TENDER SPECIFICATION

BHEL: PSSR: P&S: EC18042

FOR

Design, Manufacturing, Supply, Receipt at site, Erection, commissioning and handling over of removable and reerectable type pre – fabricated closed and semi-closed steel stores sheds and closed as per the size given in the Technical Specification

Αt

 North Chennai TPS Chennai / TN 4 Nos (2 closed storage sheds,
 1 semi closed storage sheds &
 1 closed office sheds)

2. Vallur TPS, Chennai / TN 3 Nos (2 closed storage sheds, & 1 closed office sheds)

3. KRL Kochi / Kerela

- 1 No (Closed storage shed)

4. RINL-Vizag / AP

- 1 No. (Closed storage shed)

PART - I TECHNICAL BID

BOOK NO:



BHARAT HEAVY ELECTRICALS LIMITED

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

INDEX EC18042 - Supply & Erection of Sheds			
SL No	DESCRIPTION	PAGE	
1	Covering Letter	1-2	
2	Special Instructions to Bidders	3-4	
3	Procedure for Submission of Sealed Bids	5	
4	Tender Notice	6-7	
5	Certificate for No Deviation	8	
6	Offer of the Contractor	9-10	
7	Project Information – For North Chennai TPS/Stage-II	11-12	
8	Project Information – Vallur TPS / Chennai/TN	13-14	
9	Project Information – For KRL-Kochi / Kerela	15-16	
10	Project Information – For RINL / Vizag / AP	17-18	
11	Section- ,I II,IV & V General Conditions of Contract	GCC	
12	Section – III – Common Conditions of Contract	19-29	
13	Section- VI Special Conditions of the contract		
	A- Technical Specification for Storage Sheds (closed & semi closed) for North Chennai, Vallur & RINL-Vizag.	30-39	
	B– Technical Specification for closed Storage Sheds for KRL-Kochi/Kerela	40-45	
	C- Technical Specification for Office Sheds for North Chennai, Vallur TPS.	46-52	
	D- Other Conditions of the contract	53-58	
	Section –VII – APPENDIX		
	Appendix- I – Declaration Sheet	59	
	Appendix- II – Certificate of Declaration for Confirming Knowledge on Site Conditions	60	
	Appendix- III – Check list	61-63	
	Appendix- IV- Price Bid (Separate Book)	4 Sheets	

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

Tender Specification No. EC18042

Messrs Date: 12 08 08

Dear Sir,

Sub: Design, Manufacturing Supply , erection and commissioning of removable and re-erectable type prefabricated closed and semi closed steel stores sheds and closed office sheds

Please find enclosed one set of non-transferable tender documents containing 63 pages of Tender Specification Booklet for the above work.

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

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

The completed quotations shall reach the office of the under signed on or before **02 09 08** at **14.00** Hrs. The Technical bids, will be opened on the same day at **14.30** hrs. We shall separately intimate the date for opening the price bids only to those parties who are technically qualified. You are requested to depute your authorized representative at the time of opening.

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

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

Thanking you,

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

ADDL. GENERAL MANAGER / P&S

This Tender document is not transferable.

Place: Chennai -35

Encl: One set of Tender documents along with GCC Book

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

SPECIAL INSTRUCTIONS TO BIDDERS

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

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

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

13. QUALIFICATION REQUIREMENT

a) The bidders should have experience in Design, Manufacturing supply, erection and commissioning of removable and re-erectable type pre-fabricated sheds/buildings in the last seven years.

and

The contractor should have executed work of value Rs.2.0 crores in a single project.

or

The contractor should have executed work of Rs.1.3 crores each in any two projects .

or

The contractor should have executed work of Rs.0.9 crores each in any three projects .

b) The bidders should have a minimum average financial turn over of **Rs. 75 Lakhs** per year in the preceding three financial years ending 31st March 2008.

The Bidder must have earned profit in any one of the last three financial years ending 31.03.2007 and should have positive net worth as on 31.03.2007.

Bidder should submit audited balance sheet and profit & loss account of the company and all schedules and annexure for last three years ending 31.03.2007 in support of above requirement.

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

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

14. TENDERERS HAVE TO FURNISH A DECLARATION SHEET INDICATING THAT THERE IS NO DEVIATION FROM THE TENDER DOCUMENTS (AS IN PAGE 8). TENDERERS MAY FURTHER NOTE THAT THIS DECLARATION IS A PREREQUISITE FOR BHEL TO CONSIDER THEIR BIDS. BIDS SUBMITTED WITHOUT

"NO DEVIATION DECLARATION"
WILL BE REJECTED BY BHEL.

15. SAFETY PLAN

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

BHEL: PSSR: PURCHASE & STORES PROCEDURE FOR SUBMISSION OF SEALED BIDS

The Tenderers must submit their bids as required in two parts in separate sealed covers prominently superscribed as **Part I** "Technical Bid" and **Part II** "Price Bid" and also indicating on each of the covers the tender specification number and due date and time as mentioned in the Tender Notice.

Part I (Technical Bid) Cover I

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

Part II (Price Bid) Cover II

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

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

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

NOTE:

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

EMD amount for this Tender is Rs.2,00,000/- (Rupees Two Lakhs only). This EMD amount shall be submitted in the form of either pay order or demand draft only drawn in favor of M/s. Bharat Heavy Electricals Limited, Chennai — 35. EMD amount in the form of Bank Guarantee / fixed deposit receipt or in any other form will not be Accepted

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

BHARAT HEAVY ELECTRICALS LIMITED

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

TENDER NOTICE

Tender Specification No. BHEL: PSSR: P&S: EC18042

Description		EMD
Design, Manufacturing , Supply commissioning of removable a type pre-fabricated closed an steel stores sheds and closed of FOUR different sites.	nd re-er Id semi	rectable (Rupees Two closed Lakh only)
Cost of Tender Documents (Including all Taxes)	:	Rs.1040 /-
Sale Starts on	:	12 08 08
Sale closes on	:	02 09 08
Due date and Time for Submission	:	02 09 08 14.00 Hrs .
Date and time for opening Of Technical Bids	:	02 09 08 14.30 Hrs

QUALIFICATION REQUIREMENT

a) The bidders should have experience in Design, Manufacturing supply, erection and commissioning of removable and re-erectable type pre- fabricated closed and semi closed steel stores sheds and closed steel office sheds in the last seven years.

and

The contractor should have executed work of value Rs.2.0 crores in a single project.

or

The contractor should have executed work of Rs.1.3 crores each in any two projects .

or

The contractor should have executed work of Rs.0.9 crores each in any three projects .

b) The bidders should have a minimum average financial turn over of **Rs. 75 Lakhs** per year in the preceding three years ending 31st March 2007.

The Bidder must have earned profit in any one of the last three financial years ending 31.03.2007 and should have positive net worth as on 31.03.2007.

Bidder should submit audited balance sheet and profit & loss account of the companyand all schedules and annexures for last three years ending 31.03.2007 in support of above requirement.

- c) Notwithstanding the above, BHEL reserves the right to reject any Tender or all the Tenders for reasons whatsoever beyond our control and the decision of BHEL is final.
 - LD / Penalty shall be leviable as per the applicable clauses of GCC.

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

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

Addl. General Manager/P&S

TENDER SPECIFICATION: BHEL:PSSR;PLS:EC18042 CERTIFICATE FOR NO DEVIATION

<i>I</i> ,
M/s
ereby certify that there is no deviation from the Tender condition.
ither technical or commercial and I am agreeing to all the term.
and conditions mentioned in the Tender Specification.

SIGNATURE OF THE TENDERER

OFFER OF CONTRACTOR

Addl. General Manager/P&S

Bharat Heavy Electricals Limited, Power Sector: Southern Region 690, Anna Salai, Nandanam, Chennai – 600 035.

Sir,

I/We hereby offer to carry out the work detailed in Tender Specification No.BHEL:PSSR:P&S:EC18042 issued by Bharat Heavy Electricals Limited, Power Sector : Southern Region, in accordance with the terms and conditions thereof.

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

- 1. Instructions to Tenderer
- 2. General Conditions of Contract
- 3. Special conditions of Contract
- 4. Other Section, Appendices and Schedules

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

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

DATE: CONTRACTOR:

PLACE: ADDRESS:

Witness with their address

Signature Name Address

PROJECT INFORMATION - North Chennai TPS/TN

1	Project Name	North Chennai Thermal Power Station (Stage-II) – 1 x 600 MW
2	Project Owner	Tamilnadu Electricity Board (TNEB)
3	Elevation Above MSL	+ 9.0 Metre
4	Near by Village	Puluthivakkam
5	Nearest city	chennai
6	Roads & highways	All weather road from Pattamandri on the Chennai – ponneri district highway
7	Ambient Temperature	Absolute Max 45°C Absolute min 15°C 35°C (Design) Highest mean monthly Max 32°C Lowest mean monthly Min 24°C
8	Relative Humidity	100% (Max)/ 36% (min) 75% Design
9	Annual Rain fall	2540.8 mm (Max) 1600 mm (average) 1175.7 mm (min)
10	Wind Direction	Prevailing wind direction November to jan: from NW & NE Feb to March: East & South East June: from SW July to August: from NW Sept to October: from SE & SW
11	Wind Speed	11.8 KMPH (average) 50 m / sec (max)
12	Earthquake Data	Zone III as defined in IS 1893- 2002

PROJECT INFORMATION - North Chennai TPS/TN			
13	Nearest Airport	Chennai at a distance of 35 Km from site	
14	Nearest Sea Port	Ennore port (3 Kms) Chennai Port 35 Km from site	
15	Nearest Railway Station	Athipattu-Pudunagar on Chennai -Howrah route 8KM from site	
16	Ambient temperature for Electrical appliances	50° C	

PROJECT INFORMATION - Vallur NTECL TPP

1. Project Name : Vallur Thermal Power Project (NTECL)

2. Project Stage : Stage- I

3. No. of Units x Capacity : 2 x 500 MW

4. Project setting up by : NTECL – Tamil Nadu Energy Company Ltd.

5.Location and Approach : (i) Vallur Thermal Power Project -NTECL

Kuruvimedu, Ponneri Taluk,

Thiruvallur –District.

Tamil Nadu

-25 KM from Chennai City

-Project is located about 15 KM from National

Highway (Chennai-Kolkatta)

ii) District: Thiruvallur

iii) State : Tamil Nadu

6. Nearest Railway Station : Chennai Central 30 KM

7. Nearest Major Town & Distance

From Project site : Chennai City 30 KM.

8. Nearest Airport : Chennai

9. Distance from the Airport to

Project site : 45 KM

PROJECT INFORMATION - Vallur NTECL TPP - Contd.

10. Nearest Highway : Chennai – Kolkatta

11. Distance from nearest highway

Point to the site : 15 KM.

12. Temperature : (Dry bulb)

Maximum : 40 Degree Minimum : 20Degree Average : 30 Degree

13. Transport:

a) By Railway : Broad Gauge Railway line of Southern

Railway

b) Road : State High way and National Highway

14.Project Site address : Vallur Thermal Power Project,

NTECL (2 x 500 MW) Kuruvimedu Village,

Ponneri Taluk, Thiruvallur District,

Tamil Nadu.

PROJECT INFORMATION- RINL/Vizag - AP

01	Owner	Rashtriya Ispat Nigam Limited.,Visakhapatnam Steel Plant.
02	Project Title	1 x 330 TPH Boiler, 67.5 MW Turbine RINL – VSP – CPP Expansion & Turbo Blower
03	Location	Visakhapatnam situated south of national high way no 5 and the east coast railway line between visakhapatnam and chennai located at latitude of 17 ⁰ 37 ' N and longitude of 83 ⁰ 12' E
04	Power Station Site	Elevation above mean sea level (MSL) 10.5 mts
05	Nearest Railway Station	Duvvada on the visakhapatnam - Chennai line about 10 Kms from the plant and 30 Kms from Visakhapatnam railway station.
06	Nearest City	Visakhapatnam
07	Nearest Airport	Visakhapatnam (12 Kms)
08	Nearest Sea port	Visakhapatnam (16 Kms)
09	Road Approach	National High way No 5 is about 5 Kms from site
10	Dry Bulb Temperature	45° C
11	Relative Humitity	4% (Min) to 100 % (Max)
12	Altitude	10.5 M above MSL

	PROJECT INFORMATION	- RINL / Vizag- AP - Contd.		
Ambient Range				
13	Mean ambient Temperature	16.5° C		
14	Normal / Average Temperature	35° C		
15	Maximum Temperature	45° C		
	Ra	ain fall data		
16	Rain fall for 24 hour period	370 mm		
17	Highest monthly rain fall	606 mm		
18	Design wind speed	35.2 Kmph		
19	Earth quake factor	This plant is falling under zone –II as per IS 1893		

PROJECT INFORMATION - KRL / Kochi-Kerela

Site Location				
State	Kerala			
Nearest important Town	Kochi			
Nearest Railway Station	Tripunithura			
Nearest Port	Kochi	Kochi		
Nearest Air port	Kochi Inter	Kochi International Air port		
Source of Water			water from	
Rainy Season	Mid May - September			
METEOROLOGICAL DESIGN DATA				
a) Meteorological Data				
Para meter	Minimum	Normal/ Average	Maximum/ Design	
Elevation above mean sea level (M)	Levels as per contour survey			
Barometric pressure ,mm Hg	750	754	757	
Ambient Temperature, ^o C	20	35	38	
Relative Humitity, %		88%	95%	
RAIN FALL DATA				
For 1 Hour Period			179 mm	
	State Nearest important Town Nearest Railway Station Nearest Port Nearest Air port Source of Water Rainy Season METEOROLOGICAL DESI a) Meteorological Data Para meter Elevation above mean sea level (M) Barometric pressure ,mm Hg Ambient Temperature, °C Relative Humitity, % RAIN FALL DATA	State Kerala Nearest important Town Kochi Nearest Railway Station Tripunithur Nearest Port Kochi Nearest Air port Kochi Inter Source of Water BPCL, KR Periyar Riv Rainy Season Mid May - METEOROLOGICAL DESIGN DATA a) Meteorological Data Para meter Minimum Elevation above mean sea level (M) Barometric pressure ,mm Hg Ambient Temperature, °C Relative Humitity, % RAIN FALL DATA	State Kerala Nearest important Town Kochi Nearest Railway Station Tripunithura Nearest Port Kochi Nearest Air port Kochi International Air Source of Water BPCL , KR is drawing Periyar River Rainy Season Mid May - September METEOROLOGICAL DESIGN DATA a) Meteorological Data Para meter Minimum Normal/Average Elevation above mean sea level (M) Barometric pressure ,mm Hg Ambient Temperature, °C 20 35 Relative Humitity, % 88% RAIN FALL DATA	

6	WIND DATA		
а	Wind Velocity	4 Km / Hr	8 Km/Hr or as per IS 875, Which ever as higher
b	Wind direction		North-East/ East in the morning and west & North West in the evening
В	DATA FOR EQUIPMENT DE	SIGN	
1	Design dry bulb temperature ,°C		22.5 (During raining season 38(During summer season)
2	Design wet bulb temperature, °C		21(min) 28(Max)
3	Low ambient Temperature for MDMT, ^o C		15
4	Design air temperature for air cooled exchangers where followed by water cooling, OC		38
5	Design air temperature for air cooled exchangers where not followed by water cooling ^o C		38
6	Coincident temperature and relative humitity for Air blower / Air Compressor design		30 °C /95%
7	Min Design temperature for equipment , °C		65

Section III

Common Conditions of Contract

3.1 SCOPE OF CONTRACT

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

3.2 FACILITIES TO BE PROVIDED BY BHEL

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

3.2.2 **ELECTRICITY**

For construction purpose, Electricity will be provided free of charge at single point. Further distribution shall be arranged by the contractor for the site requirement at his cost . However the initial power supply to be arranged by the contractor for a period of one month from the start of work at their cost till BHEL makes arrangement.

The required power generating sets (DG Sets) with fuel and other consumables shall be arranged by the contractor at his cost, and the operation and maintenance of the same shall be borne by the contractor.

3.2.3 BHEL is not responsible for any loss or damage to the contractor's equipment as a result of variation in Voltage / frequency or interruptions in power supply.

3.2.4 **WATER**

For Construction and drinking purpose water will be provided at one single point free of charge as provided by customer BHEL. Further distribution shall be arranged contractor at his cost. However, initial water supply will be arranged by contractor for a period of one month from the start of work at their cost till BHEL makes arrangement. Contractor has to provide / arrange for sufficient required quantum of water for continuous operation without stoppage. The required water storage containers shall arranged at the site by the contractor. Water should not be a shortage for construction purposes and as well as for curing. No structure should get damaged because of lack of curing. Any damage caused because of this, BHEL decision in charging a lump sum amount deduction is final. Contractor has to put enough number of people for curing as decided by the BHEL Engineer. Decision of BHEL Engineer is final.

3.2.5 TOOLS & TACKLES

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

3.2.6 MATERIALS

All the materials that are necessary for the satisfactory completion of work shall have to be arranged by the contractor at his own cost.

3.2.7 **CONSUMABLES**:

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

3.3 <u>FACILITIES TO BE PROVIDED AND DEVELOPED BY THE CONTRACTOR AT HIS COST.</u>

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

- 3.3.2 Distribution of water for construction purpose by arranging storing sumps or tankers and as well as drinking purposes, shall be contractor's responsibility and at his cost.
- 3.3.3 Provision and distribution of electrical power to the required places with proper distribution boards approved cables and cable laying including supply of all materials like cables, switch boards, pipes etc., observing the safety rules laid down by electrical authority of the State/BHEL/their customer with appropriate statutory/requirement.
- 3.3.4 Adequate lighting facilities such as flood lamps and hand lamps and area lightings shall be arranged by the contractor at the site of construction, contractor's material storage area, etc., at his cost.
- 3.3.5 On completion of work, all the temporary buildings, structures, pipelines, cables etc., shall be dismantled and leveled and debris shall be removed as per instructions of BHEL by the Contractor at his cost. In the event of his failure to do so, the expenditure towards the clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.

3.4 <u>SUPERVISORY STAFF AND LABOUR</u>

- 3.4.1 The contractor shall engage all the unskilled and specially skilled labour including brick masons, carpenters, plumbers, electricians, fabricators and fitters etc., and supervisory staff. Only trained and competent personnel with previous experience in the job shall be employed. However, BHEL reserves the right to decide on the suitability of the workers and other personnel who will be employed by the contractor. BHEL reserves the right to insist on removal of any employee of the contractor at any time, if found unsuitable, the contractor shall remove him immediately.
- 3.4.2 All the materials like steel bars, steel wires, steel Pipes, Steel Flats, bricks, cement, sand, doors & windows for office shed, painting materials, putty, glazing tiles etc., shall be arranged by the contractor as per the specification mentioned in Tender/Indian standard specification. The contractor is required to quote item rates for construction of office shed, Storage shed, civil and electrical works inclusive of cost of materials, labour etc. BHEL reserves the right to inspect and reject any material/work not found satisfactory.

3.5 **GENERAL**

- 3.5.1 During execution of the job, it is very essential that proper and adequate inspection should be made constantly by the contractor to maintain quality of workmanship and to ensure that deviations from the BHEL drawings not exceed the permissible limits, which shall be approved by BHEL.
- 3.5.2 The contractor shall visit the site and ascertain the local conditions, entry and traffic restrictions, all construction in the area and also ascertain all site conditions and particularly the sub soil conditions etc. The contractor shall allow for extras likely to the incurred due to such condition and no extra claim shall be entertained on this account under any circumstances from the contractor.
- 3.5.3 The contractor shall provide and maintain at his own cost pumps and other equipment to keep the works free from water and continue to do so until handing over of the work. The contractor shall clear all trees, rubbish, vegetation, rod, brickbats etc., and dispose them suitably in allotted areas at his own cost.
- 3.5.4 The contractor shall take adequate precautions to ensure complete safety and prevention of accidents at site. The safety precautions shall confirm to IS codes wherever applicable.
- 3.5.5 The contractor shall level the site as shown in the drawings or as directed by the Engineer at his own cost. Also any rectification, dwelling, excavation required to be done at his own cost.
- 3.5.6 The items though not specifically mentioned either in the drawings or in the tender specifications/rate schedule but are needed to complete the constriction of office cum storage shed as stipulated under the specifications are also to be erected to entire satisfaction of BHEL Engineer and as per IS specification.
- 3.5.7 The detailed drawings and specifications will form part of the tender documents. BHEL reserves the right to modify/alter the tender drawings, if necessary and the price will remain firm as per item rates quoted.
- 3.5.8 The contractor shall submit the labour and staff strength (skill wise) details to Engineer in charge every month and promptly notify whenever variation occurs.

3.6.0 PROGRESS OF WORK

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

The progress reports shall indicate the progress achieved against planned with reasons indicating delays if any, shall also furnish in detail the reason for the same and shall give remedial action which the contractor intends to take to make good the slippage on lost time, so that further works can proceed as per the original programme and the slippage do not accumulate and affect the overall programme.

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

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

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

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

3.7.0 **SAFETY**

a. T & P used by contractor should be tested quality bearing ISI marks. Necessary test certificates to be produced by the contractor for all the T & P received by him at site for acceptance by BHEL Engineer. BHEL will reject any T & P without IS test certificate and the same cannot be utilized on job.

- b. Only trained and experienced personnel to be used on the job. Signaling for rigging operations must be given by workers who are possessing required skill and experience in handling materials.
- **3.8.0** Contractor shall strictly follow all safety conditions as per Clause 2.15 and its sub clauses of G.C.C. Booklet.
- **3.9.0** Non-conformity of safety rules and safety appliances will be viewed seriously and the BHEL has right to impose fines on the contractors as under:

S.No	Safety	Fine (Rs)
01	Not wearing safety helmet	50/-
02	Not wearing safety belt	100/-
03	Grinding without goggles	50/-
04	Not using 24V supply for internal work	500/-
05	Electrical plugs not used for hand machines	100/-
06	Not slinging properly	200/-
07	Using damaged sling	200/-
08	Lifting cylinders without cage	500/-
09	Not using proper welding cable with lot of joints and not insulated properly	200/
10	Not removing small scrap from platforms	200/-
11	Gas cutting without taking proper precaution or not using sheet below gas cutting	200/-
12	Not maintaining elec. winches which are being operated dangerously	500/-
13	Improper earthing of electrical T & Ps	500/-

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

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

3.10. Specific Requirement for ISO 9001 - 2000

Important note

Contractor shall make all efforts that all their staff/employees are exposed to periodical training programme conducted by qualified agencies/personnel on ISO 9002 standards.

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

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

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

HSE SPECIFIC REQUIREMENT

OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM

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

- O1. Sub-contractor to identify nearest hospital for Health check up of his staff and workers and intimate BHEL site office & PSSR HQ.
- O2. To arrange for occupational health check up / screening of contractor's staff and workers engaged in sub contracting activities. In this, category of workmen such as welders, gas cutters, grinders, radiographers, crane operators are to be given exclusive attention in respect of health screening.
- O3. Sub-contractor to arrange an ambulance vehicle or emergency vehicle on a continuous basis to meet any emergency situation arising at site work in which his staff and workers are engaged.

- O4. To provide appropriate facilities for prompt first aid treatment of injuries and illness at work. One first Aider for each sub contractor to be provided. First Aider should undergo training on first aid.
- 05. To provide filtered drinking water at selected place in a clean container.

SUB CONTRACTOR TO ENSURE COMPLIANCE OF THE FOLLOWING SAFETY RELATED POINTS

- 01. Personnel Protective Equipment **(PPEs)**: Required number of following PPEs (Confirming to Relevant IS Standards) to be made available to workmen at site and ensure that they are used .
 - Helmet
 - Safety goggles
 - Welding face shields
 - Safety belts for working at heights
 - Safety shoes
 - Ear plugs
 - Rubber gloves and mats for low tension (L.T) electrical works
 - Gum boots & aprons
 - Other items as required by BHEL site
 - Hand cloves
- O2. Sub contractor to liaise with nearest fire station and inform contact telephone number and contact person to meet any emergency.
- 03. To provide appropriate fire fighting equipment at designated work place and to provide fire fighting training to selected persons in his group of workmen to meet emergencies.
- 04. To provide adequate number of 24 V power supply points to work in a constrained and enclosed space.
- O5. All power tapping points / switch boards /power & control cabling should fulfill required electrical safety aspects as per relevant IS standard.
- 06 ELCB's (Earth leak circuit breakers) at all electrical distribution points to be provided.
- 07. Red and white caution tape of proper width (1.5 to 2 inch) to be used for cordoning unsafe area such as open trench, excavated area, etc.
- 08. To provide sub-contractors company logo or clothing to all staff and workers for identification including identity cards with photographs approved by BHEL.

- 09. High pressure and structural welders to be identified with colour clothing and to display copy of welders certificate with photographs of welder at the work place. They also should be in possession of valid welding procedure.
- To display safe handling procedure for all chemicals such as lube oil, grease, sealing compound, kerosene, diesel etc. at stores & respective work place.
- 11. Contractor should authorize a person at site to stop work if there is a unsafe work noticed, as per his knowledge.
- 12. Fitness for use of erected scaffolding to be certified by the contractors approved scaffolder and the certificate should be displayed on the scaffolding itself. If the scaffolding is unsafe, the same will not be used, the certificate to be updated daily. The scaffolding to be made as per the relevant IS standard.
- 13. For making platform on the scaffolding, proper thickness and size of the plank of required quality wood to be used. The safe working load of the platform to be displayed on the scaffolding itself. Proper use of platform to be explained to the user.
- 14. All plant equipment should have inspection report before put in to use.
- 15. All T&Ps should be of reputed brand and having quality certificates..
- 16. All IMTEs should have valid calibration certificate from recommended institution / testing lab and these should be in place.
- 17. All lifting tackle and plant equipment should have safe working load certificate.
- 18. The right worker should be deployed for right job and the resume of site in charge, supervisors, and key workers to be submitted before commencement of work.
- 19. Sub-contractor should submit inspection / testing matrix of all T&Ps and to be approved by BHEL.
- 20. Sub-contractor to display safety slogan, safety board, caution boards wherever required in consultation with BHEL.
- 21. Sub-contractor to provide gas detectors of reputed make at desired locations.

- 22. Sub-contractor to conduct emergency mock drills. one drill per 6 month and submit report to BHEL.
- 23. Safe handling and storing of all equipment with adequate space to be ensured.
- 24. Sub contractor to deploy safety supervisor till the completion of the project.
- 25. Sub contractor to comply the safety reporting procedure of BHEL as practiced at present and also additional requirements that may arise out of future improvements in the safety management system. This includes computation of safety indices such as frequency rate, severity rate & incident rate.
- 26. Sub contractor to identify probable emergency situations such as electric shocks to workmen, caving in of shored earth, fall from height, collapse of scaffolding fire etc., and should have clear action plan to overcome them. Sub contractor to take required guidance from BHEL in this regard.
- 27. Sub contractor to identify hazardous activities which he may carryout and should train his workmen in those activities with the relevant operation control procedures. Sub contractor to take required guidance from BHEL in this regard.
- 28. Safe work permit system to be followed while working in confined space / near electric systems.

SUB CONTRACTOR TO ENSURE COMPLIANCE OF THE FOLLOWING ENVIRONMENT RELATED POINTS

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

OTHER HSE REQUIREMENTS TO BE COMPLIED BY SUB CONTRACTOR

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

SECTION — VI

SPECIAL CONDITIONS OF CONTRACT

A . TECHNICAL SPECIFICATION

<u>Closed & Semi-closed</u> Removable/Re-erectable type Prefabricated steel STORAGE SHEDS

Closed Sheds: At North Chennai TPS 2 Nos, at Vallur TPS - 2 Nos and

at RINL / Vizag- 1 No

Semi Closed Shed: At North Chennai TPS - 1 No.

1.00.00 SCOPE

This specification covers Design, Manufacturing, Supply, Receipt at Site, Erection, Site Painting etc. and Handing over of Closed & Semi-closed Removable/Re-erectable type Pre-fabricated Steel Storage Sheds at the respective sites. This also includes guarantee for **3 years** of operations for the design performance, materials supplied & erected by him covered under the scope of the contract.

1.01.00 DETAIL SPECIFICATION

- Size of Closed Shed **15M C/c x 60 M C/c x 6M** (approximate).
- Size of Semi-Closed Shed **15M C/c x 60 M C/c x 5.25M** (approximate).
- Clear Height of closed Shed (between FFL & Bottom of truss/ Structural Member) – 6.0 M.
- Clear Height of Semi closed Shed (between FFL & Bottom of truss/ Structural Member) – 5.25 M.
- Columns shall be spanning 6 M on longer side C/c & 5.0 M on shorter side C/c
- Roof and Side Cladding with G.I. Sheets of thickness 0.47mm to 0.50mm with zinc coating not less than 120 gm/Sq. m (both side mass) or pre-coated Galvalume sheet 240 Mpa (min).
- Roof including ridges: with G.I. Sheets thickness 0.47mm to 0.50mm with zinc coating not less than 120 gm/Sq.m or pre-coated Galvalum sheet 240 Mpa (min). All GI sheets shall be of SAIL or TATA make or equivalent. Test certificates shall be submitted by the vendor at the time of supply of these materials.
- Providing Fixed Glazing 2000 mm (W) x 900 mm (H) 16 nos., made of 35 x 35 x 4 mm MS angle section with Tee Section at three equal spacing for fixing 4 mm clear glass panes with putty.
- 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.

- All design work of prefabricated steel sheds shall have to be vetted by civil design agency of repute/ Civil Engineering department of reputed engineering college like IITs/SERC.
- All accessories like G.I. hooks, G.I. washers, G.I. J Hooks, G.I. bolts and nuts complete from reputed manufacturer shall be included in the scope. All G.I. bolts, nuts (IS 4759) shall be galvanised (hot dip) 270/300 gm/m². Galvanised spring/ plain washer shall be as per IS 1573. All side cladding/ roof sheets shall be fitted in such a way that they can be removed at any point of time.
- Sliding doors (4.65 M Width x 5 M Height) shall be provided on both ends of each covered shed at centre location. Suitable arrangement shall be made for easy operation of gates.
- One man-entry gate to be provided on longer side of each shed.
- 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.
- For all steel and galvanised materials, Test Certificates to be provided from Government approved laboratory.
- Bidder to supply & install electrical items like Main switch (30A TPN), wires, conduit, tees, bends, clamps, JBs, Switch boards, earthing wires etc. for 16 nos. Medium Bay HPSV lamps with fittings. This is for each shed. The same will be as per BHEL site Engineer's approval.
- Two nos. EXHAUST FAN of suitable capacity on both sides on the gable ends to be supplied and fitted for each shed.
- All designs have to be carried out as per relevant IS code

EXCLUSIONS: Civil works: Foundations, floors & Brick cladding up to 0.900 m ht. will be provided by BHEL.

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

- Safe Bearing Capacity of soil considered as 10 ton per Sq.m. for design of Civil foundations.
- For local site conditions, bidder to refer to enclosed write up.
- Civil foundations 900 mm (H) x 250 mm thick brick wall all around the periphery will be provided by BHEL.
- Since these are detachable sheds & to be in repetitive use at other locations, proper marking (permanent) shall be made for identification to ease reerection. The stores shed shall be so designed that it can be dismantled at any time and may be transported to be re-erected at other location.
- The roof truss should have bolted joints at crown and at both ends. Both roof and side cladding are to be made "Water Tight".
- The bidder should submit a guarantee for 3 years of operations for the materials supplied and erected by him.
- Bidder to verify the actual foundation bolt position at site to avoid mismatching

during erection.

- 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).
- Bidder to supply & install electrical items like Main switch (30A TPN), wires, conduit, tees, bends, clamps, JBs, Switch boards, earthing wires etc. for 6 nos.
- Medium Bay HPSV lamps with fittings.
- Bidder shall submit five sets of proposed drawings of the shed to BHEL before commencement of work. Five 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 are requested to visit Project Site to see the site condition, prevailing local laws etc. No claim shall be entertained to lack of knowledge of site condition.
- Quoted Price shall be inclusive of all the above.

1.02.00 **GENERAL**

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 Engineer In-charge / BHEL, Site Engineer and to his satisfaction. Unless otherwise specified in this section or in the description of item, the cost of stage of works mentioned hereunder shall be deemed to have been included in the rates of items provided in the schedule.

1.03.00 STRUCTURAL STEEL WORK

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

1.04.00 ELECTRICAL WORK

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

1.05.00 SPECIFIC TECHNICAL REQUIREMENT FOR ERECTION AT SITE TECHNICAL INSTRUCTIONS

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.

2.00.00 **DRAWINGS**

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

- 1. Typical cross section of the closed and semi-closed store sheds.
- 2. Civil foundation drawings of stores.
- 3. Arrangement of the sliding doors (closed store).

3.00.00 COMMENCEMENT AND COMPLETION PERIOD

The entire work shall be completed in a period of FOUR months in the following manner:

SI. No.	Description	Areas of Work
01	Procurement of Raw materials, fabrication, primer painting at Factory, Transportation to site, preassembly, erection, sheeting & cladding complete, final painting as required & handing over the sheds to BHEL	
а	With in three (03) months from date of PO	Northchennai-02 Nos closed & Vallur-02 Nos closed.
b	With in Forth (04) months from date of PO	Northchennai-01No semi-closed & RINL-01 No Closed.

4.00.00 DESIGN DATA

A. NORTH CHENNAI TPS - STAGE II - 1 X 600 MW AND VALLUR TPP- 2X500MW

Unless other wise specified the following design conditions shall be considered for the offer.

a) Ambient Temperature

Abs. Max : 45 deg. C

Abs. Min : 15 deg. C

: 35 deg. (Design)

Highest mean Monthly : Max. 32 deg. C

Lowest mean Monthly : Min. 24 deg. C

Relative humidity :100% max / 36% min / 75% design

b) Annual Rain fall : 2540.8 mm max.

1600 mm avg.

1175.7 mm min

d) Wind Direction :November to January from NW&NE

:February to March from East & SE

:April to May from South & SE

:June from SW

:July to August from NW

:Sept to October from SE & SW

e) Wind Speed :11.8kmph (avg)

:50m/sec (max)

f) Seismic Zone :Zone III as defined in IS1893 – 2002

B. RINL - VSP CPP EXPANSION- 1 X 330 TPH BOILER, 67.5MW TURBINE

Unless other wise specified the following design conditions shall be considered for the offer.

a) Ambient Temperature

Abs. Max : 45 deg. C

Abs. Min : 16.5 deg. C

: 35 deg. (Average)

Dry bulb Temperature : 45 deg. C

b) Altitude : 10.5m above MSL

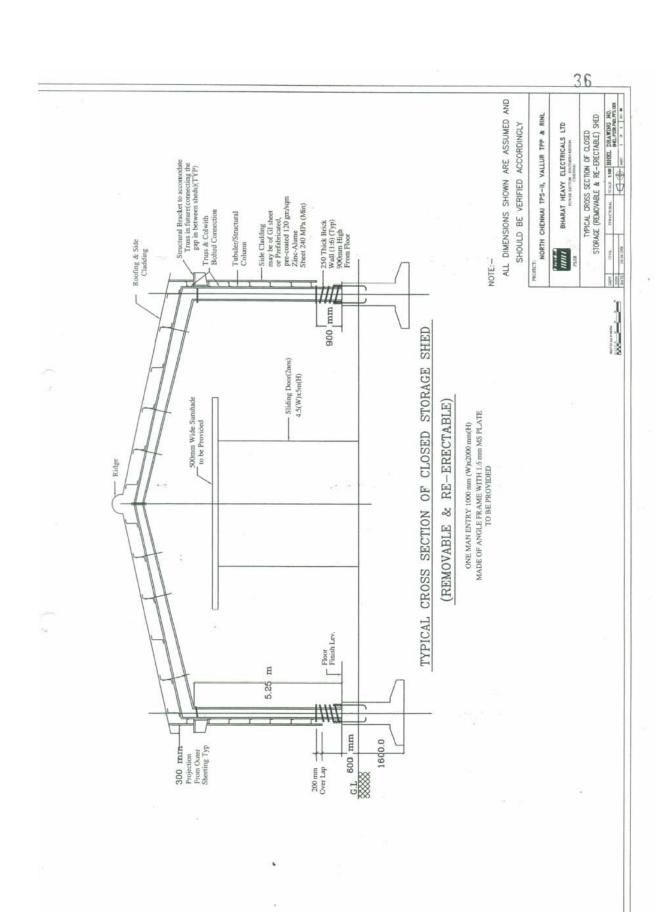
c) Relative humidity :100% max / 4% min

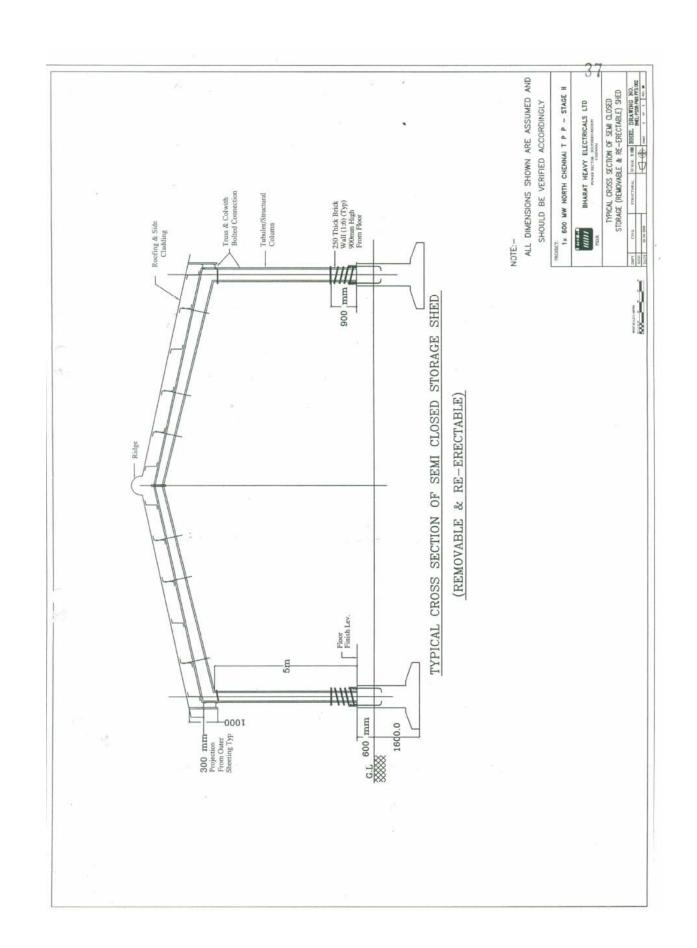
d) Rain fall for 24hrs Period : 370mm.

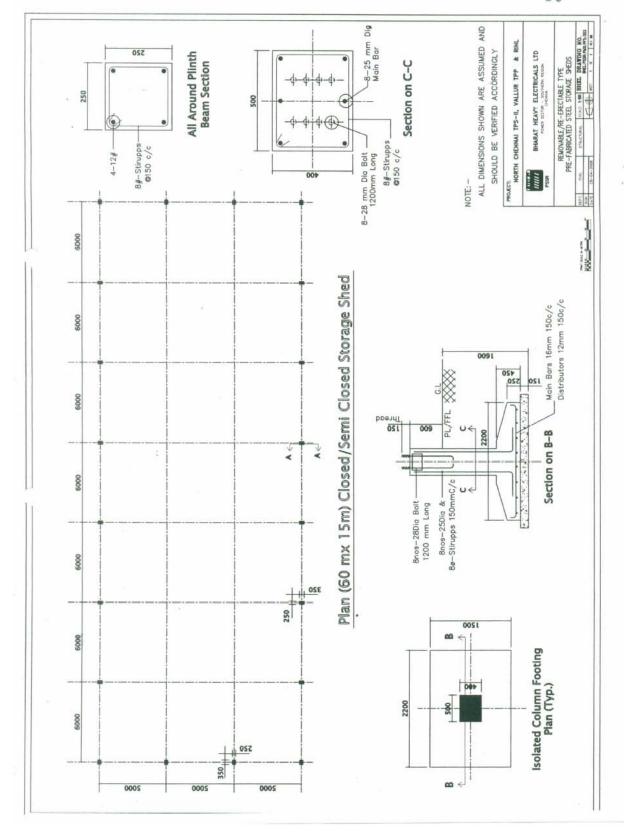
e) Highest Monthly Rain fall : 606mm.

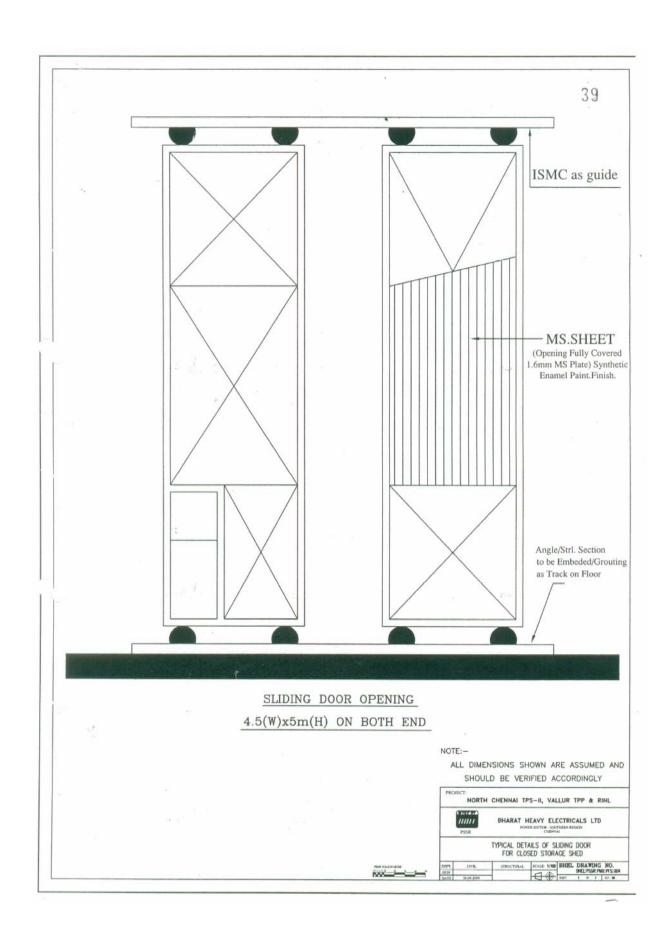
f) Wind Speed : 35.2kmph (design)

g) Seismic Zone :Zone II as defined in IS1893 - 2002









B. TECHNICAL SPECIFICATION

for

CLOSED Removable/Re-erectable type Pre-fabricated steel STORAGE SHEDS

(at KRL - KOCHI)

1.00.00 SCOPE

This specification covers Design, Manufacturing, Supply, Receipt at Site, Erection, Site Painting etc. and Handing over of ONE (01)nos Closed Removable/Re-erectable type Pre-fabricated Steel Storage Sheds at BPCL-KRL,KOCHIN, KERALA. This also includes guarantee for **3 years** of operations for the design performance, materials supplied & erected by him covered under the scope of the contract.

1.01.00 DETAIL SPECIFICATION

- Size of Closed Shed **5M C/c x 16 M C/c x 6M** (approximate).
- Clear Height of closed Shed (between FFL & Bottom of truss/ Structural Member) – 5.0 M.
- Columns shall be spanning 4 M on longer side C/c & one span on shorter side C/c.
- Roof and Side Cladding with G.I. Sheets of thickness 0.47mm to 0.50mm with zinc coating not less than 120 gm/Sq. m (both side mass) or pre-coated Galvalume sheet 240 Mpa (min).
- Roof including ridges: with G.I. Sheets thickness 0.47mm to 0.50mm with zinc coating not less than 120 gm/Sq.m or pre-coated Galvalum sheet 240 Mpa (min). All GI sheets shall be of SAIL or TATA make or equivalent. Test certificates shall be submitted by the vendor at the time of supply of these materials.
- Providing Fixed Glazing 2000 mm (W) x 900 mm (H) 8 nos., made of 35 x 35 x 4 mm MS angle section with Tee Section at three equal spacing for fixing 4 mm clear glass panes with putty.
- 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.
- All design work of prefabricated steel sheds shall have to be vetted by civil design agency of repute/ Civil Engineering department of reputed engineering college like IITs/SERC/NIT.
- All accessories like G.I. hooks, G.I. washers, G.I. J Hooks, G.I. bolts and nuts complete from reputed manufacturer shall be included in the scope. All G.I. bolts, nuts (IS 4759) shall be galvanised (hot dip) 270/300 gm/m². Galvanised spring/ plain washer shall be as per IS 1573. All side cladding/ roof sheets shall be fitted in such a way that they can be removed at any point of time.

- Electrically operated Rolling Shutter of size 4m width X 5m Sliding doors shall be provided on one end at centre location.
- Two man-entry gate to be provided on front longer side of shed.
- 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.
- For all steel and galvanised materials, Test Certificates to be provided from Government approved laboratory.
- Bidder to supply & install electrical items like Main switch (30A TPN), wires, conduit, tees, bends, clamps, JBs, Switch boards, earthing wires etc. for 16 nos. Medium Bay HPSV lamps with fittings. This is for each shed. The same will be as per BHEL site Engineer's approval.
- Two nos. EXHAUST FAN of suitable capacity on both sides on the gable ends to be supplied and fitted for each shed.
- All designs have to be carried out as per relevant IS code

EXCLUSIONS: Civil works: Foundations, floors & Brick cladding up to 0.900 m ht. will be provided by BHEL.

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

- Safe Bearing Capacity of soil considered as 10 ton per Sq.m. for design of Civil foundations.
- For local site conditions, bidder to refer to enclosed write up.
- Civil foundations 900 mm (H) x 250 mm thick brick wall all around the periphery will be provided by BHEL.
- Since these are detachable sheds & to be in repetitive use at other locations, proper marking (permanent) shall be made for identification to ease reerection. The stores shed shall be so designed that it can be dismantled at any time and may be transported to be re-erected at other location.
- The roof truss should have bolted joints at crown and at both ends. Both roof and side cladding are to be made "Water Tight".
- The bidder should submit a guarantee for 3 years of operations for the materials supplied and erected by him.
- Bidder to verify the actual foundation bolt position at site to avoid mismatching during erection.
- 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).
- Bidder to supply & install electrical items like Main switch (30A TPN), wires, conduit, tees, bends, clamps, JBs, Switch boards, earthing wires etc. for 6 nos.

- Medium Bay HPSV lamps with fittings.
- Bidder shall submit five sets of proposed drawings of the shed to BHEL before commencement of work. Five 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 are requested to visit Project Site to see the site condition, prevailing local laws etc. No claim shall be entertained to lack of knowledge of site condition.
- Quoted Price shall be inclusive of all the above.

1.02.00 **GENERAL**

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 Engineer In-charge / BHEL, Site Engineer and to his satisfaction. Unless otherwise specified in this section or in the description of item, the cost of stage of works mentioned hereunder shall be deemed to have been included in the rates of items provided in the schedule.

1.03.00 STRUCTURAL STEEL WORK

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

1.04.00 ELECTRICAL WORK

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

1.05.00 SPECIFIC TECHNICAL REQUIREMENT FOR ERECTION AT SITE TECHNICAL INSTRUCTIONS

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.

2.00.00 **DRAWINGS**

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

- 1. Typical cross section of the closed store.
- 2. Civil foundation drawings of store.

3.00.00 COMMENCEMENT AND COMPLETION PERIOD

The entire work "Procurement of Raw materials, fabrication, primer painting at Factory, Transportation to site, pre-assembly, erection, sheeting & cladding complete, final painting as required & handing over the shed to BHEL" shall be completed in a period of two months.

4.00.00 DESIGN DATA

BPCL - KRL - KOCHI CO-GENERATION PLANT

<u>Unless other wise specified the following design conditions shall be considered for the offer.</u>

a) Ambient Temperature

Abs. Max : 38 deg. C

Abs. Min : 20 deg. C

: 35 deg. (Design)

b) Relative humidity : 95% design/88% avg

c) Rain fall : 179 mm for 1hr period

250 mm for 24hr period

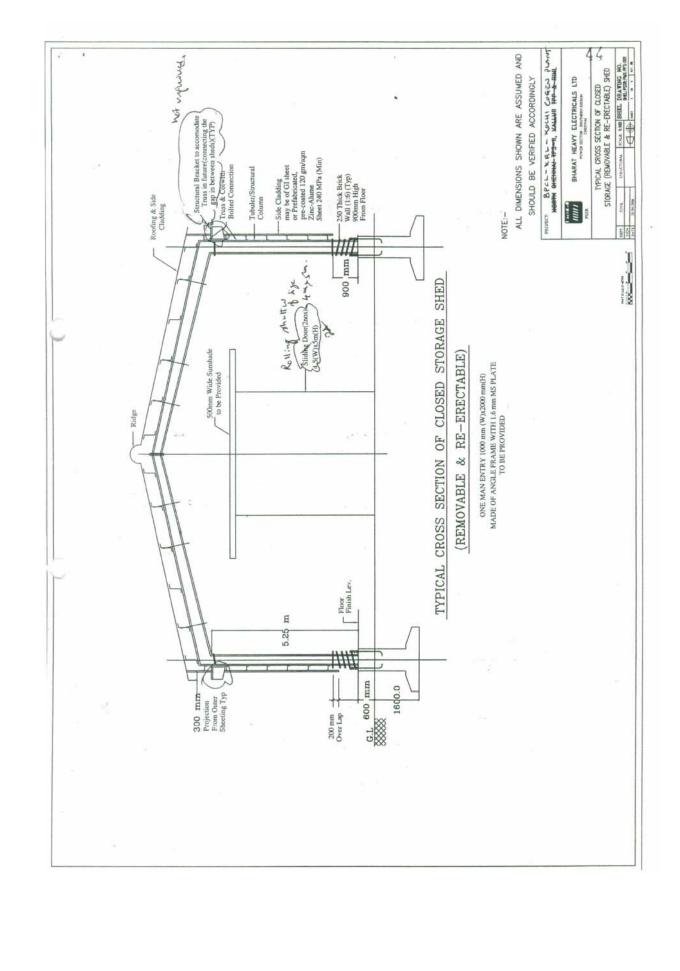
d) Wind Data : Velocity - 4km/hr avg. 8km/hr max or as

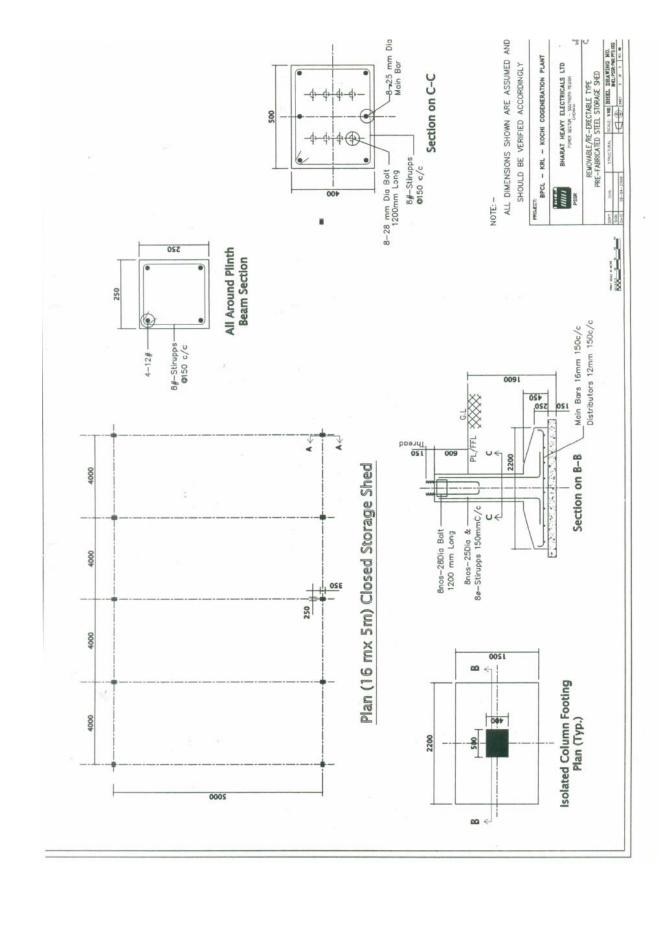
per IS875 which ever is higher

e) Wind direction : North-East/East in the morning and West

in & North West in the evening

f) Seismic Zone : As per IS1893 – 2002





C. TECHNICAL SPECIFICATION

For

Closed Removable/Re-erectable type Pre-fabricated Steel <u>OFFICE SHEDS</u>

At North Chennai TPS – 1 No & At Vallur TPS – 1 No.

1.00.00 SCOPE

This specification covers Design, Manufacturing, Supply, Receipt at Site, Erection, Site Painting etc. and Handing over of Removable/Re-erectable type Pre-fabricated Office Sheds at the respective sites. This also includes guarantee for **3 years** of operations for the design performance, materials supplied & erected by him covered under the scope of the contract.

1.01.00 DETAIL SPECIFICATION

- Size of Office Shed 10M C/c x 40 M C/c x 4M (approximate).
- Clear Height of Office Shed (between FFL & Bottom of truss/ Structural Member) – 3.0 M.
- Columns shall be spanning 5 M on longer side & shorter side C/c.
- Roof and Walls shall be with G.I/GRP Pre-moulded/Pressed Sheets on both sides of various thicknesses 0.45mm to 6mm with Insulation Glass wool/Expanded Polystyrene blocks/PUF or equalent. The total thickness of Wall shall be min 75mm.
- A toilet block should accommodate a gents toilet & a ladies toilet with partition in between to be provided. A gents toilet consisting of 2nos wash basins, 5nos urinals, 2nos IWC, 2EWC & 1 bathroom, 2 mirror, 2 towel rail etc. And ladies toilet consisting of 1 wash basin, bath room & 1IWC, 2 mirror, 2 towel rail etc. A separate toilet block consisting of 1 EWC, 1 Wash basin, 1 towel rail & 1 mirror etc each shall be provided for Site in-charge & conference hall.
- Gypsum board false ceiling shall be provided throughout the office.
- A portico of size 2mX3m minimum shall be provided at both entrances.
- Two nos of size 1.5m X 2m of sliding Steel doors for entrance shall be provided.
- 20 nos sliding windows of powder coated aluminium glazed windows shall be provided.
- Glazed tiles / PVC tiles of approved make shall be provided for flooring.
- 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.
- All design work of prefabricated steel sheds shall have to be vetted by civil design agency of repute/ Civil Engineering department of reputed engineering institute like IITs/SERC.

- All accessories like G.I. hooks, G.I. washers, G.I. J Hooks, G.I. bolts and nuts complete from reputed manufacturer shall be included in the scope. All G.I. bolts, nuts (IS 4759) shall be galvanised (hot dip) 270/300 gm/m². Galvanised spring/ plain washer shall be as per IS 1573. All side cladding/ roof sheets shall be fitted in such a way that they can be removed at any point of time.
- Height of RCC pedestal/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.
- For all steel and galvanised materials, Test Certificates to be provided from Government approved laboratory.
- Electrical works office shed site fans, modular lights and modular switches of sufficient numbers shall be provided.
- Bidder to supply & install electrical items like Main switch (30A TPN), wires, conduit, tees, bends, clamps, JBs, Switch boards, earthing wires etc. for 16 nos. Medium Bay HPSV lamps with fittings. This is for each shed. The same will be as per BHEL site Engineer's approval.
- All designs have to be carried out as per relevant IS code

<u>EXCLUSIONS:</u> Civil works: Foundations, floors & Brick work for foundation will be provided by BHEL.

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

- Safe Bearing Capacity of soil considered as 10 ton per Sq.m. for design of Civil foundations.
- For local site conditions, bidder to refer to enclosed write up.
- Civil foundations sufficient thick brick wall as recommended by the bidder all around the periphery will be provided by BHEL; however supervision for the same in the bidder scope.
- Since these are detachable sheds & to be in repetitive use at other locations, proper marking (permanent) shall be made for identification to ease reerection. The office 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(if required) should have bolted joints at crown and at both ends.
 Both roof and side cladding are to be made "Water Tight".
- Modular office furnishings & partition should be provided by the bidder with no extra cost as per the drawing approved.
- The bidder should submit a guarantee for 3 years of operations for the materials supplied and erected by him.
- Bidder to verify the actual foundation bolt position at site to avoid mismatching during erection.
- 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).

- Bidder to supply & install sufficient electrical items like Main switch (30A TPN), wires, conduit, tees, bends, clamps, JBs, Switch boards, earthing wires etc. for 2 nos.
- Medium Bay HPSV lamps with fittings.
- Bidder shall submit design document and drawings for approval with in 15 days from the date of LOI. Manufacturing, supply, installation should be in line with the approved drawing.
- Bidder shall submit five sets of proposed drawings of the shed to BHEL before commencement of work. Five 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 are requested to visit Project Site to see the site condition, prevailing local laws etc. No claim shall be entertained to lack of knowledge of site condition.
- Quoted Price shall be inclusive of all the above.

1.02.00 **GENERAL**

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 Engineer In-charge / BHEL, Site Engineer and to his satisfaction. Unless otherwise specified in this section or in the description of item, the cost of stage of works mentioned hereunder shall be deemed to have been included in the rates of items provided in the schedule.

1.03.00 STRUCTURAL STEEL WORK

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

1.04.00 ELECTRICAL WORK

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

1.05.00 SPECIFIC TECHNICAL REQUIREMENT FOR ERECTION AT SITE TECHNICAL INSTRUCTIONS

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.

2.00.00 **DRAWINGS**

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

- 1. Office Layout
- 2. Modular office drawing.

3.00.00 COMMENCEMENT AND COMPLETION PERIOD

The entire work shall be completed in a period of THREE (03) months in the following manner:

SI.	Description	Areas of Work
No.		
01	Procurement of Raw materials, fabrication, primer painting at Factory, Transportation to site, preassembly, erection/installation, electrical works, sheeting & cladding complete, final painting as required & handing over the sheds to BHEL	
	With in Three (03) months from date of PO	North Chennai-01No & Vallur-01No.

4.00.00 **DESIGN DATA**

NORTH CHENNAI TPS - STAGE II - 1 X 600 MW AND VALLUR TPP- 2X500MW

Unless other wise specified the following design conditions shall be considered for the offer.

d) Ambient Temperature

Abs. Max : 45 deg. C

Abs. Min : 15 deg. C

: 35 deg. (Design)

Highest mean Monthly : Max. 32 deg. C

Lowest mean Monthly : Min. 24 deg. C

e) Relative humidity :100% max / 36% min / 75% design

f) Annual Rain fall : 2540.8 mm max.

1600 mm avg.

1175.7 mm min

f) Wind Direction :November to January from NW&NE

:February to March from East & SE

:April to May from South & SE

:June from SW

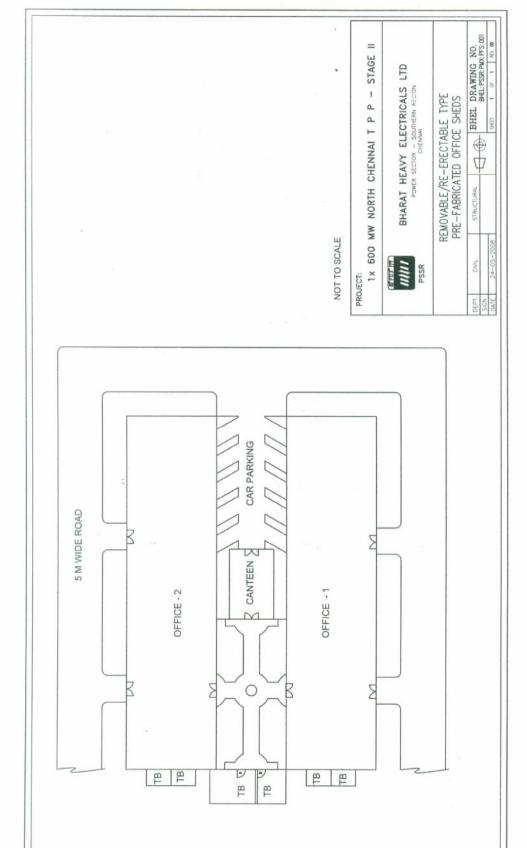
:July to August from NW

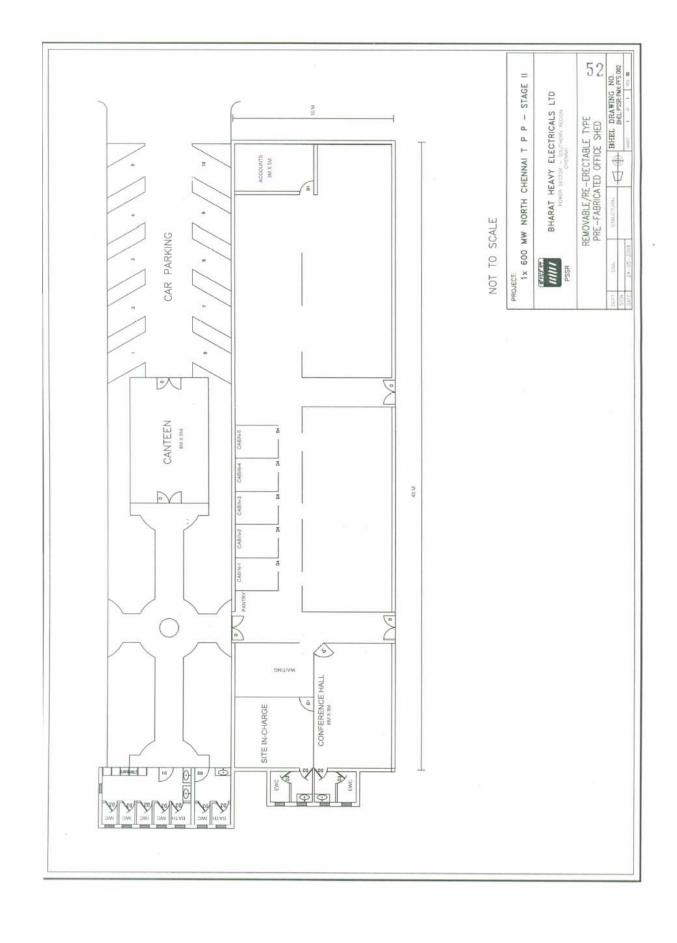
:Sept to October from SE & SW

e) Wind Speed :11.8kmph (avg)

:50m/sec (max)

f) Seismic Zone III as defined in IS1893 – 2002





D. OTHER CONDITIONS OF THE CONTRACT

1.0 PRICE ESCALATION:

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

2.0 TERMS OF PAYMENT:

- i 90% after the complete erection of each office /storage shed at the respective site shall be paid as certified by BHEL Engineer.
- i.i BHEL Site In-Charge, at discretion, may further split up the percentages and effect payment to suit the site conditions, cash flow requirement according to the progress of the work.
- ii 5% after the completion of all the sheds in all the sites as envisaged in the tender documents duly certified by the respective BHEL site Engineers and on submission of the final bill.
- iii Balance 5% will be payable after expiry of 6 (Six) months after taking over of the entire scope of work by BHEL and on submission of matching BG valid for three years.

3.0 <u>IMPORTANT CONDITIONS FOR PAYMENT :</u>

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

- i. PF Regn. No.
- ii. Labour Licence No.
- iii. Workmen Insurance Policy No.
- iv. Un Qualified Acceptance to Detailed L.O.I.
- v. Initial 50% Security Deposit.
- vi. Rs. 100/- Stamp Paper for Preparation of contract agreement
- vii. Acceptance for E-Payment (Form enclosed)

3.1 MODE OF PAYMENT

All payments due to you will be made thro' e remittance / account payee cheque. In case of e remittance, you are requested to in fill the e payment format enclosed along with this tender on your letter head with Banker's seal. The duly filled format may be sent along with the technical bid.

4.0 SPECIAL CONDITIONS OF CONTRACT- GENERAL

- 1. The quantities of doors, windows, ventilators etc., indicated may vary slightly due to site conditions and minor design changes at the time of constructions and no additional claim will be entertained in this regard.
- 2. Price quoted above shall include supply of all materials, their transport, storage and preservations. The consumables for preservation such as paint. Brush, thinner, kerosene etc. are in the scope of the contractor.
- 3. BHEL reserves the right to reject materials of substandard/not conforming to IS Specifications purchased by the contractor.
- 4. All electrical fittings like ACs, fans, Exhaust fans, Tube lights etc., shall be marked / identified with running serial numbers before handing over of the sheds, to enable BHEL to keep inventory of the fittings and for effective control.
- 5. The contractor is requested to take care of the following statutory clearance which are under the scope of contractor. The contractor is also requested to refer clause 2.8 of G.C.C. booklet.
 - a. Labour License
 - b. Provident Fund
 - c. Insurance for Bidder's scope of work
 - d. Workmen compensation
 - e. Local rules governing the works like Electrical Inspectorate etc. Factory Inspectorate.
 - f. Professional Tax

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

5.0 PROVIDENT FUND & MINIMUM WAGES:

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

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

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

6.0 TAXES:

6.1 Value added Tax (VAT) for the works

Price quoted shall be inclusive of ALL TAXES except service tax.

Price quoted shall be inclusive of VAT except service tax. In this civil works, as transfer of property in goods is involved, Works Contract Tax under VAT Act as applicable shall be included in the quoted price by the bidder. The bidder shall get registered with Tamilnadu, Andhra pradesh & Kerela VAT authorities and the registration certificate shall be forwarded to BHEL immediately after commencement of work. In case the bidder had already registered under Tamilnadu, Andhra pradesh & Kerela VAT, they

must quote their registration Number and forward copy of Registration Certificate while submitting this tender. Deduction of VAT at source would be enforced from the running bills at the rates prescribed unless exemption certificate is produced from the concerned authorities. Tax invoice if required under the relevant State VAT Law shall be submitted along with other compliances as per Andhra pradesh VAT Act. The bidder has to obtain VAT clearance certificate from the concerned authorities, for the completed project, and submit along with the final bill as one of the document for contract closure.

The bidder while quoting the total price including VAT, they shall specify(1) The value of VAT included in the total price (2) Rate of tax adopted and (3) On what value etc. as additional information along with price bid.

The bidder shall quote very competitive price after taking into consideration of above points.

6.2 **SERVICE TAX**

Price quoted shall be exclusive of Service Tax. The service tax as statutorily leviable and payable by the bidder under the provisions of service tax Law / Act shall be paid by BHEL as per bidder claim through various running bills. The bidder shall furnish proof of service tax registration with Central Excise Department specifying the name of services covered under this contract. Registration Certificate should also bear the endorsement for the premises from where the billing shall be done by the bidder on BHEL for this project. The bidder shall obtain prior consent of BHEL before billing the service tax amount.

6.3 **OTHER TAXES**

Any other taxes and duties (except VAT & Service Tax) viz. Entry Tax, Octroi, Seigniorage, Licenses, Deposits, Royalty, Stamp Duty, other charges / levies, etc. prevailing / applicable on the date of opening of technical bids and any variation thereof during the tenure of the contract are in the scope of bidder. In case BHEL is forced to pay any such taxes, BHEL shall have the right to recover the same from the bidder either from running bills or otherwise as deemed fit.

6.4 **NEW LEVIES & TAXES**:

In case Government imposes any new levy / tax after award of the work during the tenure of the contract, BHEL shall reimburse the same at actuals on submission of documentary proof of payment subject to the satisfaction of BHEL that such new levy / tax is applicable to this contract.

6.5 **STATUTORY VARIATIONS**:

Statutory variations are applicable only in the cases of Value Added Tax and Service Tax. The changes implemented by the Central / State Government in the VAT Act / Service Tax during the tenure of the contract viz. increase / decrease in the rate of taxes, applicability, etc. and its impact on upward revision / downward revision shall be paid/ adjusted from the date of respective variation. The bidder shall give the benefit of downward revision in favour of BHEL. No other variations shall be allowed during the tenure of the contract including extended period, if any.

6.6 **DIRECT TAXES**

BHEL shall not be liable towards Income Tax of whatever nature including variations thereof arising out of this contract as well as tax liability of the bidder and their personnel. Deduction of tax at source at the prevailing rates shall be effected by BHEL before release of payment as a statutory obligation, unless exemption certificate is produced by the bidder. TDS certificate will be issued by BHEL as per the provisions of Income Tax Act/Rules.

6.7 **OTHER STATUTORY REQUIREMENTS**

- The Contractor shall submit a copy of Labour License obtained from the Licensing Officer (Form VI) u/r25 read with u/s 12 of Contract Labour (R&A) Act 1970 & rules and Valid WC Insurance copy or ESI Code (if applicable) and PF code no alongwith the first running bill.
- 2. The Contractor should ensure compliance of Sec 21 of Contract Labour (R&A) Act 1970 regarding responsibility for payment of Wages. Incase of "Non-compliance of Sec 21 or non-payment of wages" to the workmen before the expiry of wage period by the contactor, BHEL will reserve its right to pay the workmen under the orders of Appropriate authority at the risk and cost of the Contractor.

- 3. The contractor shall submit monthly running bills alongwith the copies of monthly wages (of the preceding month) u/r 78 (1) (a)(1) of Contract Labour Rules, copies of monthly return of PF contribution with remittance Challans under Employees Provident Fund Act 1952 and copy of renewed WC Insurance policy or copies of monthly return of ESI contribution with challans under ESI Act 1948 (if applicable) in respect of the workmen engaged by them.
- 4. The Contractor shall submit copies of Final Settlement statement of disbursal of retrenchment benefits on retrenchment of each workmen under I D Act 1948, copies of Form 6-A(Annual Return of PF Contribution) along with Copies of PF Contribution Card of each member under PF Act and copies of monthly return on ESI Contribution Form 6 under ESI Act1948 (If applicable) to BHEL along with the Final Bill.
- 5. Incase of any dispute pending before the Appropriate authority under I D act 1948, WC Act 1923 or ESI Act 1948 and PF Act 1952, BHEL reserve the right to hold such amounts from the final bills of the Contractor which will be released on submission of proof of settlement of issues from the appropriate authority under the act.
- 6. Incase of any dispute prolonged/pending before the authority for the reasons not attributable to the contractor, BHEL reserves the right to release the final bill of the contractor on submission of Indemnity bond by the contractor indemnifying BHEL against any claims that may arise at a later date without prejudice to the rights of BHEL.

SECTION VII

APPENDIX - I

DECLARATION SHEET

Ι,

hereby certify that, all the information and data furnished by me with regard to this Tender Specification No.BHEL:PSSR:P&S:18042 are true and complete to the best of my knowledge. I have gone through the specifications, conditions, stipulations in detail and agree to comply with the requirements and intent specifications.

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

TENDERER'S NAME & ADDRESS

AUTHORISED REPRESENTATIVE'S SIGNATURE WITH NAME & ADDRESS

SECTION VII

APPENDIX - II

TENDER SPECIFICATION NO BHEL:PSSR:P&S:EC18042

CERTIFICATE OF DECLARATION FOR CONFIRMING KNOWLEDGE ON SITE CONDITIONS

We,

hereby declare and confirm that we have visited the project site under subject, namely and acquired full knowledge and information about the site conditions. We further confirm that the above information is true and correct and we will not raise any claim of any nature due to lack of

TENDERER'S NAME AND ADDRESS

knowledge of site conditions.

SIGNATURE OF AUTHORISED REPRESENTATIVE WITH NAME & ADDRESS:

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	ıa	C	C	٠

Date:

OFFICE SEAL

BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)

Power Sector: Southern Region

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

SECTION VII

APPENDIX - III

CHECK LIST

TENDER SPECTFICATION NO, BHEL: PSSR: P&S:EC18042

Tenderers are required to fill in the following details:

1. a) Name of the Tenderer with address : YES/NO

b) Telegraphic/Telex address : YES/NO

c) Phone (Office/Residence) : YES/NO

d) Management Structure of firm (Pvt. Ltd/Public Ltd./Partnership/Sole Proprietorship) Documentary proof

For the same enclosed) : YES/NO

2. Whether EMD submitted as per

Tender specifications terms and : YES/NO

Conditions

3. Validity of offer (offer shall be

kept open for acceptance for : YES/NO

minimum six months)

4. Whether tenderer visited the

erection site and acquainted with : YES/NO

the site conditions before quoting

SIGNATURE OF THE TENDERER

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

SIGNATURE OF THE TENDERER

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

Whether the Tenderer is conversant

6.

SIGNATURE OF THE TENDERER