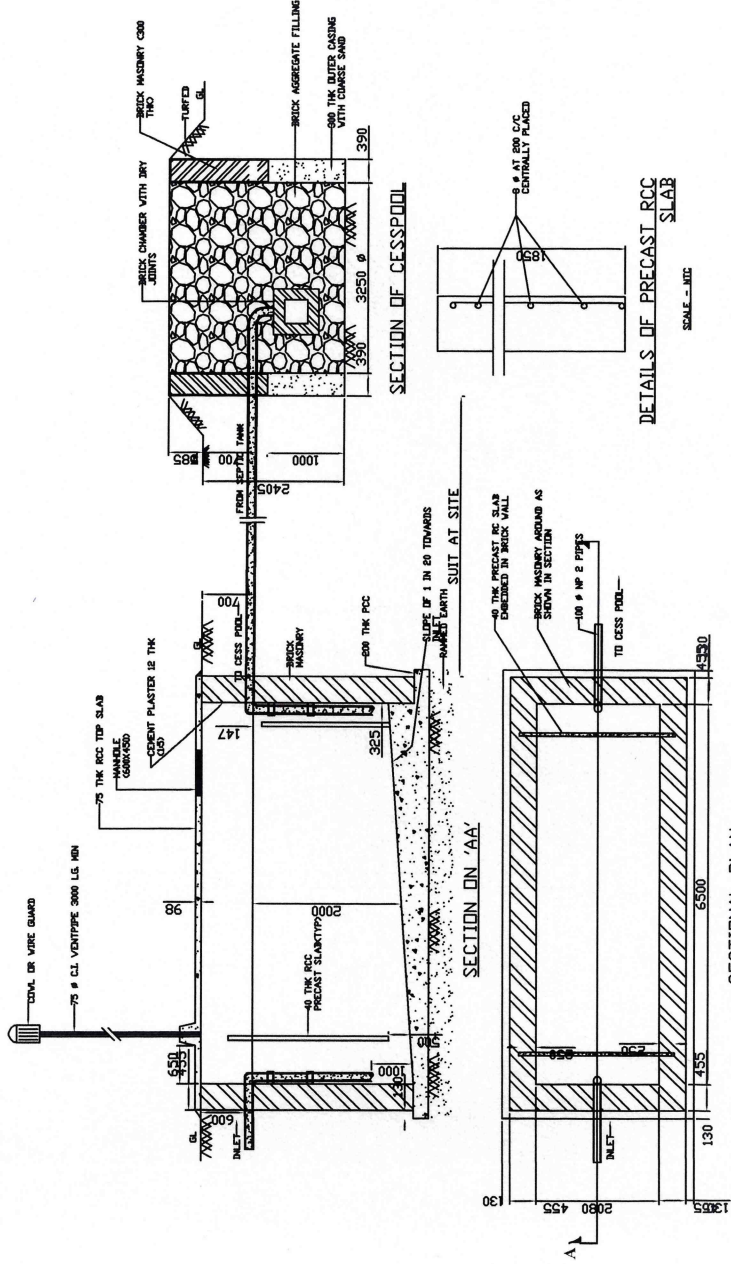




WATER TANK - ELEVATION

**NOTE:**

1. All Dimension are in MM.
2. Grade of Concrete is M15
3. All reinforcements are CTD bars conforming to IS-1786
5. Use 1:5 Mortar for masonry works.
6. The inside of Septic tank shall have cement plaster 1:3 with approved water proof agent.





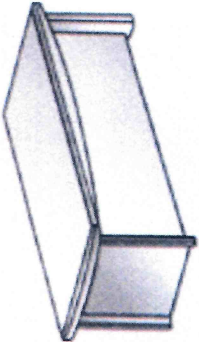
		<b>BHARAT HEAVY ELECTRICALS LTD</b> POWER SECTOR NORTHERN REGION	
PSNR		<b>TITLE :</b> <b>SEPTIC TANK AND WATER TANK STRUCTURE</b> (DETAILS FOR 50 USERS)	
DEPT CIVIL	SIGN 	STRUCTURAL	<b>BHEL DRAWING NO.</b> BHEL/PSNR/PA/PC/08
DATE 20.02.2016		SHEET 1 OF 1	REV. 00

COLOUR COATED  
PROFILED GI (PPGI)  
ROOF SHEET

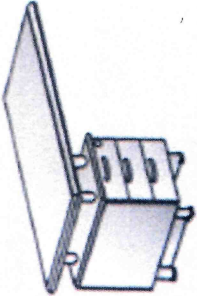
OUTER FRAMING  
COLUMNS OF ISMC 75



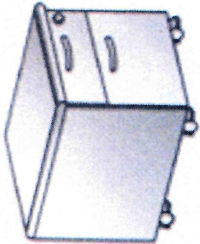
 		BHARAT HEAVY ELECTRICALS LTD. POWER SECTOR – NORTHERN REGION/NOIDA	
TITLE:	FLOORING DETAILS FOR OFFICE		
DEPT.:	CIVIL	BHEL DRAWING NO.:	
SIGN:	<i>[Signature]</i>	BHEL:PSNR:PMX:OFC:005	
DATE:	29.02.2016	SHEET 1 OF 1	REV. NO. 00



Desk-W180xD90xH75

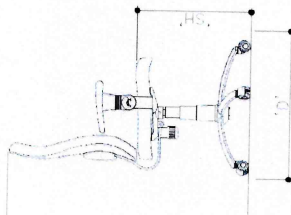


Fixed side return Desk  
W120xD60xH72



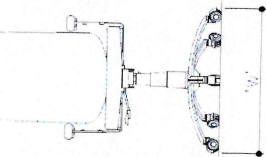
Mobile pedestal  
W120xD60xH72

**MAESTRO TYPE TABLE FOR SITE-INCHARGE**



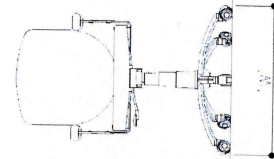
Chair for Senior executives

W-70cm,  
D-70cm,  
H-102 to 115cm,  
SH-44 to 56.5cm  
Tolerance-  $\pm 0.5$ cm



Chair for Executives & Conf. hall

W-70cm,  
D-70cm,  
H-90 to 102.5cm,  
SH-44 to 56.5cm  
Tolerance-  $\pm 0.5$ cm



Chair for visitors:

W-55cm,  
D-61cm,  
H-80.5 cm,  
SH-44 cm,  
Tolerance-  $\pm 0.5$ cm

NOTE:—

ALL DIMENSIONS SHOWN ARE ASSUMED AND  
SHOULD BE VERIFIED ACCORDINGLY



PRINT SCALE IN METRE

SCALE: 1:10



PSNR

TITLE:

FURNITURE DRAWINGS

BHARAT HEAVY ELECTRICALS LTD  
POWER SECTOR NORTHERN REGION

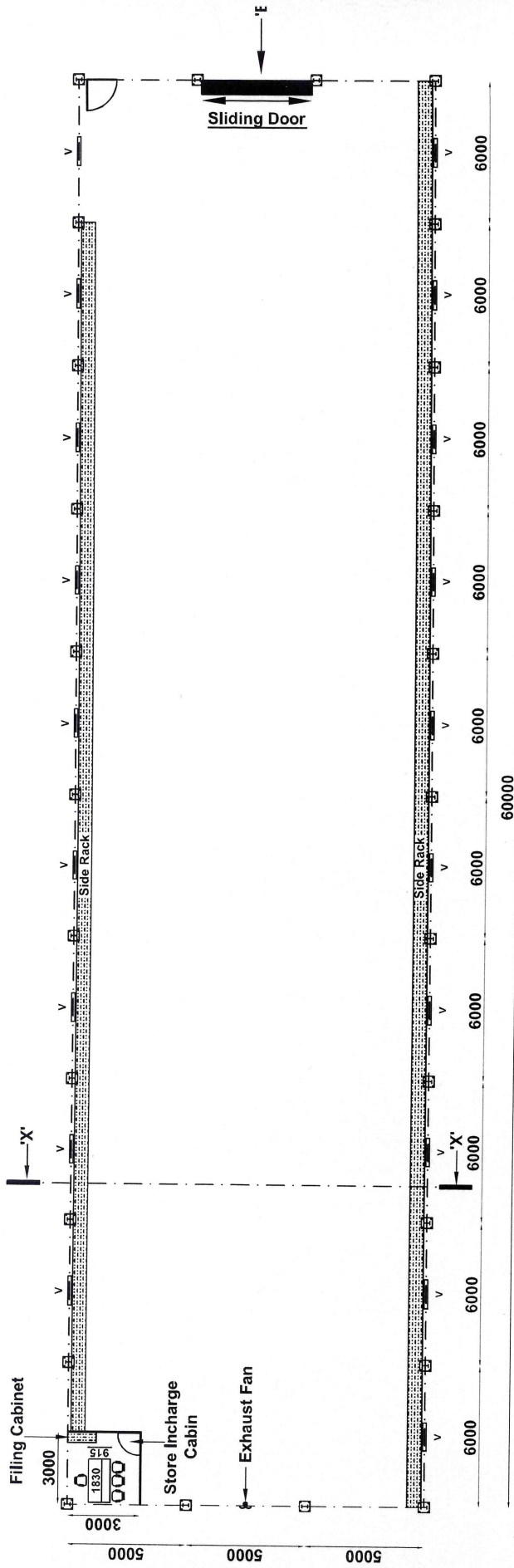
DEPT. CIVIL  
SIGN



BHEL DRAWING N  
BHEL-PSNR/MAESTRO



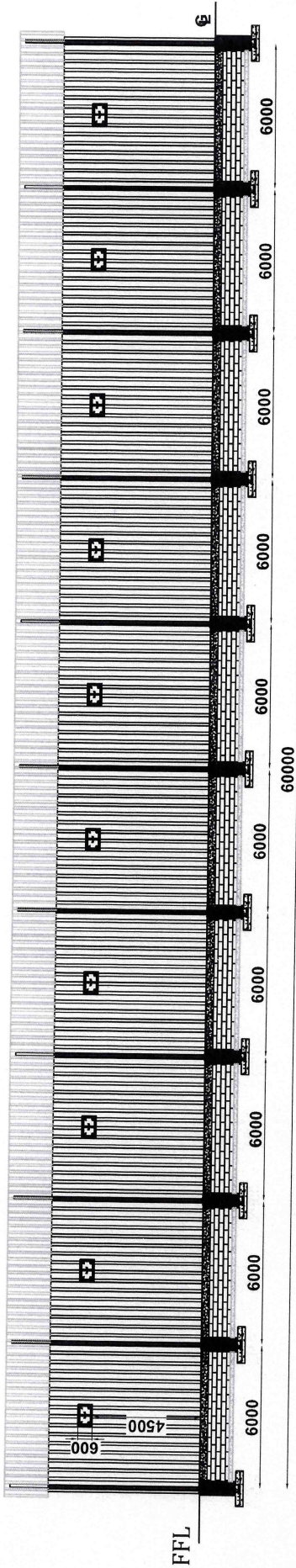
Layout of Closed Store Shed




↑ 'A'  
PLAN

CLIENT: <b>BHEL (PSNR)</b> PROJECT: CLOSED STORE SHED	DRAWN BY : <i>[Signature]</i>	CHECKED BY :	DWG NO : BHEL/PSNR/PROJ/CVL/PEB/006	SCALE : NTS
	DESIGNED BY :	SIZE : 60 X 15 X 6M HT.	DATE : 29.02.2016	REV. NO : 0



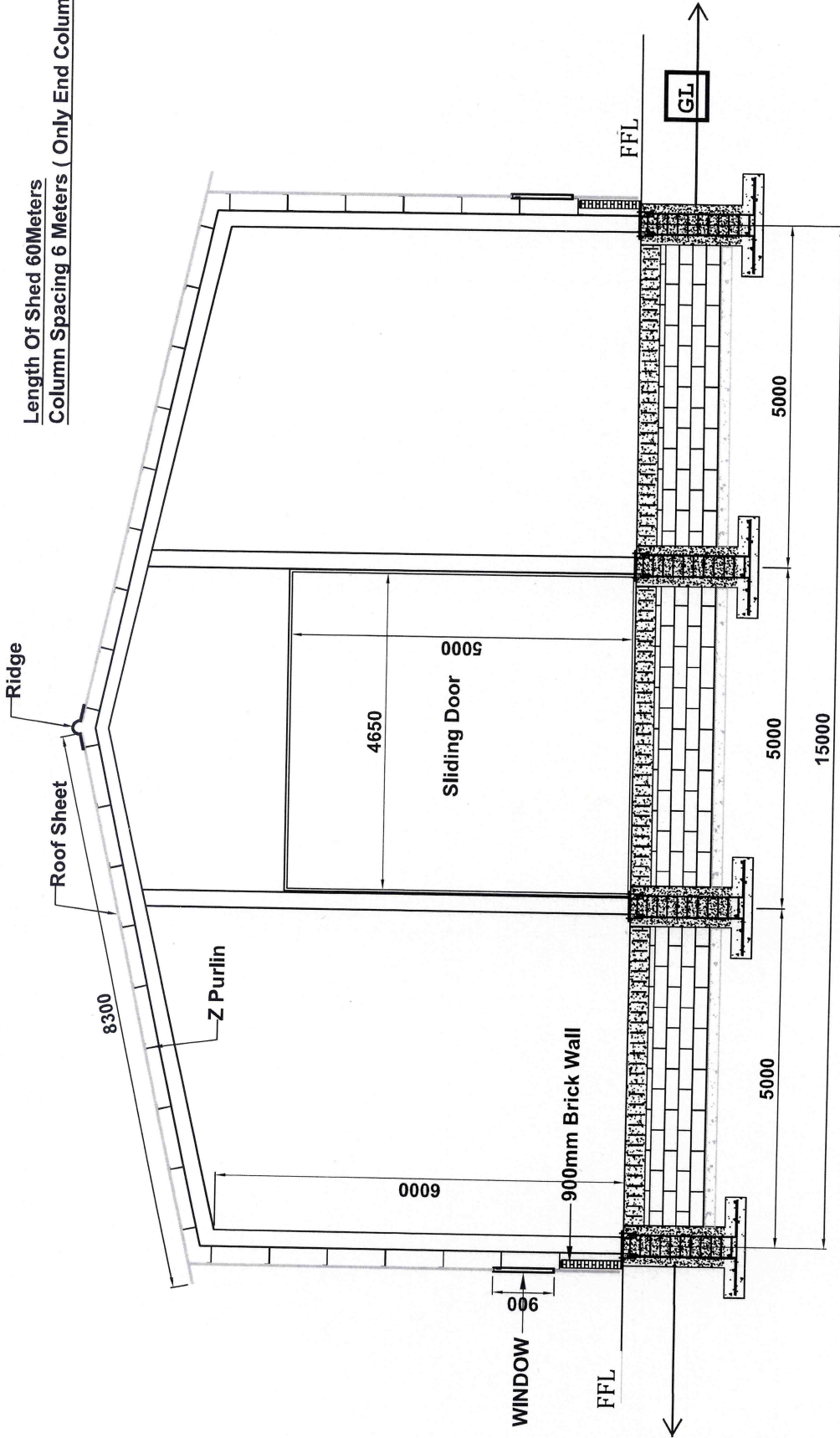


VIEW 'A'

CLIENT : <b>BHEL (PSNR)</b> PROJECT : CLOSED STORE SHED	DRAWN BY :	CHECKED BY :	DWG NO : BHEL/PSNR/PROJ/CVL/PEB/007	SCALE : NTS
	DESIGNED BY :	SIZE : 60 X 15 X 6M HT.	DATE : 29.02.2016	PROJECTION : 
			REV. NO : 0	

*Handwritten signature*

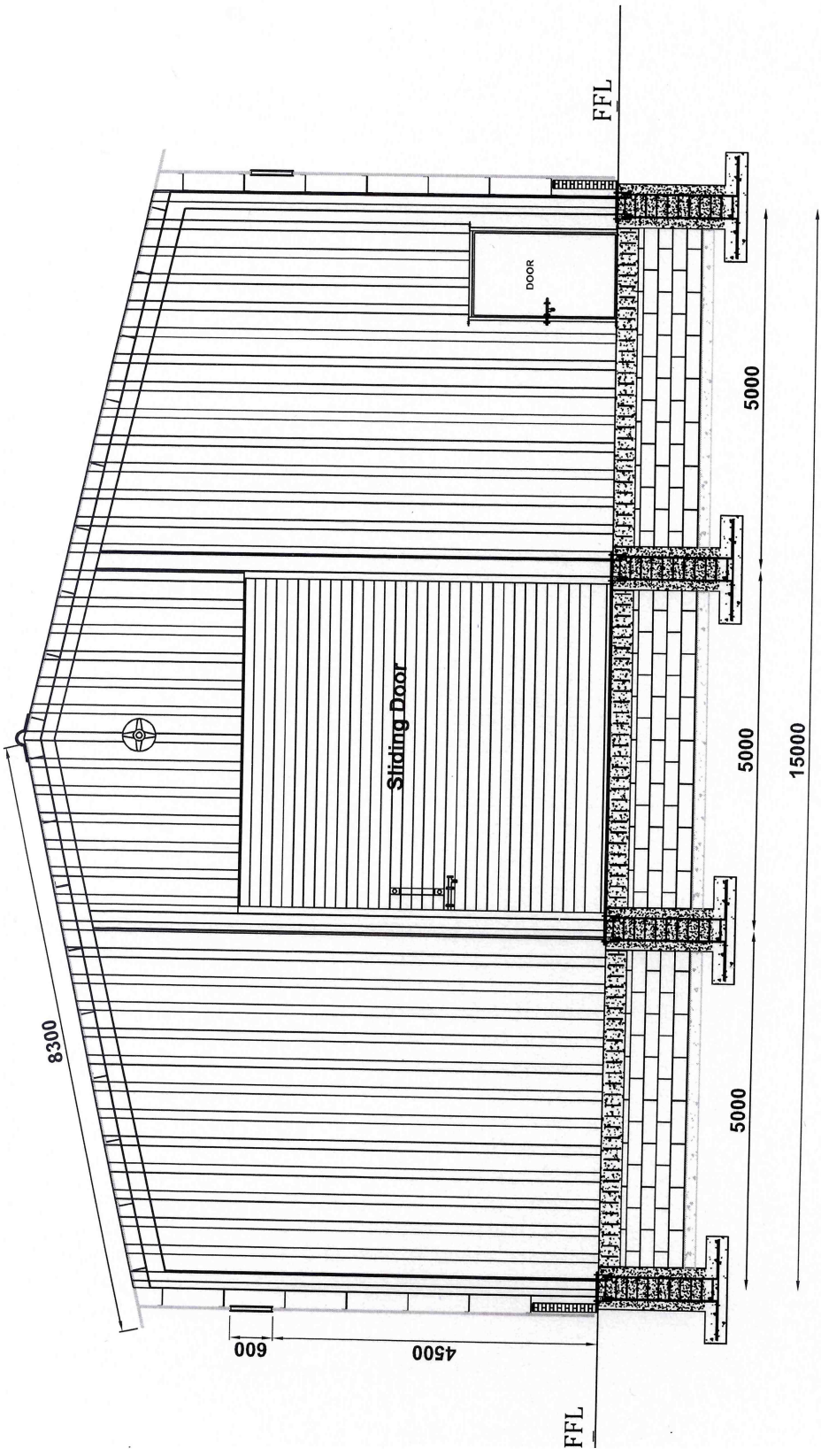
Length Of Shed 60Meters  
Column Spacing 6 Meters ( Only End Columns )



ELEVATION

*Handwritten signature*

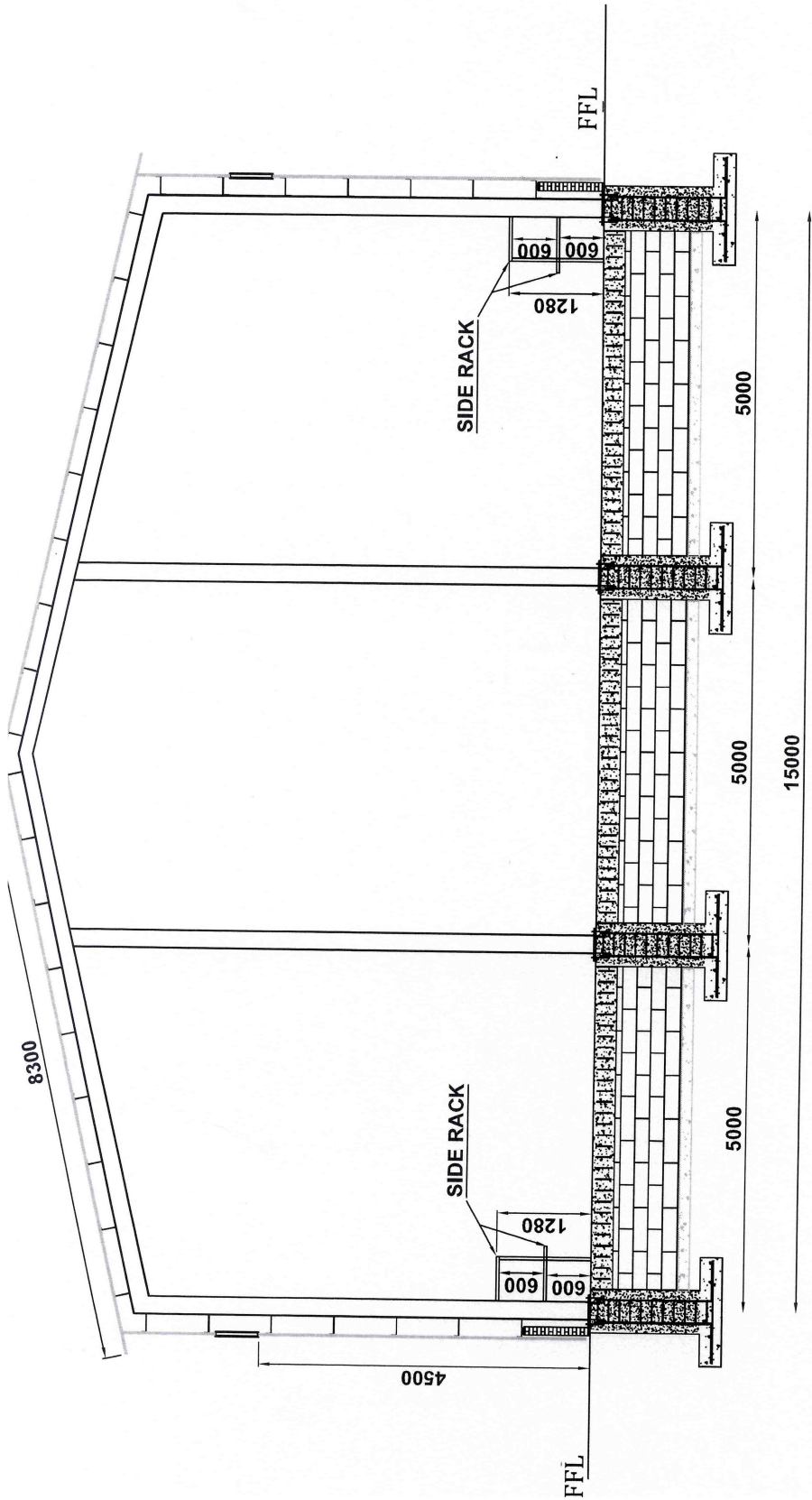
CLIENT : <b>BHEL (PSNR)</b> PROJECT : CLOSED STORE SHED	DRAWN BY :	CHECKED BY :	DWG NO : BHEL/PSNR/PROJ/CVL/PEB/008	SCALE : NTS
	DESIGNED BY :	SIZE : 60 X 15 X 6M HT.	DATE : 29.02.2016	REV. NO : 0
			PROJECTION	



VIEW 'B'


*Handwritten signature*

CLIENT : <b>BHEL (PSNR)</b> PROJECT : CLOSED STORE SHED	DRAWN BY :	CHECKED BY :	DWG NO : BHEL/PSNR/PROJ/CVL/PEB/009	SCALE : NTS
	DESIGNED BY :	SIZE : 60 X 15 X 6M HT.	DATE : 29.02.2016	REV. NO : 0
			PROJECTION	



**SECTIONAL VIEW AT - 'X' - 'X'**

*Handwritten signature*

CLIENT : <b>BHEL (PSNR)</b> PROJECT : CLOSED STORE SHED	DRAWN BY :	CHECKED BY :	DWG NO : BHEL/PSNR/PROJ/CVL/FEB/010	SCALE : NTS
	DESIGNED BY :	SIZE : 60 X 15 X 6M HT.	DATE : 29.02.2016	PROJECTION : 
			REV. NO : 0	