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NOTICE INVITING TENDER

(Document No PS:MSX:NIT)

Bharat Heavy Electricals Limited



Ref:

Date: __/__/__

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NOTICE INVITING E-TENDER (NIT)
BIDDER TO SUBMIT OFFERS ON PORTAL
<https://bheleps.buyjunction.in>

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To

Dear Sir/Madam

Sub : NOTICE INVITING E-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. Salient Features of NIT

SL NO	ISSUE	DESCRIPTION	
i	TENDER NUMBER	BHEL/ NR/SCT/TANDA/EW II/1016	
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	DETAILS OF TENDER DOCUMENT		
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i>	<i>Applicable</i>
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i>	<i>Applicable</i>
c	Volume-IC	<i>General Conditions of Contract (GCC)</i>	<i>Applicable</i>
d	Volume-ID	<i>Forms and Procedures</i>	<i>Applicable</i>
e	Volume-II	<i>Price Schedule (Absolute value).</i>	<i>Applicable</i>
iv	Issue of Tender Documents	1. From BHEL website (www.bhel.com) and https://bheleps.buyjunction.in Tender documents will be available at website till due date of submission	<i>Applicable</i>
v	DUE DATE & TIME OF OFFER SUBMISSION	Date : 29/12/15, Time : 15:00 HRS Place : on https://bheleps.buyjunction.in	<i>Applicable</i>
vi	OPENING OF TENDER	Date : 29/12/15 , Time : 15:30 HRS at due date / time Notes: (1) In case the due date of opening of tender becomes a non-working day, then the due date &	<i>Applicable</i>

		<i>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. However it being an e-tender it shall be opened online</i>	
vii	EMD AMOUNT	Rs. 2,00,000/-	Applicable
viii	COST OF TENDER	Rs 2000/-.	Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	Five days before bid submission due date. <i>Along with soft version also, addressing to undersigned & to others as per contact address given below</i>	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)		Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)		Not applicable
xii	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigendums) & portal https://bheleps.buyjunction.in and not in the newspapers . Bidders to keep themselves updated with all such information	
xiii	Tender submission	on portal https://bheleps.buyjunction.in	

2. 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, **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. 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.

As this tender is an E-Tender and no paper bids will be accepted therefore the scanned copy of the Demand Draft or the Cash Receipt issued by BHEL PSNR should be uploaded in the E procurement portal. Hard Copy of the demand draft should reach BHEL PSNR HQ Noida before the due date and time of bid submission. BHEL shall not be responsible for postal or any other delays in this regard.
4. Unless specifically stated otherwise, bidder shall deposit EMD through Demand Draft/Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Noida. As this tender is an E-Tender and no paper bids will be accepted therefore the scanned copy of the Demand Draft/Pay Order should be uploaded in the E procurement portal. Hard Copy of the Demand Draft/Pay Order should reach BHEL PSNR HQ Noida before the due date and time of bid submission. BHEL shall not be responsible for postal or any other delays in this regard. For other details and for 'One Time EMD' please refer General Conditions of Contract.
5. **Procedure for Submission of Tenders:** This is an E-tender floated online through our E-Procurement Site <https://bheleps.buyjunction.in>. The bidder should respond by submitting their offer online only in our E-Procurement platform at <https://bheleps.buyjunction.in>. Offers are invited in two-parts only.

Documents Comprising the e-Tender

The tender shall be submitted online ONLY EXCEPT TENDER FEE & EMD (in physical form) as mentioned below:

a. Technical Tender (UN priced Tender)

All Technical details (eg. Eligibility Criteria requested (as mentioned below)) should be attached in e-tendering module, failing which the tender stands invalid & may be REJECTED. Bidders shall furnish the following information along with technical tender (preferably in pdf format):

- i. Tender Cost and Earnest money Deposit (EMD) furnished in accordance with NIT Clause 3.0 & 4.0. Alternatively, documentary evidence for claiming exemption as per clause 29 of NIT
- ii. Technical Bid (without indicating any prices).

b. Price Bid:

- i. Prices are to be quoted in the attached Price Bid format online on e-tender portal.
- ii. The price should be quoted for the accounting unit indicated in the e-tender document.
- iii. Note: It is the responsibility of tenderer to go through the Tender document to ensure furnishing all required documents in addition to above, if any. Any deviation would result in REJECTION of tender and would not be considered at a later stage at any cost by BHEL.
- iv. A person signing (manually or digitally) the tender form or any documents forming part of the contract on behalf of another shall be deemed to warrantee that he has authority to bind such other persons and if, on enquiry, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies, cancel the contract and hold the signatory liable for all cost and damages.
- v. A tender, which does not fulfil any of the above requirements and/or gives evasive information/reply against any such requirement, shall be liable to be ignored and rejected.
- vi. In case offer is sent through hard copy/fax/telex/cable/electronically in place of e-tender, same shall not be considered.

DO NOT'S

Bidders are requested NOT to submit the hard copy of the Bid. In case offer is sent through hard copy/fax/telex/cable/electronically in place of e-tender, the same shall not be considered. **Also, uploading of the price bid in prequalification bid or technical bid may RESULT IN REJECTION of the tender.**

Digital Signing of e-Tender

Tenders shall be uploaded with all relevant PDF/zip format. The relevant tender documents should be uploaded by an authorized person having Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION digital signature certificate (DSC).

The Requirement:

1. A PC with Internet connectivity &
2. DSC (Digital Signature Certificate)(**Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION**)

BHEL has finalized the e-procurement service Provider:-

M/s M Junction services Limited, Kolkata

Godrej Water Side, 3rd Floor, Tower-1, Plot-V, Block - DP
Sector - V, Salt Lake, Kolkata-700091, West Bengal, INDIA

The contact details of the service provider are given below:

1. First level:

- o MJ Helpdesk : 033-66011717, eps.customercare@mjunction.in

2. Second Level:

- o Bhaskar Chakraborty: 8584008205, bhaskar.chakraborty@mjunction.in, eps.customercare@mjunction.in
- o Santosh Kumar: 9717149600, santosh.kumar@mjunction.in

3. Third Level:

- o Rimi Ghosh: 9650044156, rimi.ghosh@mjunction.in

1. Customer care Help Desk of M/s MJUNCTION SERVICES LIMITED, Kolkata:
Tel ~ 033 - 66011717 (From 9.30 am to 5.30 pm),
Mob - 91633 48283 - 86/ 85840 08116 (From 5.30 pm to 8.30 pm)
HELPDESK email: eps.customercare@mjunction.in,
The process of utilizing e-procurement necessitates usage of **DSC (Digital Signature Certificate) (Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION)** and you are requested to procure the same immediately, if not presently available with you. Please note that only with DSC, you will be able to login the e-procurement secured site and take part in the tendering process.

2. The contact details of the DSC Certifying Authority as given below

1	GNFC	www.ncodesolutions.com
2	e-Mudhra	http://www.e-Mudhra.com
3	Safescrypt	www.safescrypt.com

Vendors are also requested to go through seller manual available on www.bheleps.buyjunction.in

6. Not Used

7. 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. 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. 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:
- a) $P_1, P_2, P_3, P_4, P_5, \dots P_N$ 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 (ie $P_T = P_1 + P_2 + P_3 + P_4 + \dots P_N$)
 - b) 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 (ie $T_T = T_1 + T_2 + T_3 + T_4 + \dots T_N$)
 - c) 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 ’ (ie $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots S_{1-N}$). 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 (ie ‘ $S_T = S_1 + S_2 + S_3 + S_4 + S_5 + \dots S_N$ ’)
 - d) **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):

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

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

- 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_1	P_2	P_3	P_4	P_5	...	P_N	Total No of similar packages for all Regions = P_T 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 ₁	T ₂	T ₃	T ₄	T ₅	...	T _N	Sum (Σ) of columns (iii) to (ix) = T _T
3	Monthly performance scores for the corresponding period (as in Row 2)	S _{1-1,} S _{1-2,} S _{1-3,} S _{1-4,} ... S _{1-T1}	S _{2-1,} S _{2-2,} S _{2-3,} S _{2-4,} ... S _{2-T2}	S _{3-1,} S _{3-2,} S _{3-3,} S _{3-4,} ... S _{3-T3}	S _{4-1,} S _{4-2,} S _{4-3,} S _{4-4,} ... S _{4-T4}	S _{5-1,} S _{5-2,} S _{5-3,} S _{5-4,} ... S _{5-T5}	S _{N-1,} S _{N-2,} S _{N-3,} S _{N-4,} ... S _{N-TN}	-----
4	Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3)	S ₁	S ₂	S ₃	S ₄	S ₅	...	S _N	Sum (Σ) of columns (iii) to (ix) = S _T

ii) Calculation of Overall 'Performance Rating' (R_{BHEL}) 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_{BHEL}' 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_{BHEL} 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	=60	NA
2	> 60 and ≤ 65	0.4
3	> 65 and ≤ 70	0.35
4	> 70 and ≤ 75	0.25
5	> 75 and < 80	0.2
6	≥ 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:

- i. 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
- ii. For R_{BHEL} = 60 , P_{Max} = '1'

iii. 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:**

- a) 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
- b) Identified Packages (Unit wise)

Table-1

	Civil	Electrical & CI	Mechanical
	i). Enabling works	i). Electrical	i). Boiler & Aux (All types including CW Piping if applicable)
	ii). Pile and Pile Caps	ii). CI	ii). Power Cycle Piping/Critical Piping
	iii). Civil Works including foundations	iii). Others (Elec & CI)	iii). LP Piping
	iv). Structural Steel Fabrication & Erection		iv). ESP
	v). Chimney		v). Steam Turbine Generator set & Aux
	vi). Cooling Tower		vi). Gas Turbine Generator set & Aux
	vii). Others (Civil)		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_{BHEL}'** 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. 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. For any clarification on the tender document, the bidder may seek the same over e-procurement portal 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. 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. 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. Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
15. 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. 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. In case BHEL decides on a 'Public Opening', the date & time of opening of the 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. 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. 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. On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
21. 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. The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
23. **Not used.**
24. The bidder shall upload 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. The bidder may have to produce original document for verification if so decided by BHEL.
26. 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.
- 27.0 BHEL reserves the right to go for **Reverse Auction (RA)** instead of opening the 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', milestone/ completion certificate, 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 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) Annexure-7: Feedback form
- (viii) Other Tender documents as per this NIT.

ANNEXURE - 1**PRE QUALIFYING REQUIREMENTS**

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.
TENDER NO	BHEL/ NR/SCT/TANDA/EW II/1016

SL NO	NAME AND DESCRIPTION OF PRE QUALIFICATION CRITERIA	
A	Submission of Integrity Pact	Not applicable
B	Assessment of Capacity of bidder to execute the work as per clause 9.0 pf NIT	Applicable – by BHEL
C	<u>Technical</u>	applicable
C-1	<u>Bidder who wish to participate should have:</u> Experience of having successfully Executed Similar Works 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 Rs. 43 Lacs. OR Two (02) similar completed works costing not less than the amount equal to Rs. 53 Lacs. OR	
C-1.2	One (01) similar completed work costing not less than amount equal to Rs. 85 Lacs	
C-1.3		
D	<u>Financial</u>	applicable
D-1	<u>TURNOVER:</u> Bidders must have achieved an average annual financial turnover (Audited) of Rs. 32 Lacs 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 statutorily, then instead of audited financial statements, financial statements are required to be certified by Chartered Accountant.	
D-2	<u>Net worth:</u> Net worth of the Bidder based on the latest Audited Accounts as furnished for 'D-1' above should be positive. Net Worth = Paid up share capital + Reserves.	
D-3	(Net worth is required to be evaluated in case of companies) <u>Profit:</u> 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.	
E	Approval of Customer	Not Applicable
F	Consortium Criteria	Not Applicable

Explanatory Notes for QR 'C'

- 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.)
- 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.
-
- 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.
-
- The word 'Similar Works' means Supplying & Construction/Erection of Pre-Fabricated, Pre-Engineered Buildings (Residential/ Commercial / Industrial etc.)
-
- Relevant documents, meeting above requirements at C & D, shall be submitted by bidders.

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 PRE QUALIFICATION CRITERIA (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
7	Audited profit and Loss Account for the last three years	Applicable/Not Applicable	YES/NO
8	Copy of PAN Card	Applicable/Not Applicable	YES/NO
9	Not used		
10	Integrity Pact	Applicable/Not Applicable	
11	Declaration by Authorised Signatory	Applicable/Not Applicable	YES/NO
12	No Deviation Certificate	Applicable/Not Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable/Not Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable/Not Applicable	YES/NO
15	Non Disclosure Certificate	Applicable/Not Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable/Not Applicable	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Applicable/Not Applicable	

19	Not used		
20	Analysis of Unit rates	Applicable/ Not Applicable	

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)**

- 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
- v. Clause No. 4.1.4, 4.1.9 & 4.1.10 of SCC (Consumables & Other Items) shall not be applicable.
- vi. Clause No. 4.2.2 of SCC (Obligations in respect of T&Ps and MMEs provided by BHEL) shall not be applicable.
- vii. Clause No. 8.3.2, 8.3.3 and 8.3.4 of SCC (Statutory Inspection of Work) 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-ERECTABLE, PRE-ENGINEERED, PRE-FABRICATED OFFICE AND CLOSED STORAGE SHED FOR 2X660 MW ESP, TANDA THERMAL POWER PLANT, TANDA, UTTARP PRADESH.

BHARAT HEAVY ELECTRICALS
LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC)

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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- I: Project Information

Sl. No.	Title	Description
1.	Name of the Owner	NATIONAL THERMAL POWER CORPORATION LTD. (NTPC)
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

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

2.0	GENERAL SCOPE OF WORK
2.1	The Broad Scope of Work is as below:
2.1.1	Office: 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 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.
2.1.2	Closed Storage Shed: This specification covers Design, Manufacturing, Supply, Receipt at Site, Erection, Site Painting etc. including Civil, Foundations, Electricals, Furniture, Lighting & Fixtures etc. all complete and Handing over of Removable/Re-erectable type Pre-Engineered, Pre-Fabricated Closed Storage Sheds. 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.
2.1.3	For detailed scope of work, refer Chapter-2 Technical Specification for Office & Chapter-3 Technical Specification for Storage Closed Shed of Part II.
2.2	RESPONSIBILITY OF CONTRACTOR
2.2.1	Designing of the Pre-Fabricated, Pre-Engineered, Removable / Re-Erectable type Office and Closed Storage Sheds as per the Technical Specifications and Layout Drawings provided at Part-II of this specification and submitting the approved design drawings and BOQ with rate schedule (vetted from a civil design agency of repute /civil engineering department of reputed Govt. Engineering College i.e. IITs/NITs) to BHEL for approval.
2.2.2	Furnishing all labour (skilled, unskilled etc.), materials, supervision, construction plans, equipment, supplies, transport to and from the site, fuel, electricity, compressed air, water, transit and storage insurance and all other incidental items and temporary works not shown or specified but reasonably implied or necessary for the proper completion, maintenance 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.
2.2.3	Furnishing samples of all materials required by the BHEL Engineers for testing / inspection and approval, for use in the works. The samples may be retained by the BHEL Engineer for final incorporation in the works.
2.2.4	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.
2.2.5	Giving all notices, paying all fees, taxes etc., in accordance with the General conditions

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- II: Scope of Work

	of contract that is required for all works including temporary works.
2.2.6	Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
2.2.7	Carrying out survey of the work area to establish levels and coordinates at suitable intervals from existing grid levels and coordinates furnished by the owner established bench marks, setting out the locations and levels of proposed structures, constructions and marking of reference pillars and other identification works etc. as required, 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.

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	
3.1.0	<u>ESTABLISHMENT</u>			
3.1.1	<u>FOR CONSTRUCTION PURPOSE:</u>			
A	<i>OPEN SPACE FOR OFFICE</i>	Yes		Limited space (free of charge) as and where made available by customer M/s NTPC
B	<i>OPEN SPACE FOR STORAGE</i>	Yes		Limited space (free of charge) as and where made available by customer M/s NTPC
C	<i>CONSTRUCTION OF BIDDER'S OFFICE, CANTEEN AND STORAGE BUILDING INCLUDING SUPPLY OF MATERIALS AND OTHER SERVICES</i>		Yes	
D	<i>BIDDER'S ALL OFFICE EQUIPMENT, OFFICE / STORE / CANTEEN CONSUMABLES</i>		Yes	
E	<i>CANTEEN FACILITIES FOR THE BIDDER'S STAFF, SUPERVISORS AND ENGINEERS ETC.</i>		Yes	
F	<i>FIRE FIGHTING EQUIPMENT LIKE BUCKETS, EXTINGUISHERS ETC.</i>		Yes	
G	<i>FENCING OF STORAGE AREA, OFFICE, CANTEEN ETC. OF THE BIDDER</i>		Yes	
3.1.2	<u>FOR LIVING PURPOSES OF THE BIDDER</u>			
A	<i>OPEN SPACE</i>		Yes	Contractor have to make their own arrangement
B	<i>LIVING ACCOMMODATION / LABOUR COLONY</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	<u>ELECTRICITY</u>			
3.2.1	<u>ELECTRICITY FOR CONSTRUCTION PURPOSES</u>	Yes		Electricity at 415 V shall be provided free of charge at a single point.
3.2.1.1	<i>SINGLE POINT SOURCE</i>	Yes		
3.2.1.2	<i>FURTHER DISTRIBUTION FOR THE WORK TO BE DONE WHICH INCLUDE SUPPLY OF MATERIALS, ENERGY METER AND EXECUTION</i>		Yes	
3.2.2	<u>ELECTRICITY FOR THE OFFICE, STORES, CANTEEN ETC. OF THE BIDDER WHICH INCLUDE</u>	Yes		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	
3.2.2.2	<i>SUPPLY, INSTALLATION AND CONNECTION OF MATERIAL OF ENERGY METER INCLUDING OPERATION AND MAINTENANCE</i>		Yes	
3.2.2.3	<i>DUTIES AND DEPOSITS INCLUDING STATUTORY CLEARANCES FOR THE ABOVE</i>		Yes	
3.2.3	<u>ELECTRICITY FOR LIVING ACCOMODATION OF THE BIDDER'S STAFF, ENGINEERS, SUPERVISORS ETC. ON THE ABOVE LINES.</u>		Yes	Contractor have to make their own arrangement
3.3	<u>WATER SUPPLY</u>			
3.3.1	<u>FOR CONSTRUCTION PURPOSES:</u>			

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	
3.3.1.1	<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	<u>WATER SUPPLY FOR BIDDER'S OFFICE, STORES, CANTEEN ETC.</u>		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	<u>LIGHTING</u>			
3.4.1	<u>FOR CONSTRUCTION WORK (SUPPLY OF ALL THE NECESSARY MATERIALS)</u> 1. At office storage area 2. At the construction site /area		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	
3.4.2	<u>FOR CONSTRUCTION WORK (EXECUTION OF THE LIGHTING WORK/ ARRANGEMENTS)</u> 1. At office storage area 2. At the construction site /area		Yes	
3.4.3	<i>PROVIDING THE NECESSARY CONSUMABLES LIKE BULBS, SWITCHES, ETC. DURING THE COURSE OF CONSTRUCTION</i>		Yes	
3.4.4	<i>LIGHTING FOR THE LIVING PURPOSES OF THE BIDDER AT THE COLONY / QUARTERS</i>		Yes	
3.5	<u>COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER</u>			
3.5.1	<u>TELEPHONE, FAX, INTERNET, INTRANET, E-MAIL ETC.</u>		Yes	
3.6	<u>CONSTRUCTION FACILITIES</u>			
3.6.1	<u>ENGINEERING WORKS FOR CONSTRUCTION:</u>			
3.6.1.1	<i>PROVIDING THE CONSTRUCTION DRAWINGS</i>	Yes		BHEL shall provide tentative drawings only for tendering purpose.
3.6.1.2	<i>DRAWINGS FOR CONSTRUCTION METHODS / DETAILED DESIGN DRAWINGS AS PER SITE REQUIREMENT</i>		Yes	In consultation with BHEL.

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	
3.6.1.3	<i>PREPARATION OF SITE CONSTRUCTION SCHEDULES AND OTHER INPUT REQUIREMENTS</i>		Yes	
3.6.1.4	<i>REVIEW OF PERFORMANCE AND REVISION OF SITE CONSTRUCTION SCHEDULES IN ORDER TO ACHIEVE THE END DATES AND OTHER COMMITMENTS</i>	Yes	Yes	
3.6.1.5	<i>WEEKLY CONSTRUCTION SCHEDULES BASED ON SL. No 3.6.1.5</i>		Yes	
3.6.1.6	<i>DAILY CONSTRUCTION / WORK PLAN BASED ON SL. No 3.6.1.7</i>		Yes	
3.6.1.7	<i>PERIODIC VISIT OF THE SENIOR OFFICIAL OF THE BIDDER TO SITE, REVIEW THE PROGRESS SO THAT WORKS ARE COMPLETED AS PER SCHEDULE. IT IS SUGGESTED THIS REVIEW BY THE SENIOR OFFICIAL OF THE BIDDER SHOULD BE DONE ONCE IN EVERY TWO MONTHS.</i>		Yes	

Note:

- 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.
- 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.

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

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 contractors material storage area etc. at his cost.

5. **Bid Drawing:** Drawings enclosed in this tender in Part II, chapter- 4 & chapter-5 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

A	<u>TOOL & PLANTS (T&Ps)</u> -INDICATIVE LIST OF T & Ps
Sl. No.	EQUIPMENT
1	CONCRETE MIXER M/C OF SUITABLE CAPACITY
2	CONCRETE VIBRATORS
3	JCB, EXCAVATOR, DOZER,
4	TRUCKS/LORRIES/TRACTORS/DUMPERS
5	WATER TANKER
6	DEWATERING PUMP
7	WINCHES
8	WELDING MACHINES
9	TYRE MOUNTED MOBILE CRANES / HYDRA (14MT TO 20MT)
NOTES:	<p>1 The above list is only indicative and these T&Ps may not be required for entire contract period but contractor will ensure that these T & Ps are provided as per need. Contractor will assess actual quantity and period of requirement based on his experience. Contractor has to mobilize / maintain adequate numbers of equipment for meeting the work schedule and intermediate milestones as notified by BHEL Engineer.</p> <p>2 Other terms and conditions regarding T&Ps / MMEs please also refer clause for T&Ps &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&Ps required to be arranged by the contractor.</p> <p>4 If work gets delayed due to non-availability of T&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

B	<u>MONITORING AND MEASURING EQUIPMENTS (MMEs)</u>-INDICATIVE LIST OF MMEs
SL NO	EQUIPMENT
1	TOTAL STATION
2	AUTO LEVEL
3	MEASURING TAPE
4	PLUMB BOBS
5	COMPRESSION STRENGTH TESTING EQUIPMENT
6	CONSTRUCTION MATERIAL TEST EQUIPMENT
7	CONCRETE CUBE MOULD (150mm X 150mm X 150mm)
8	CONCRETE SLUMP CONE
9	COARSE AGGREGATE SIEVES & SAND SIEVES
10	SIEVE SHAKER
NOTES:	<ol style="list-style-type: none"> 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. 2. Other terms and conditions regarding T&Ps / MMEs please also refer clause for T&P&MMEs in SCC. 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. 4. Contractor should set up the field laboratory with facilities required for material & concrete testing, alternatively all the materials used and proposed to be used for construction may be tested in an authorized and accredited laboratory outside and the material test reports shall be furnished to BHEL Engineer before use of material in work. 5. 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.

NOT APPLICABLE

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VI: Time Schedule

TIME SCHEDULE	
6.0	MOBILIZATION, TIME SCHEDULE AND CONTRACT PERIOD
6.1	INITIAL MOBILIZATION 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.
6.2	START DATE / ZERO DATE 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.
6.3	COMPLETION PERIOD Entire work as detailed in tender specification shall be completed within 2.5 months from the start of contract period (Zero Date) . Contractor has to mobilize adequate resources to meet BHEL's commitments to their customer as indicated from time to time.
6.4	Detailed Work completion Schedule will be submitted for approval by the successful bidder within 1 week of issue of LOI.
6.5	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.
6.6	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.
6.7	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.
6.8	MILESTONES FOR COMPLETION OF WORKS
6.8.1	COMPLETE WORKS : Two and Half (2.5) Months from the Date of Start of Contract Period (Zero Date) with indicative milestones as below.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VI: Time Schedule

6.8.2	<u>WORK A: Pre-Engineered /Pre-Fabricated Office.</u>	
	A. Submission of complete set of Detailed Design / Construction Drawings including schematic layouts for Electrical, Sanitary and Furniture Work along with BOQ (vetted from a civil design agency of repute /civil engineering department of reputed Govt. Engineering College i.e. IITs/NITs)	<i>Within 10 days from Zero Date</i>
	B. Completion of Civil Works i.e. Foundations, Plinth Beam etc. at Site as per approved Drawings, BOQ and Technical Specifications.	<i>Within 1 Months from Zero Date</i>
	C. Completion of All Supplies i.e. Pre-Fabricated Wall Panels, Doors, Windows, Ventilators, Structure Steel Column & Trusses, Roof Sheeting, False Ceiling, Electrical wires, lightings & fixtures, Furniture & Furnishing Items, Sanitary, Water Supply, Networking and other Misc. Items at Site as per approved Drawings, BOQ and Technical Specifications.	<i>Within 1.5 Months from Zero Date</i>
	D. Completion of Erection, Installation, Finishing, Illumination, Regulatory and all other related works complete and handing over to Site, Office as per approved drawings, BOQ and Technical Specifications.	<i>Within 2.5 Months from the Zero Date</i>
6.8.3	<u>WORK B:Pre-Engineered / Pre-Fabricated Closed Storage Shed</u>	
	A. Submission of complete set of Detailed Design / Construction Drawings including schematic layouts for Electrical and Furniture Work along with BOQ (vetted from a civil design agency of repute /civil engineering department of reputed Govt. Engineering College i.e. IITs/NITs).	<i>Within 10 days from Zero Date</i>
	B. Completion of Civil Works i.e. Foundations, Plinth Beam, Flooring etc. at Site as per approved Drawings, BOQ and Technical Specifications.	<i>Within 1 Months from Zero Date</i>
	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	<i>Within 1.5 Months from Zero Date</i>
	D. Completion of Erection, Installation, Finishing, Illumination, Regulatory and all other related works complete and handing over to Site, Closed Storage Shed as per approved drawings, BOQ and Technical Specifications.	<i>Within 2.5 Months from the Zero Date</i>
6.9	<u>CONSEQUENCE OF DELAY</u>	
	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

7.0	TERMS OF PAYMENT
7.1	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.
7.2	Payment shall be released on the Pro-rata Basis from the Site for the Contracted Works as Follows:
7.2.1	Work A: Pre-Engineered /Pre-Fabricated Office:
7.2.1.1	5% of the Total Amount for "Work A" on completion of Submission of Detailed Design / Construction Drawings along with BOQ (vetted from a civil design agency of repute /civil engineering department of reputed Govt. Engineering College i.e. IITs/NITs).
7.2.1.2	25% of the Total Amount for "Work A" on completion of Civil Works as per approved BOQ, Technical Specifications and Drawings.
7.2.1.3	40% of the Total Amount for "Work A" on completion of Supplies as approved BOQ, Technical Specifications and Drawings.
7.2.1.4	30% of Total Amount for "Work A" on completion of Erection, Installation, Finishing and Other Related Works and handing over to site, Removable / Re-erectable, Pre-Engineered, Pre-Fabricated Office.
7.2.2	Work B: Pre-Engineered / Pre-Fabricated Closed Storage Shed
7.2.2.1	5% of the Total Amount for "Work B" on completion of Submission of Detailed Design / Construction Drawings along with BOQ (vetted from a civil design agency of repute /civil engineering department of reputed Govt. Engineering College i.e. IITs/NITs).
7.2.2.2	25% of the Total Amount for "Work B" on completion of Civil Works as per approved BOQ, Technical Specifications and Drawings.
7.2.2.3	40% of the Total Amount for "Work B" on completion of Supplies as approved BOQ, Technical Specifications and Drawings.
7.2.2.4	30% of Total Amount for "Work B" on completion of Erection, Installation, Finishing and Other Related Works and handing over to site, Removable / Re-erectable, Pre-Engineered, Pre-Fabricated Closed Storage Shed.
7.3	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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- VII: Terms of Payment

7.4	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 of GCC and 10.0 of SCC.
7.5	Interest bearing recoverable advance: Not Applicable

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VIII: Taxes & Duties

8.0	TAXES & DUTIES <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 & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.</p> <p>However, provisions regarding Service Tax and Value Added Tax (VAT) on output services and goods shall be as per following clauses.</p>
8.1	Service Tax & Cess on Service Tax <p>Service Tax and Cess on Service Tax as applicable on output Services are included in contractor's scope; therefore contractor's price/rates shall be inclusive of Service Tax and 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>For the purpose of claiming any Service Tax from BHEL, the following procedure shall be adopted:</p> <p>Contractor shall submit serially numbered Service Tax and 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">A. The name, address and registration number of the contractorB. The name and address of the party receiving taxable service (BHEL)C. Description, classification and value of taxable service provided andD. The Service Tax payable thereon. <p>All the four conditions shall be fulfilled in the invoice for payment of Service Tax 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</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VIII: Taxes & Duties

	<p>documentary evidence duly certified by the registering authority.</p> <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>
8.2	VAT (Sales Tax /WCT)
8.2.1	Civil Works: <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 inclusive 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. Where such taxes are required to be paid by the contractor subject to the above, this will be reimbursed on production of proof of payment made to the authorities by the Contractor. The contractor has to take all necessary steps to minimize tax on input goods by purchasing the materials from any registered dealer of the concerned state only.</p>
8.2.2	Works other than Civil Works: <p>The rates quoted by the Contractor shall be inclusive of VAT/Sales Tax and BHEL shall not reimburse any amount on this account due to any reason whatsoever.</p>
8.2.3	Common to all Works (Both Civil and Other than Civil) <p>The Contractor shall register himself with the respective Sales Tax authorities of the state and submit proof of such registration to BHEL along with the first RA bill. Deduction of tax at source shall be made as per the provisions of law unless otherwise found exempted. In case tax is deducted at source as per the provisions of law, this is to be construed as an advance tax paid by the contractor and no reimbursement thereof will be made unless specifically agreed to.</p> <p>Contractor has to make his own arrangement at his cost for completing the formalities, if required, with Sales Tax/VAT Authorities, for bringing all their material, plant and equipment etc. at site for the execution of the work, including</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VIII: Taxes & Duties

	arrangement of Road Permits if and as applicable under the relevant VAT Act.
8.3	Modalities of Tax Incidence on BHEL Wherever the relevant tax laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor.
8.4	New Taxes/Levies In case the Government imposes any new levy/tax on the output service/goods/work after award of the contract, the same shall be reimbursed by BHEL at actual. In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of Price Bid. Claim for any such impact after opening the Price Bid will not be considered by BHEL for reimbursement of tax or reassessment of offer. No reimbursement/recovery on account of increase/reduction in the rate of taxes, levies, duties etc. on input goods/services/work shall be made. Such impact shall be taken care of by the Price Variation/Adjustment Clause (PVC) if any. In case PVC is not applicable for the contract, Bidder has to make his own assessment of the impact of future variation if any, in rates of taxes/duties/ levies etc. in his price bid.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- IX: Materials and Other Requirements

9.0	MATERIALS
9.1	The contractor shall, at his own expenses (Inclusive of Taxes), provide all materials required for the work.
9.2	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.
9.3	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.
9.4	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.
9.5	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

9.6	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 Engineer may require for the purpose. If no tests are specified in the Contract, and such tests are required by the 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.
9.7	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.
9.8	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.
9.9	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.
9.10	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.
9.11	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

10.0	EXECUTION OF WORK
10.1	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 BHEL Engineer shall be final & binding.
10.2	<u>Site Visit by the Bidder</u> 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.
10.2.1	The bidder shall satisfy themselves about the following factors: i) Site conditions including access to the site, existing and required roads and other means of transport/communication for use by him in connection with the work including diverting and re-routing of services. ii) Requirement and availability of land and other facilities of his enabling works, establishment of his nursery, office, stores etc. iii) Ground conditions including those bearing upon transportation, disposal, handling and storage of materials required for the work or obtained there-from. iv) Source and extent of availability of suitable materials, including water etc., and labour (skilled and unskilled) required for work, and laws and regulations governing their use and employment. v) Geological, meteorological, topographical and other general features of the site and its surroundings as are pertaining to and needed for the performance of the work. vi) The limit and extent of surface and subsurface water to be encountered during the performance of the work, and the requirement of drainage and pumping vii) The type of equipment and facilities needed, for and in the performance of the work. viii) The extent of lead and lift required for the work in complete form over the entire duration of the contract, and ix) All other information pertaining to and needed for the work including information as to the risks, contingencies and other circumstances which may

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- X: Other Important Conditions

	<p>influence or affect the work or the cost thereof under this contract.</p> <p><u>Note:</u></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>
10.2.2	<p>The bidder and any of his personnel or agents will be granted permission by the Site-In-Charge or his authorized nominee, on receipt of formal application in respect thereof a week in advance of the proposed date of inspection of site, to enter upon his premises and lands for purpose of such inspection, but only on the express condition that the bidder (and his personnel and agents) will relieve and indemnify the Employer (and his personnel and agents) from and against all liability in respect thereof and will be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused which, but for the exercise of such permission, would not have arisen.</p>
10.3	<p><u>WORKMANSHIP:</u></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>
10.3.1	<p>It is not the intent to specify herein all details of all material. Any item related to this work not covered by this but necessary to complete the system will be deemed to have been included in the scope of the work.</p>
10.3.2	<p>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.</p>
10.3.3	<p>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</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- X: Other Important Conditions

	whole.
10.3.4	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.
10.3.5	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.
10.3.6	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.
10.3.7	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.
10.3.8	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.
10.3.9	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.
10.3.10	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.
10.3.11	Contractor shall remove all scrap materials periodically generated from his working area and collect the same at one place earmarked for the same. Load of scraps is to be shifted to a place earmarked by BHEL. Failure to collect the scrap is likely to lead to accidents and as such BHEL reserves the right to collect and remove the scrap at contractor's risk and cost if there is any failure on the part of contractor in this respect.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- X: Other Important Conditions

10.3.12	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.
10.3.13	No member of the already erected structure / buildings, other component and auxiliaries should be removed / modified without specific approval of BHEL engineer.
10.3.14	Contractors shall ensure that all their Staff / Employees are exposed to periodical training programme conducted by qualified agencies/personnel on ISO 9001 – 2008 Standards.
10.3.15	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.
10.3.16	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.
10.4	<u>SITE INSPECTION:</u> 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.
10.5	<u>DOCUMENTATION</u> The following information shall be furnished by the bidder within one week of award of contract for approval.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- X: Other Important Conditions

	a) Bar chart covering planned activities at site b) Detailed organization chart c) Details of T&P available with contractors with documents proofs.
10.6	SETTING OUT
10.6.1	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. Only one grid reference line and bench mark shall be made available for setting out the works under the contract. This reference lines shall be used as datum for the works under the contract and the contractor has to establish for his work area at available points horizontal and vertical control points. The contractor shall inform BHEL well in advance of the times & places at which he wishes to do work in the area allotted to him so that suitable datum points established by him are checked by BHEL / Customer to enable the contractor to proceed with the works. Any work done without being properly located may be removed and / or dismantled by BHEL / Customer at contractor's expenses.
10.6.2	The contractor shall at his own expense take all proper and responsible precautions to preserve and maintain these datum marks to its true position. In the event of these marks being disturbed or obliterated by accident or due to any other cause whatsoever, the same may be deemed necessarily placed by BHEL / Customer at contractor's expenses.
10.7	SITE DRAINAGE
10.7.1	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 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.
10.8	INSPECTION AND STAGE APPROVAL OF THE WORK
10.8.1	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.
10.9	UNCOVERING AND MAKING GOOD
10.9.1	The Contractor shall uncover any part of the Works and/or make openings in or through the same as the BHEL Engineer may from time to time direct for his

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- X: Other Important Conditions

	verification and shall reinstate and make good such part to the satisfaction of the BHEL Engineer. If any such part has been covered up or put out of view after being approved by the BHEL Engineer and is subsequently found on uncovering to be executed in accordance with the Contract, the expenses of uncovering and / or making opening in or through, reinstating and making good the same shall be borne by BHEL. In any other case all such expenses shall be borne by the Contractor.
10.10	NUISANCE
10.10.1	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.
10.11	MATERIAL OBTAINED FROM EXCAVATION
10.11.1	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.
10.12	TREASURE, TROVE, FOSSILS etc.
10.12.1	All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site shall be the absolute property of BHEL / BHEL's client and the Contractor shall take reasonable precautions to prevent his workmen or any other person from removing or damaging any such article or thing and immediately upon discovery thereof and before removal, acquaint the BHEL Engineer with such discovery and carryout the BHEL Engineer's directions as to the disposal of the same.
10.13	PROTECTION OF WORKS
10.13.1	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.
10.13.2	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.
10.13.3	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

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Chapter- X: Other Important Conditions

	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. The contractor shall proceed to repair the work immediately and no cause thereof will be assigned pending resolution of such disputes.
10.14	PROTECTION OF EMBEDMENTS BOLTS ETC.
10.14.1	The contractor shall ensure proper protection to the satisfaction of the BHEL Engineer, of all bolts, inserts, embedment etc. from weather etc. by greasing, rapping them with gunny bags or canvas or by any other means as directed by BHEL Engineer. Cost of such protections shall be deemed to be included in the rates quoted for the item.
10.15	CLEARANCE OF SITE AND REPAIRS.
10.15.1	Contractor has to clear the site / area where mechanical / storage and electrical erection work is to be commenced / or in progress. The contractor shall remove construction materials and equipment lying in the vicinity and causing obstruction in the erection work within 24 hrs. notice, In case he fails to clear the site, this will be done at his risk & cost by BHEL.
10.16	QUALITY ASSURANCE
10.16.1	The contractor has to establish / arrange at site the field testing facilities for testing of civil construction materials and concrete cubes for ensuring the proper quality, grade and strength of the materials used in the construction in line with approved field quality check list/ relevant IS Code specifications as specified by BHEL Engineer. Contractor has to submit detailed report for testing of all material used etc. All testing shall be done as per IS code specifications/ BHEL's quality plan. If further test is required by the engineer to be carried from outside laboratory, the cost of the same shall be borne by the contractor.
10.17	COMPLETION OF WORK
10.17.1	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.
10.17.2	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.
10.18	COMMENCEMENT OF GUARANTEE PERIOD

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- X: Other Important Conditions

10.18.1	The Guarantee period shall commence only after completion & handing over of the entire works. 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.
10.19	METHOD OF MEASUREMENT
10.19.1	Method of measurements if not specified in the tender, shall be as per relevant IS Codes / CPWD codes.
10.20	HSE& OHSAS: The contractor shall comply with the requirements / stipulations of Chapter-IX of SCC towards Health, Safety and Environment.
10.21	DISCREPANCIES AND ADJUSTMENT OF ERRORS:
10.21.1	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.
10.21.2	In case of discrepancies between schedules of quantities, the specification and / or the drawings, the following order of preference shall be observed: (a) Description in schedule of quantities. (b) Technical Conditions of Contract (c) Drawings (d) Technical Specifications / Standard Specifications (e) Special Conditions of Contract (f) General conditions of contract
10.21.3	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.
10.21.4	Any error in description, quantity in schedule of quantities or any omission therefrom shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to the drawings and specifications or from any of his obligations under the contract.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- XI: Annexures

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 TPP, TANDA, U.P.”

Sl.	Description of Works	Lump sum Price ("X") in Rupees (In Figures and word) are to be quoted.
1	Lumpsum price for the work of “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”	

NOTE:- 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	Work A: Design, Manufacturing, Supply Receipt at Site, construction and Finishing Works if any etc. and handing over to site, removable/ re-erectable type pre-engineered, pre-fabricated Office using Plastocrete Panels and Associated civil works (01 No.) including foundations modular furnitures etc. for 2X660 MW ESP, TANDA THERMAL POWER PLANT, TANDA, UTTAR PRADESH.	L.S.	1	0.33		
2	Work B: Design ,Manufacturing, Supply receipt at site, construction and finishing works if any etc. and Handing over to site removable/re-erectable type pre-engineered, pre-fabricated steel closed storage shed (o1 No.) with associated civil works including foundations for 2X660 MW ESP, TANDA THERMAL POWER PALNT, TANDA, UTTAR PRADESH.	L.S.	1	0.67		
	GRAND TOTAL FOR WORK A & WORK B					
NOTES:						
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



1.0	MODIFICATION/ DELETION OF GCC & SCC CLAUSES: <ul style="list-style-type: none">I. Clause No. 4.1.4, 4.1.9 & 4.1.10 of SCC (Consumables & Other Items) shall not be applicable.II. Clause No. 4.2.2 of SCC (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 of SCC (Statutory Inspection of Work) shall not be applicable.IV. Clause No. 2.12 of GCC (ORC) shall not be applicable.V. Clause No. 2.17 of GCC (PVC) shall not be applicable.VI. Clause No. 2.13 of GCC (Interest bearing recoverable advance) shall not be applicable.VII. Clause No. 2.14 of GCC (Quantity Variation) shall not be applicable.
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TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-2: Technical Specification for Office

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: PRE-FABRICATED OFFICE INCLUDING FOUNDATION, ELECTRICAL, FURNITURE, TOILET & OTHER ALLIED ITEMS AT BHEL SITE	SPECIFICATION NO. PSNR-PMX-OFC-001-
		VOLUME - I
		REV.NO. 01
		DATE 31/10/2014

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 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.



2. DETAILED SPECIFICATION

OFFICE:



SIZE:	10M C/c x 15 M C/c x 3.0M (approximate).
CLEAR HEIGHT:	Between FFL & Bottom of truss (if any)/ Structural Member (if any) – 3.0 M.
COLUMN SPACING:	3.0 M (RECOMMENDED) on both longer & shorter side C/c. However suitable spacing can be provided as per design.
MAIN STRUCTURE&WALLS:	The Structural walls shall be made out of 25mm thick Plastocrete, concrete filled, Polymeric section filled with high density cellular concrete. The fixture should be joined together by tongue and groove method to ensure 100% leak proof. The Outer framing structure shall be fabricated with ISMC 75x40x3mm, MS “T” welded for securing plastocrete panel with the span of 1m center to center. The above columns will be grouted to the exiting PCC flooring by means of expansion fasteners. Outer Doors shall be of moulded FRP with

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ROOF:	<p>necessary hinges, handle and pad locks. The aluminium windows with grills shall be of sliding type, covered with float glass of 4mm thick. The entrance will be provided with 2nos -portico should have an aesthetic look of size min 4m X 3m. The outer framing column will be covered with polymeric sleeve for protecting from weather and inner columns end will be covered similar polymeric sleeve matching with the interior complete.</p> <p>Roof truss should be made up of anti corrosive painted 40mm square tubular section designed to suit at roof structure with 0.47mm thick pre-coated profiled GI (i.e., PPGI) roof sheet fixed with fasteners including gutters, rain water down pipes/spouts etc. all complete.</p>
FLOORING:	<p>Office flooring shall be of ceramic floor tiles (matt finish) 600x600mm of (min 8mm thick) 1st quality conforming to IS:15622 of approved make in colors such as White, Ivory, Grey, Fume Red Brown, to be laid on 20mm thick cement mortar 1:4 (1 cement: 4 coarse sand) including pointing the joints with white cement and matching pigment etc. all complete. Toilet and passage flooring shall be of antiskid ceramic tile of size 300x300mm of thickness (min-6mm) to be placed as mentioned above. The Finished Floor Level (FFL) shall be minimum 300 mm up from the Natural Ground Level (NGL). Floor Level shall be raised by filling the Earth / Sand in Layers not more than 150 mm including watering and compaction etc. complete.</p>

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FALSE CEILING:	False ceiling shall be provided to entire office area including corridors, toilet blocks etc. Frame works made out of anti corrosive painted GI grid work with 250 x 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 made up of anti corrosive painted 25 x 50 mm MS Frame and double side paneling with polymeric section of minimum 250x6 mm thick with an air gap of minimum 4 mm these panels are joined together by tongue and groove using self-tapping screws.
MODULAR FURNITURE / FURNISHINGS:	<p>Following Modular Furniture / Furnishing of approved make shall be provided by the contractor for Office:</p> <p>(a) Maestro type table for Site in-charge including fixed side return table, mobile pedestal- 01 No.</p> <p>(b) Conference hall table-size 12'x6' of seating capacity minimum 12 nos (including chairs):- 01 No.</p> <p>(c) For Modular Office type Cubicle & part cabins: Tables 1200mm X 750 mm with necessary file storage racks, supporting pedestal, Keyboard tray, CPU trolley as per enclosed furniture layout drawing:</p> <ul style="list-style-type: none"> i) 4 Seater Cubicle: 02 Nos. ii) 2 Seater Cubicle: 01 Nos. iii) 1 Seater Cubicle: 02 Nos.

 	TITLE: PRE-FABRICATED OFFICE INCLUDING FOUNDATION, ELECTRICAL, FURNITURE, TOILET & OTHER ALLIED ITEMS AT BHEL SITE	SPECIFICATION NO. PSNR-PMX-OFC-001-
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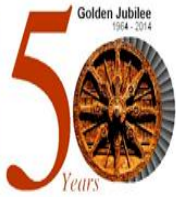
<p>DOOR & WINDOWS:</p> <p>TOILET:</p>	<p>iv) Part Cabins: 03 Nos.</p> <p>(d) Cabinets for files of push-pull type in steel including channels for smooth mounting, end stoppers, label holder, proper locking arrangement etc. as per drawing – 01 Nos.</p> <p>(e) Chairs for senior executives- 04 Nos.,</p> <p>(f) Chairs for executives- 15 Nos.</p> <p>(g) Chairs for visitors- 10 Nos.</p> <p>(h) Three seater sofa- 02 Nos.</p> <p>(i) Tea Poi- 01 No.</p> <p>Internal doors shall be Polymeric with half paneled smog glass. All external doors shall be Solid core PVC panel door. All doors to be provided with suitable hydraulic door closures of approved make. Windows shall be provided with aluminum type with grill and sunshade. However suitable no of Windows shall be provided for enough ventilation & natural light.</p> <p>1 no's – Toilet with 1 EWC, 1 Urinal, 1 Wash Basin for Site-in-charge room.</p> <p>1 no's Toilet with 1 EWC, 1-urinal, 1 Wash basin shall be provided for conference hall.</p> <p>A toilet Block consisting 3 urinals, 2 EWC, & 2 Wash basin shall be provided.</p> <p>All toilets should have required Towel Rods, Soap Dispenser, Glazed Mirrors etc. with automatic flushing system including total required</p>
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WATER SUPPLY:	<p>Plumbing. All Toilets should contain EWC with Health Faucet, Coat Hook, Paper Holder, Bottle Traps, Brass Bib Cocks, Stop Cocks, Gate Valves etc. all complete. Urinals shall be Magnum type.</p> <p>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.</p>
SEWAGE CONNECTION:	<p>Sanitary fitting along with sewage connections shall be provided up to septic tank and soak pit. All internal and external plumbing (from water tank to distribution system like toilet and pantry) shall be provided as per enclosed drawing.</p>
ELECTRICAL WORKS:	<p>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, conduit, tees, bends, clamps, JBs, 5amps socket, Modular Switch boards & points for computers & telephone for each table/desk, earthing wires, Lighting system shall be designed to meet minimum 300Lux of modular type suitable for False ceilings. 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</p>

	TITLE: PRE-FABRICATED OFFICE INCLUDING FOUNDATION, ELECTRICAL, FURNITURE, TOILET & OTHER ALLIED ITEMS AT BHEL SITE	SPECIFICATION NO. PSNR-PMX-OFC-001-
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<p>NETWORKING:</p>	<p>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&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.</p> <p>Bidder to Supply, Install and commission the following networking equipments in appropriate quantities required for Modular Office as per approved drawings and as directed by BHEL Engineer:</p> <ol style="list-style-type: none"> 1. 9U WALL MOUNTABLE RACK WITH 5AMPS HORIZONTAL POWER STRIP 2. 24 PORT LOADED PATCH PANEL WITH 1 U HORIZONTAL CABLE MANAGER 3. TELEPHONE JUNCTION BOXES (MDF) KRONE TYPE WITH LOCK & KEY 4. 10 PAIR KRONE STRIP 5. 50 PAIR RAISER CABLE CONNECT EPABX 6. ERECTION OF LAN SYSTEM EQUIPMENT SUCH AS JACK/PATCH CORD. ETC INCLUDING I/O AND CAT6 CABLE 7. ERECTION OF VOICE LINE SYSTEM EQUIPMENT SUCH AS I/O AND 2PAIR TELEPHONE CABLE.
<p>AIR CONDITIONING:</p>	<p>Split Air-conditioner (1.5 T) shall be provided for every 100 Sq.ft area with complete installation including ancillary works, voltage stabilizer, testing and commissioning as per manufacturers</p>

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	guidelines and specification. Design may be considered with a combination of 1.5 Ton & 2 Ton preferably.
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3. SALIENT TECHNICAL REQUIREMENTS:

- All design work of prefabricated office sheds shall have to be vetted by civil design agency of repute/ Civil Engineering department of reputed engineering college like IITs/ NITs.
- Agency shall submit two sets of proposed drawings (vetted) 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 along with detail rate schedule shall be submitted along with the design drawing (vetted).
- Typical foundation drawing is enclosed. However, foundation should be designed for actual site conditions. Before starting the work the Vendor has to visit site to collect actual information. Bidder to take care of all Indian soil conditions while designing foundation. No extra cost shall be paid for any change in foundation
- All designs have to be carried out as per relevant IS/International codes.
- 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 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".
- The bidder should submit a guarantee for 1 year of operations for the materials supplied and erected by him.

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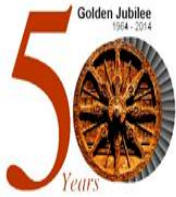
- Bidder shall submit two sets of proposed drawings of the Office to BHEL before commencement of work. Two sets of final drawings, along with one soft copy in CD and one reproducible, shall be handed over to BHEL immediately after finalization of design.
- Bidders should take care of all Indian site 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.

4. 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.

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

Item	Brand
Cladding/Roof Sheeting & Structural	Tata Blue scope/SAIL/Lloyds sheeting.
Toilet/Sanitary Items	Hindware / Parryware/ Jaquor
AC with Stabilizer	LG/ Blue Star/ Voltas
Furniture /Furnishing Items	Godrej / Durian / Delite
Electrical Component	Brand

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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
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-3: Technical Specification for Closed Storage Shed

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-CIVIL
	REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED	VOLUME - II
		REV.NO. 01
		DATE 31/10/2014

TECHNICAL SPECIFICATION



1. SCOPE

This specification covers the following:


Design, Manufacturing, Supply, Receipt at Site, Erection, Site Painting etc. including Civil and Handing over of Removable/Re-erectable type Pre-Engineered, Pre-fabricated Steel Storage Sheds. This also includes guarantee for 12 months of operations for the design performance, materials supplied & erected by him covered under the scope of the contract.

2. DETAILED SPECIFICATIONS



DESIGN CONSIDERATIONS FOR CLOSED STORAGE SHED	<ol style="list-style-type: none"> 1. Size of Closed Shed – 15Mc/c X 60Mc/c X 6.0M (approximate). 2. Clear Height of closed Shed (between FFL & Bottom of truss/ Structural Member) – 6.0M. 3. Columns shall be spanning – 6.0M c/c long span & 5.0M c/c short span. 4. All design work of sheds shall be of pressed steel sections & have to be vetted by civil design agency of repute/ Civil Engineering department of reputed engineering college like IITs/NITs. 5. All side cladding/ roof sheets shall be fitted in such a way that they can be removed at any point of time. 6. Sliding doors (4.65 M Width x 5 M Height) of pressed steel sections shall be provided at front entrance of each covered shed at centre location. Suitable arrangement shall be made for easy operation of gates (mechanical gear operated). 7. One man-entry gate to be provided on at one side of shed (front entrance by the side of sliding door). 8. The bidder should submit a guarantee for 12 months of operations for the materials supplied and erected by him.
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 	TITLE:	SPECIFICATION NO. PSNR-PMX-CIVIL
	REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED	VOLUME - II
		REV.NO. 01
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CIVIL WORK	<p>9. All designs have to be carried out as per relevant IS code.</p> <p>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.</p> <ol style="list-style-type: none"> 1. Grade of RCC shall be confirming to M25 & Reinforcement Steel shall be confirmed to Fe415. 2. Grade of PCC 1:4:8. 3. Brick masonry using first class brick of strength 50Kg/Sq.Cm. with masonry with CM1:5, plastering with CM1:6 of min. 12mm thick. 4. Flooring shall consist of concrete base of 100mm thick PCC 1:2:4 over a layer of 150mm thick sand filling including providing and fixing 4 mm thick glass strips to make grid pattern. 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 X 250 mm thick brick wall height along periphery. 7. Safe Bearing Capacity / Type of soil: Contractor shall carry out the necessary soil testing/ investigations at Site to determine the safe bearing capacity of the Soil / type of Soil. Contractor shall be solely responsible for the same. However BHEL may provide the Soil Investigation Data (if any) as made available by the Customer to BHEL solely for the guidance to the contractor and this shall in no meaning relieve the contractor from his obligation to determine the Safe Bearing Capacity and type of Soil and carrying out the design accordingly. 8. 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.
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	TITLE:	SPECIFICATION NO. PSNR-PMX-CIVIL
	REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED	VOLUME - II
		REV.NO. 01
		DATE 31/10/2014



<p>STRUCTURAL STEEL WORK</p>	<p>9. RCC Ramp to be provided at the entrance of each shed.</p> <p>10. HDPE Rain Water Down Pipe shall be provided with suitable gutters all around.</p> <p>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.</p> <p>All materials for structural steel works have to be supplied by the contractor and necessary test certificates of the materials procured for this work has to be submitted for scrutiny. All fabrication and erection of structures must be executed according to the specification and drawings. Erection of trusses is true to line and level and aligned properly, as per drawing and instruction of BHEL Engineer.</p> <ol style="list-style-type: none"> 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/m². 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
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 	TITLE:	SPECIFICATION NO. PSNR-PMX-CIVIL
	REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED	VOLUME - II
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<p>OTHER WORKS</p>	<p>to be re-erected at other location.</p> <p>4. Cladding : Roof and Side Cladding shall be with Galvalume Sheet confirming to ASTM A 792 of thickness 0.47mm with zinc coating not less than 150 gm/Sqm (both side) of 550Mpa (min) 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 be made "Water Tight. ". Purlins for wall & roof cladding shall be 'z' shape made-up with pressed steel.</p> <p>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.</p> <p>2. Store in-charge room: Approx. Size of Store In-charge Room is 3Mc/c X 3Mc/c. 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 thick colour coated G.I. Sheet as exterior on both sides with PU Foam of density 38 kg/Cu.Mtr and tensile strength of 4 kg/Sq.Cm inside. Compressive strength (10 % deformation) shall be 2.1 Kg/Sq.Cm. Thermal conductivity at 10 Deg shall be 0.02 W/M Deg k and Temperature Range - 80 Deg C to + 100 Deg C. The PU Foam thickness is 60 mm. False ceiling shall be provided with sandwiched panels of thickness 30mm thick. 1no. table of 1200mm width X 600mm depth X</p>
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 	TITLE:	SPECIFICATION NO. PSNR-PMX-CIVIL
	REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED	VOLUME - II
		REV.NO. 01
		DATE 31/10/2014

<p>ELECTRICAL WORK:</p>	<p>750mm height consisting 3 drawer unit left side, should also have CPU & keyboard provision (table in beech / black colour), 1nos executive chair (Width - 70.0 Cm, Depth - 70 Cm, Height -84.0 Cm - 96.5 Cm Seat Height - 46.5 - 59.0 Cm) & 3nos visitor chairs (Width - 52.5 Cm, Depth - 61 Cm, Height -80 Cm- 119.0 Cm Seat Height - 43.0 Cm)</p> <p>1nos. file cabinet consisting 4 drawers of size 470mm width X 1320mm height X 620mm depth and 1nos. single side steel file/book rake consisting of 3 rakes of size 900mm widthX1850mm height X316mm depth and a mobile unit containing of 3 drawers shall be provided.</p> <p>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.</p> <p>3. Suitable long span shelf system shall be provided throughout the length of both opposite longitudinal spans of closed sheds. It should 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.</p> <p>Supply & installation of electrical items are to be carried out strictly as per approved drawings and executed through licensed electricians.</p> <p>1. Bidder to supply & install electrical items like Distribution Borads, LT Cables, Main switch (30A TPN), ELCB, wires, conduit, tees, bends,</p>
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 	TITLE:	SPECIFICATION NO. PSNR-PMX-CIVIL
	REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED	VOLUME - II
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		DATE 31/10/2014



	<p>clamps, JBs, Switch boards, earthing wires etc. for 18 nos. Medium Bay HPSV lamps with fittings. The same will be as per BHEL site Engineer's approval. 2nos. EXHAUST FAN of size 600mm of suitable capacity on both sides on the gable ends to be supplied and fitted.</p> <p>2. Outside the shed 1nos sodium vapour lamp shall be provided at the entrance.</p> <p>3. A detailed schematic with BOM of the electrical fittings shall be submitted to BHEL for approval before execution.</p>
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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:

- (a) The design for shed shall be submitted by the bidder within 10 days of the receipt of the LOI. The design must be vetted by civil design agency of repute/ Civil Engineering department of reputed engineering college like IITs/SERC. Also a detail BOQ along with detail rate schedule shall be submitted along with the design drawing and that must also be vetted by civil design agency of repute/ Civil Engineering department of reputed engineering college like IITs/NITs.
- (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) Agency 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.

 	TITLE:	SPECIFICATION NO. PSNR-PMX-CIVIL
	REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED	VOLUME - II
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(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	Tata Blue scope/SAIL/Lloyds sheeting.
Furniture /Furnishing Items	GODREJ / DURIAN / DELITE
Electrical Component	Brand
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

 	TITLE:	SPECIFICATION NO. PSNR-PMX-CIVIL
	REMOVABLE / RE-ERECTABLE TYPE PRE-ENGINEERED, PRE-FBRICATED CLOSED STORAGE SHED	VOLUME - II
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		DATE 31/10/2014

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

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)
- Furniture Drawing (BHEL:PSNR:PMX:OFC:008)

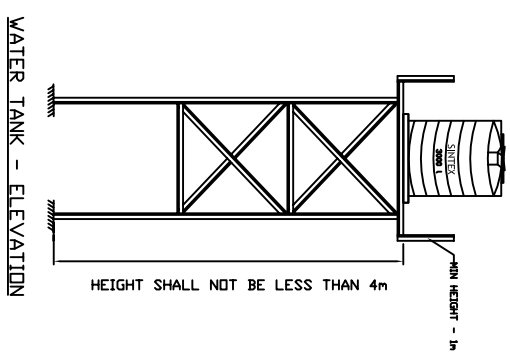
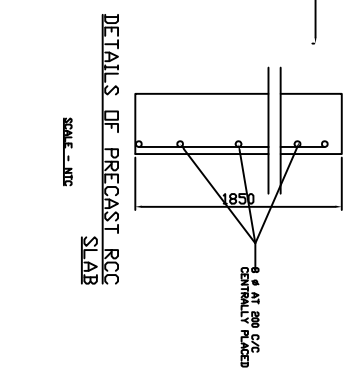
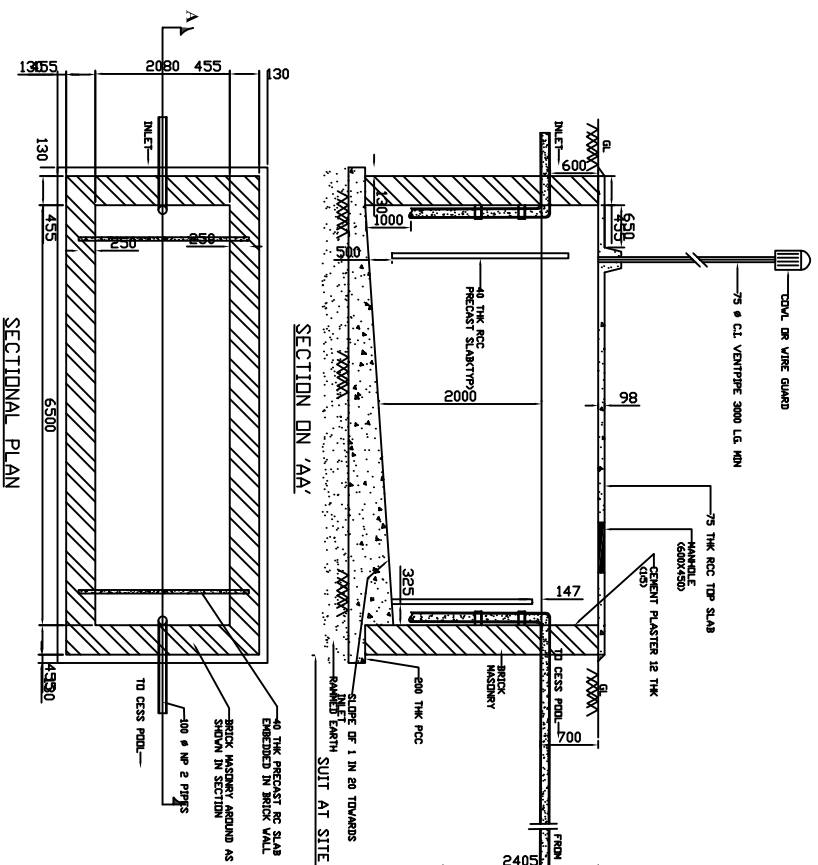
TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-5: Drawings for Closed Storage Sheds


DRAWINGS FOR CLOSED STORAGE SHEDS:

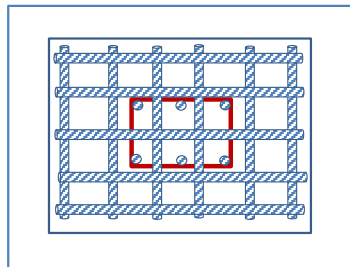
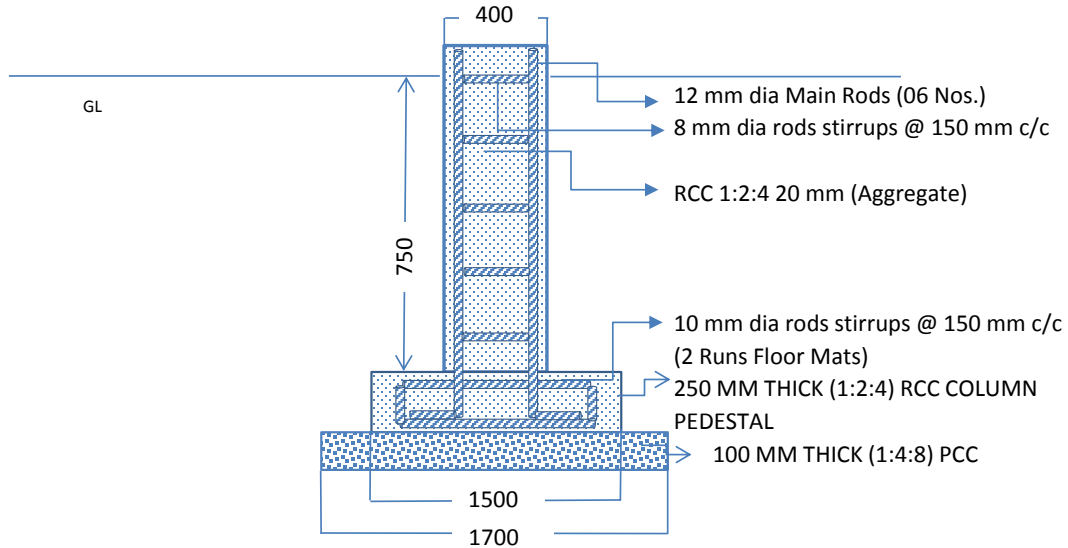
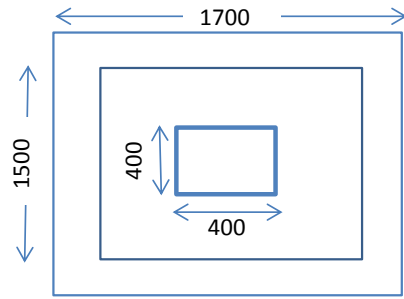
Following drawings are enclosed strictly for the guidance of the Bidders:

- 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



- 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.

		BHARAT HEAVY ELECTRICALS LTD POWER SECTOR NORTHERN REGION	
TITLE: SEPTIC TANK AND WATER TANK STRUCTURE <small>(DETAILS FOR 50 USERS)</small>			
DEPT.:	CIVIL	STRUCTURAL	BHEL DRAWING NO.
SIGN:			BHEL PSNR/PAK/CF/003
DATE:	26-11-2010		SHEET 1 OF 1 REV. 00

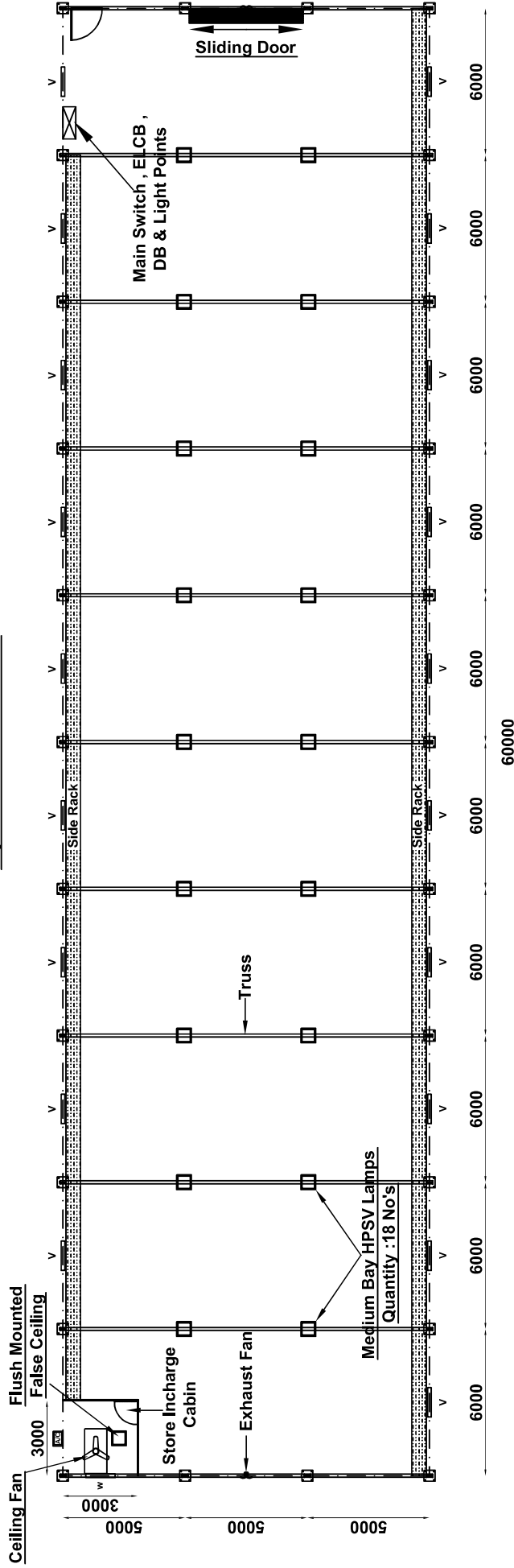


BHARAT HEAVY ELECTRICALS LTD.
POWER SECTOR – NORTHERN REGION NOIDA


TITLE: FOOTING CROOS SECTIONAL VIEW

DEPT.	CIVIL	BHEL DRAWING NO.:	
SIGN		BHEL:PSNR:PMX:OFC:004	
DATE	15.10.2015	SHEET 1 OF 1	REV. NO. 00

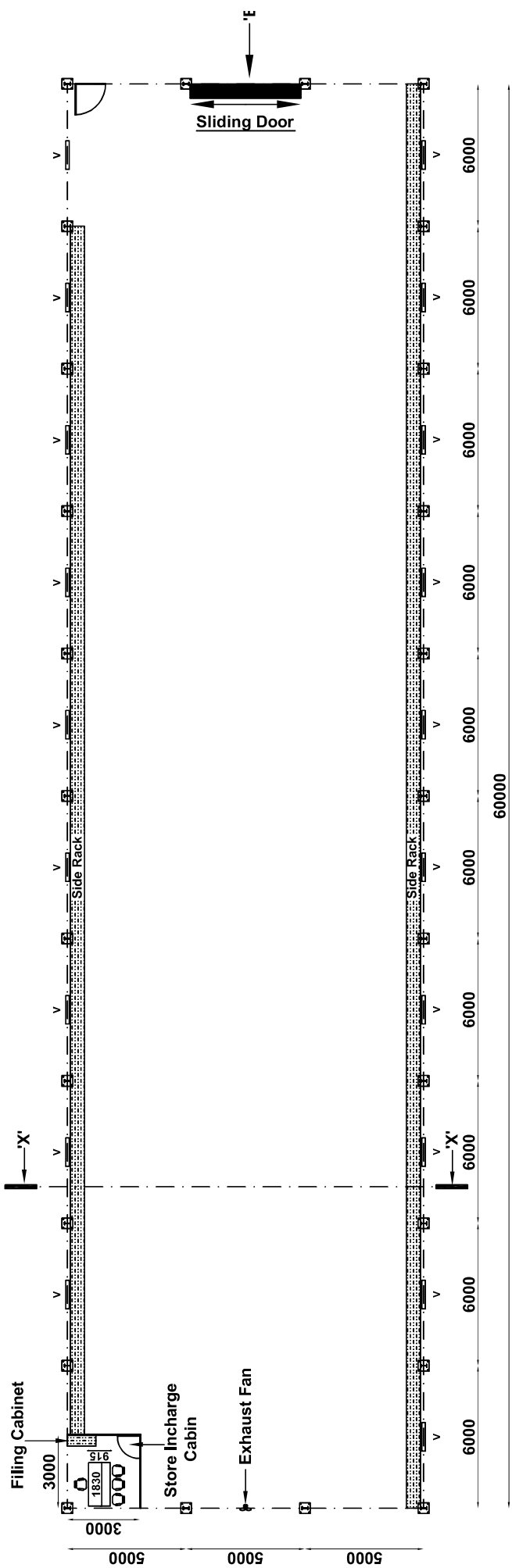
Layout of Closed Store Shed



Electrical Layout

CLIENT : BHEL (PSNR)		DRAWN BY :	CHECKED BY :	DWG NO : BHEL/PSNR/PROJ/CVL/PEB/005	SCALE : NTS
PROJECT : CLOSED STORE SHED		DESIGNED BY :	SIZE : 60 X 15 X 6M HT.	DATE : 08.04.2010	PROJECTION
				REV. NO : 0	

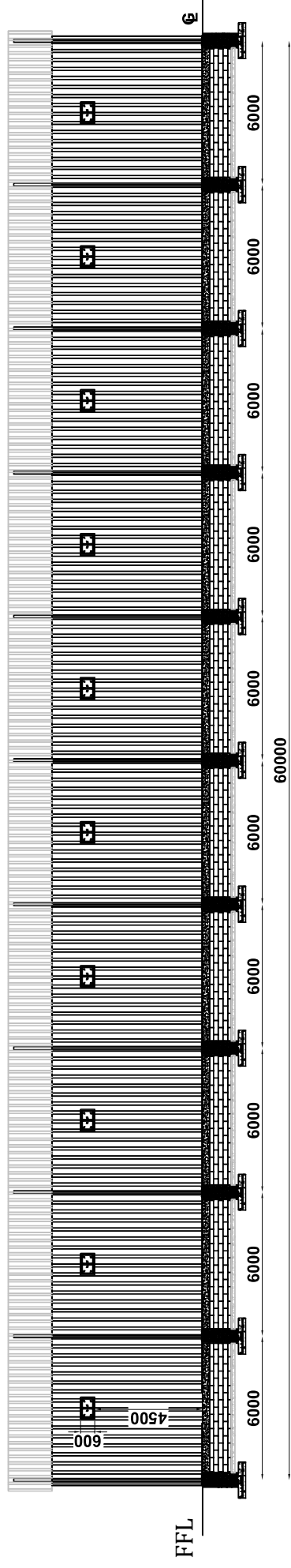
Layout of Closed Store Shed




↑ 'A'

PLAN

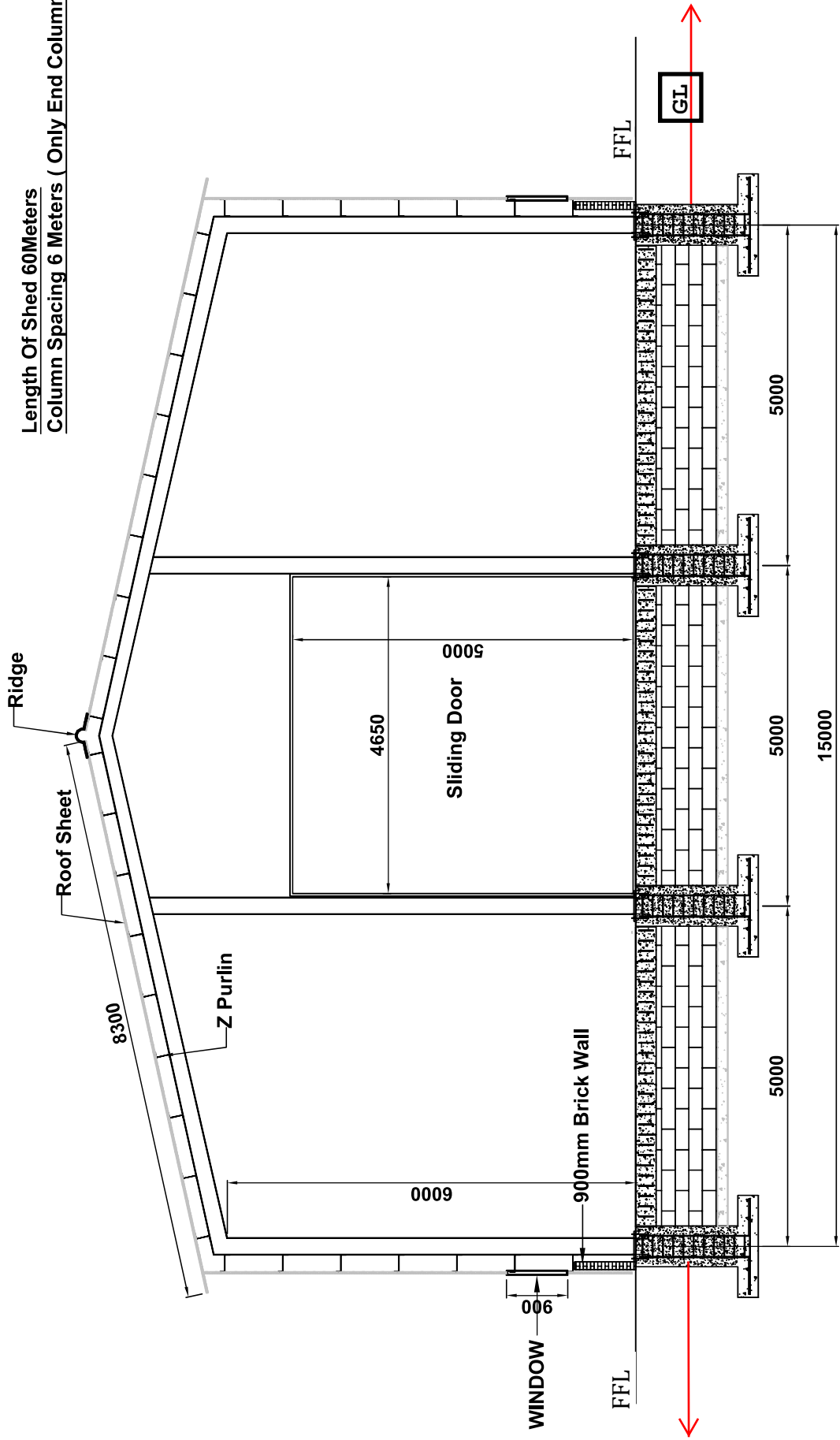
CLIENT : BHEL (PSNR) PROJECT : CLOSED STORE SHED	DRAWN BY :	CHECKED BY :	DWG NO : BHEL/PSNR/PROJ/CVL/PEB/006	SCALE : NTS
	DESIGNED BY :	SIZE : 60 X 15 X 6M HT.	DATE : 08.04.2010	PROJECTION :
			REV. NO : 0	



VIEW 'A'

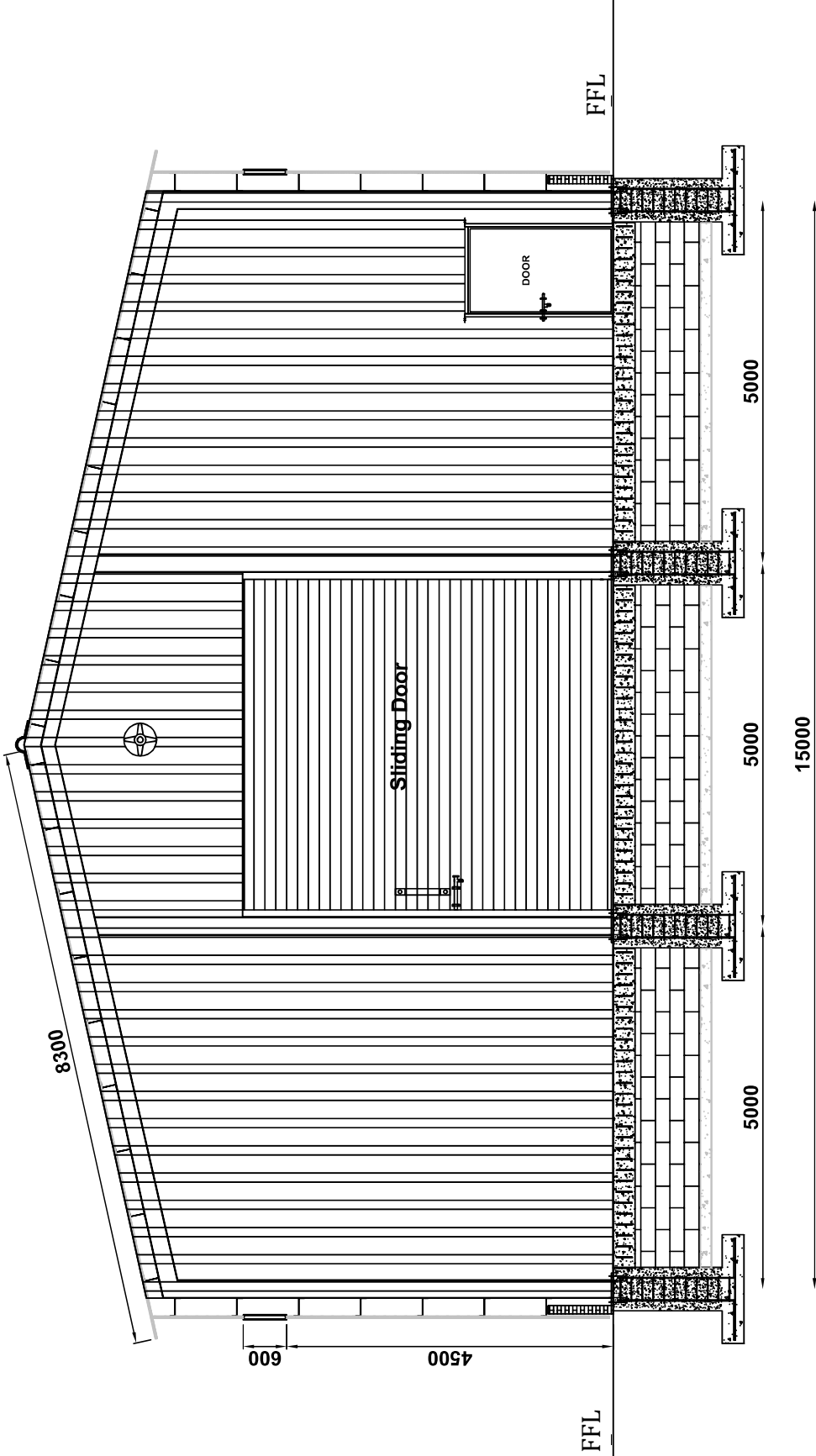
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	PROJECT : CLOSED STORE SHED		DESIGNED BY :	SIZE : 60 X 15 X 6M HT.	DATE : 08.04.2010	PROJECTION
					REV. NO : 0	

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



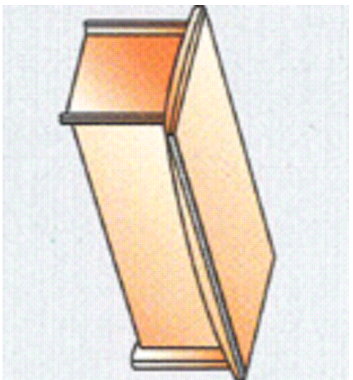
ELEVATION

CLIENT : BHEL (PSNR) 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 : 08.04.2010	PROJECTION : 
			REV. NO : 0	

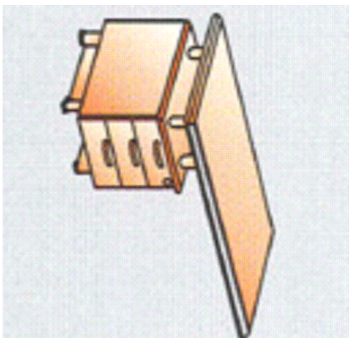


VIEW 'B'

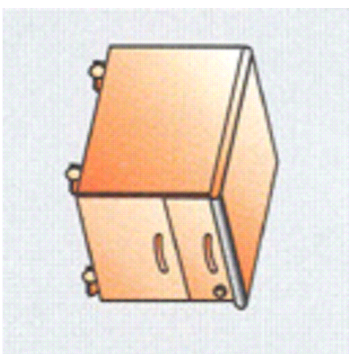
CLIENT : BHEL (PSNR) PROJECT : CLOSED STORE SHED	DRAWN BY : DESIGNED BY :	CHECKED BY : SIZE : 60 X 15 X 6M HT.	DWG NO : BHEL/PSNR/PROJ/CVL/PEB/009 DATE : 08.04.2010 REV. NO : 0	SCALE : NTS PROJECTION : 
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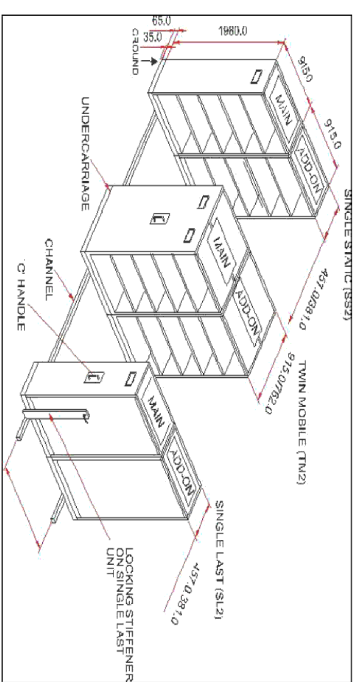
Desk-W180xD90xH75



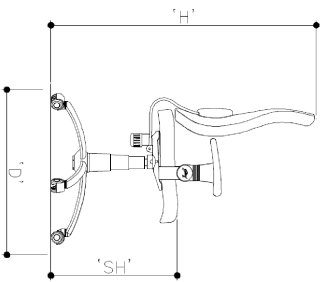
Fixed side return Desk
W120xD60xH72



Mobile pedestal
W120xD60xH72

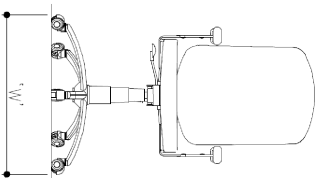


PULL - PUSH TYPE OPTIMIZER



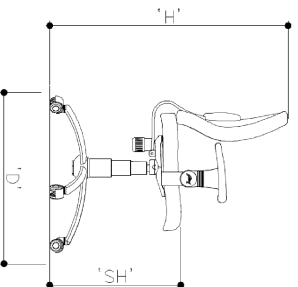
Chair for Senior executives

W-70cm,
D-70cm,
H-102 to 115cm,
SH-44 to 56.5cm
Tolerance-±0.5cm



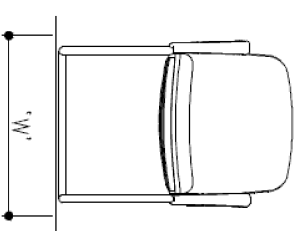
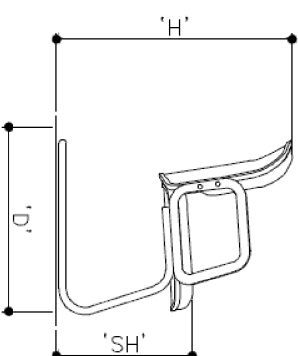
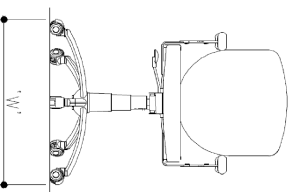
Chair for Executives & Conf. hall

W-70cm,
D-70cm,
H-90 to 102.5cm,
SH-44 to 56.5cm
Tolerance-±0.5cm



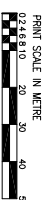
Chair for visitors:

W-55cm,
D-61cm,
H-80.5 cm,
SH-44 cm,
Tolerance-±0.5cm



NOTE:-

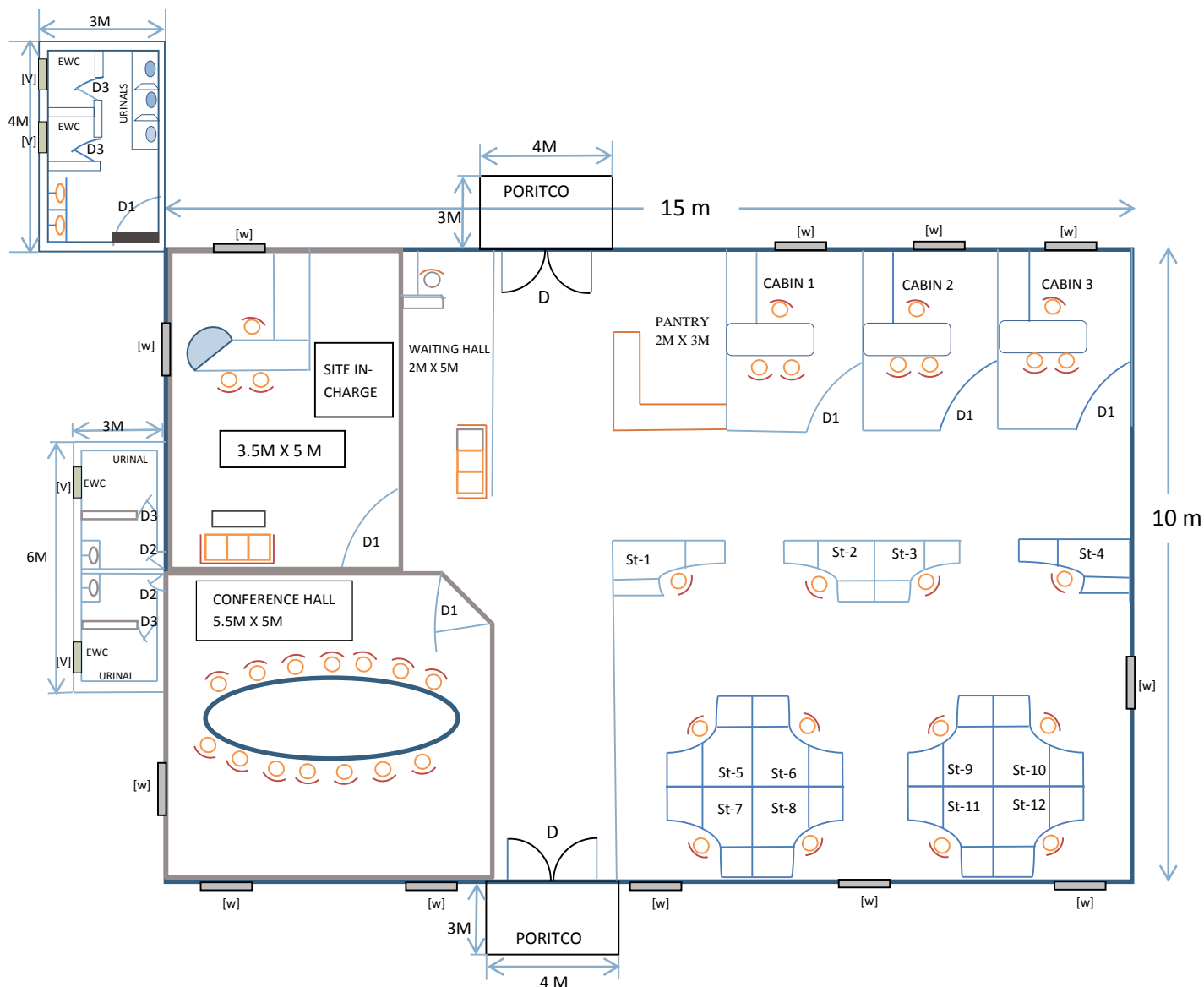
ALL DIMENSIONS SHOWN ARE ASSUMED AND SHOULD BE VERIFIED ACCORDINGLY



BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR NORTHERN REGION


TITLE:
FURNITURE DRAWINGS

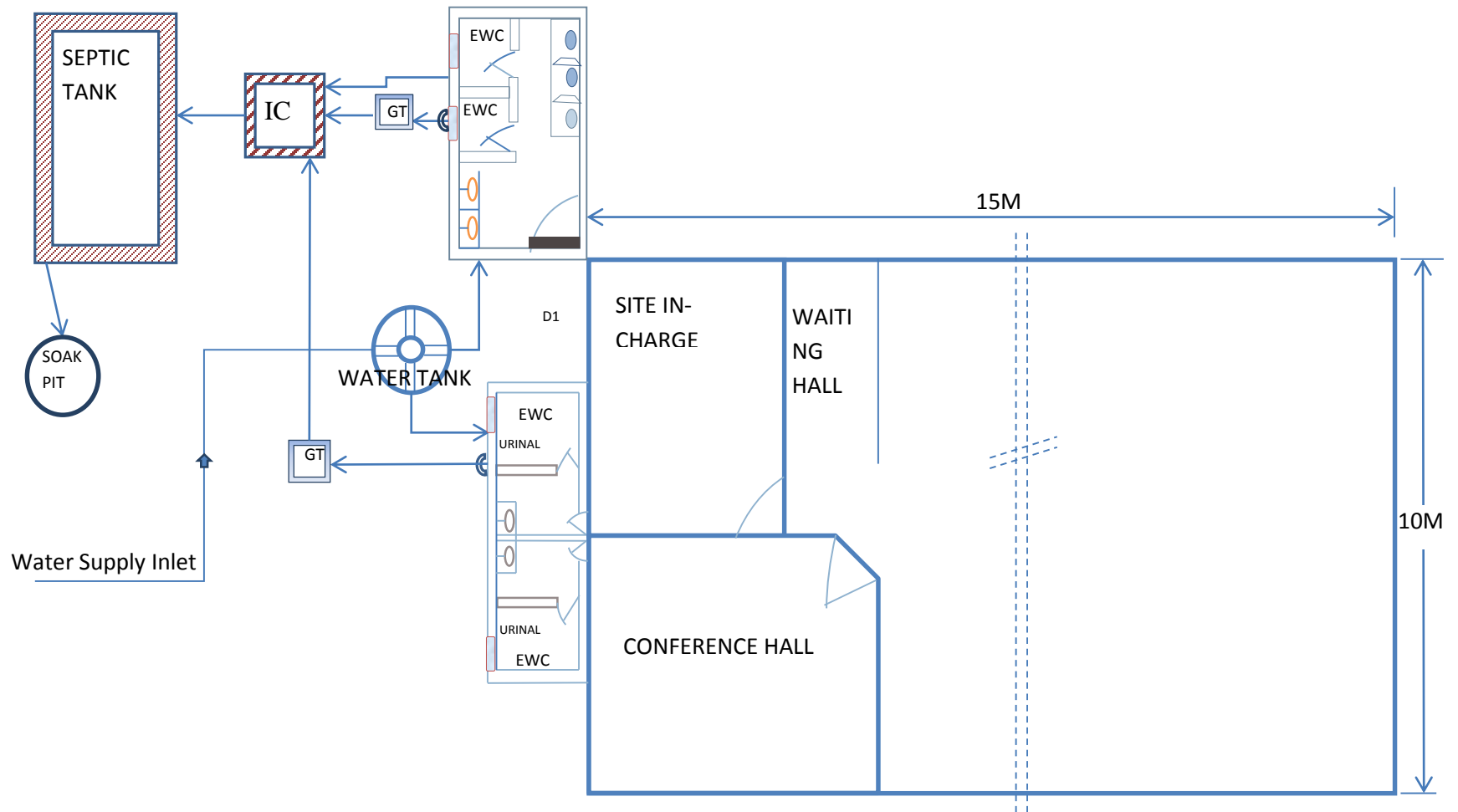
DEPT.	CIVIL	STRUCTURAL	BHEL DRAWING NO.
SIGN			BHEL/PSNR/PKAD/CS08
DATE	26-11-2010		SHEET 1 OF 1 REV 00





SCHEDULE OF FURNITURE	
DESCRIPTION	QUANTITY
CHAIRS FOR SENIOR EXECUTIVES	04 NOS.
CHAIRS FOR EXECUTIVES	15 NOS.
CHAIR FOR VISITORS	10 NOS.
CONF. HALL CHAIRS	2 NOS.
CONF. HALL TABLE (12'X 6')	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.

SHEDULE OF DOORS, WINDOWS & VENTILATORS			
TYPE	SIZE (HEIGHTXWIDTH)	MATERIAL	QUANTITY
DOOR-D	1950 MM X 1800 MM	FRP DOOR WITH PVC OUTER FRAME	02 NOS.
DOOR- D1	1950 MM X 880 MM	WOODEN DOOR WITH PVC OUTER FRAME	06 NOS.
DOOR- D2	1950 MM X 880 MM	FRP DOOR WITH PVC OUTER FRAME	02 NOS.
DOOR- D3	2090 MM X 750 MM	PVC DOOR	04 NOS.
WINDOW [W]	1200 MM X 935 MM	ALUMINIUM	12 NOS.
VENTILATOR [V] (FIXED TYPE)	300 MM X 300 MM	ALUMINIUM	04 NOS.

		BHARAT HEAVY ELECTRICALS LTD. POWER SECTOR – NORTHERN REGIONNOIDA	
TITLE: SCHEMATIC SKETCH OF OFFICE BUILDING			
DEPT.	CIVIL	BHEL DRAWING NO.:	
SIGN		BHEL:PSNR:PMX:OFC:001	
DATE	15.10.2015	SHEET 1 OF 1	REV. NO. 00



 		BHARAT HEAVY ELECTRICALS LIMITED POWER SECTOR – NORTHERN REGION NOIDA	
TITLE: WATER SUPPLY AND SANITARY SYSTEM LAYOUT			
DEPT.	CIVIL	BHEL DRG. NO.	
SIGN		BHEL:PSNR:PMX:OFC:002	
DATE		SHEET 1 OF 1	REV. 00