

VTENDER SPECIFICATION

NO: BHE/PW/PUR/VIOCI-CVL/994

CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS COMPRISING OF FOUNDATIONS FOR GTG, HRSG, STACK, HRSG CHIMNEY, FANS, PIPES & CABLE RACKS & OTHER EQUIPMENT FOUNDATIONS, TRENCHES, TANKS, GTG HALL, AUXILIARY PLANT BUILDINGS, BALANCE OF PLANT (BOP) CIVIL WORKS, PAVING, ROADS, DRAINS, CULVERTS, SEWAGE SYSTEMS, ELECTRICAL EARTHING ETC. INCLUDING RCC BORED CAST IN SITU PILING.

FOR

1X30 MW GTG + 125T/HR HRSG COGEN. PLANT AT IOCL BARODA, GUJARAT

TECHNICAL BID - VOLUME- I

TENDER SPECIFICATIONS CONSISTS OF:

- **Notice Inviting Tender**
- **Volume 1 A - Technical Conditions of Contract,**
- **Volume 1 B - Special conditions of Contract,**
- **Volume 1 C - General conditions of Contract**
- **Volume 1 D - Forms & Procedures**



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

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LEGEND:

This document (i.e. NIT & Vol-I A) is issued as one booklet.

\$: “Vol I -B, I-C, I-D” of Part-I (Vol- I) issued as separate booklet.

@: Price bid is issued as a separate hard copy booklet ‘Tender Specifications – Volume-II (Price Bid-894)’.

Vol- IE- Technical specification issues as separate booklet

NOTE-1: VOLUME – I-A, B-C-D & E ARE A PART OF TECHINCAL BID.

NOTE : 2- Bidder may pl note that we are unable to host the tender drawings & technical specification- VOL-IE of this tender in our web site . As such bidder are requested to purchase total tender specification from our Nagpur Office. In case bidder submit incomplete offer (i.e. offer without complete tender specification), then bidders offer shall not be considered for evaluation i.e. bidder offer shall be disqualified.

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CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS COMPRISING OF FOUNDATIONS FOR GTG, HRSG, STACK, HRSG CHIMNEY, FANS, PIPES & CABLE RACKS & OTHER EQUIPMENT FOUNDATIONS, TRENCHES, TANKS, GTG HALL, AUXILIARY PLANT BUILDINGS, BALANCE OF PLANT (BOP) CIVIL WORKS, PAVING, ROADS, DRAINS, CULVERTS, SEWAGE SYSTEMS, ELECTRICAL EARTHING ETC. INCLUDING RCC BORED CAST IN SITU PILING.

FOR

1X30 MW GTG + 125T/HR HRSG COGEN. PLANT AT IOCL BARODA, GUJARAT

EARNEST MONEY DEPOSIT: Refer Notice Inviting Tender

LAST DATE FOR Refer Notice Inviting Tender
TENDER SUBMISSION .

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

M/s.

.....

PLEASE NOTE:
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

DY. GENERAL MANAGER (Purchase)

Place: Nagpur

Date :

Rev 00
6th July
2010

NOTICE INVITING TENDER

Bharat Heavy Electricals Limited



Ref: NO: BHE/PW/PUR/VIOC-CVL/994.

Dt: .../05/2012

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

To

Dear Sir/Madam

Sub : NOTICE INVITING TENDER

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

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION
I	TENDER NUMBER	BHE/PW/PUR/V IOC-CVL/994
ii	Broad Scope of job	CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS COMPRISING OF FOUNDATIONS FOR GTG, HRSG, STACK, HRSG CHIMNEY, FANS, PIPES & CABLE RACKS & OTHER EQUIPMENT FOUNDATIONS, TRENCHES, TANKS, GTG HALL, AUXILIARY PLANT BUILDINGS, BALANCE OF PLANT (BOP) CIVIL WORKS, PAVING, ROADS, DRAINS, CULVERTS, SEWAGE SYSTEMS, ELECTRICAL EARTHING ETC. INCLUDING RCC BORED CAST IN SITU PILING.FOR 1X30 MW GTG + 125T/HR HRSG COGEN. PLANT AT IOCL BARODA, GUJARAT
iii	DETAILS OF TENDER DOCUMENT	
A	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i> Applicable
B	Volume-IB	<i>Special Conditions of Contract (SCC)</i> Applicable
C	Volume-IC	<i>General Conditions of Contract (GCC)</i> Applicable
D	Volume-ID	<i>Forms and Procedures</i> Applicable
E	Volume- I E	<i>Technical Specifications</i> Applicable
E	Volume-II	<i>Price Schedule (Absolute value).</i> Applicable

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iv	Issue of Tender Documents	1. Sale from BHEL PS Regional office at : Start : 09 /05/ 2012 Closes:28 /05 /2012 , Time :17.00 Hrs 2. From BHEL website (www.bhel.com) Tender documents can however be downloaded from website till due date of submission	Applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	Date: 29 /05 / 2012 , Time :15.00Hrs Place : BHEL OFFICE AT NAGPUR	Applicable
vi	OPENING OF TENDER	1 hours after the latest due date and time of Offer submission Notes: (1) In case the due date of opening of tender becomes a non-working day, tenders shall be opened on next working day at the same time. (2) Bidder may depute representative to witness the opening of tender	Applicable
vii	EMD AMOUNT	Rs 2,00,000/- (Rupees Two Lakhs Only)	Applicable
viii	COST OF TENDER	Rs 2000/-.	Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	Date: (Atleast 5 days before the due date of offer submission) Along with soft version also, addressing to undersigned & to others as per contact address given below	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)	Date : Not applicable.	Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	Applicable. Shri J. M. Lyngdoh , IAS (Retd.) Plot No. 144-145, Pragati Resort, Proddator Village & P.O., Shankarpally Road, Rangareddy Distt. (AP)- 500 033	Applicable
xii	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigendums) and not in the newspapers. Bidders to keep themselves updated with all such information	

- 2.0 The offer shall be submitted as per the instructions of tender document and as detailed in this NIT. Bidders to note specifically that all pages of tender document, including these NIT pages of this particular tender together with subsequent correspondences shall be submitted by them,

duly signed & stamped on each page, as part of offer. **Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained.**

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

Sl no	Description	Remarks
	Part-I A	
	<u>ENVELOPE – I superscribed as :</u> PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION: <u>CONTAINING THE FOLLOWING:-</u>	
i.	Covering letter/Offer forwarding letter of Tenderer.	
ii.	Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above. <u>Note:</u> <ol style="list-style-type: none"> a. In case of any deviation, the same should be submitted separately for technical & commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be placed after document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained. b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding. <ol style="list-style-type: none"> i). In case of acceptance of the deviations, appropriate 	

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	loading shall be done by BHEL ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender	
iii.	Supporting documents/ annexure/ schedules/ drawing etc as required in line with Pre-Qualification criteria. It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph no, FAX no, etc.	
iv.	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc pertinent to this NIT.	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	If applicable
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT	
vii.	Notice inviting Tender (NIT)	
viii.	Volume – I A : <u>Technical</u> Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc	
ix.	Volume – I B : Special Conditions of Contract (SCC)	
x.	Volume – I C : General Conditions of Contract (GCC)	
xi.	Volume – I D : Forms & Procedures	
xii.	Volume- I E : Technical Specifications	
xiii.	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiv.	Any other details preferred by bidder with proper indexing.	

	PART-I B	
	<u>ENVELOPE – II superscribed as:</u> PART-I (EMD/COST of TENDER) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION: CONTAINING THE FOLLOWING:-	
i.	1. Earnest Money Deposit (EMD) in the form as indicated in this Tender <p style="text-align: center;"><u>OR</u></p> Documentary evidence for 'One Time EMD' with the Power Sector Region of BHEL floating the Tender 2. Cost of Tender (Demand Draft or copy of Cash Receipt as the case may be)	

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

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

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

- 7.0 No Deviation with respect to tender clauses and no additional clauses/ suggestions/ in Techno-commercial bid/ Price bid shall normally be considered by BHEL. Bidders are requested to positively comply with the same.
- 8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).

9.0 Assessment of Capacity of Bidders: (Shall be applicable for bid evaluation from 1st Jan- 2011 onwards)

Bidders capacity for executing the job under tender shall be assessed as per the following:

- I. **Assigning Weightages (A) for Similar Jobs Under-Execution:** Weightages shall be worked out and assigned based on the average number of Similar Works under execution including works yet to be commenced by the agency, in the following manner:
 - i). **Number of Similar Jobs**
 - a) No. of jobs in BHEL, PSER : Say 'J'
 - b) No. of jobs in BHEL, PSSR : Say 'K'
 - c) No. of jobs in BHEL, PSWR : Say 'L'
 - d) No. of jobs in BHEL, PSNR : Say 'M'
 - e) No. of jobs with other customers* : Say 'N' (*: Other than BHEL PSER, PSSR, PSWR & PSNR)
 - f) Average No. of Jobs is 'P' = (J+K+L+M+N) divided by 5
 - ii). **Weightage "A" assigned to bidders based on Average Number of jobs "P":**
 - a) If 'P' = 0-1, "A" will be equal to '3'
 - b) If 'P' = 2-3, "A" will be equal to '2'
 - c) If 'P' = 4-5, "A" will be equal to '1'
 - d) If 'P' is Above 5, "A" will be equal to '0'
- II. **Weightage "B" for Quarterly Performance Reports of Vendors:** This shall be based on the averages of the net weighted score obtained by the bidder for the jobs under execution (excluding works not commenced) for the quarter previous to the last quarter reckoned from the date of latest due date of submission, in all four Regions i.e BHEL PSER, PSSR, PSWR & PSNR, in the following manner.
 - i). **Ratings by Power Sector Region:**
 - a) PS ER's Rating 'Rer' = $(X_1 + X_2 + \dots + X_n)$ divided by n
 - b) PS WR's Rating 'Rwr' = $(X_1 + X_2 + \dots + X_n)$ divided by n
 - c) PS SR's Rating 'Rsr' = $(X_1 + X_2 + \dots + X_n)$ divided by n
 - d) PS NR's Rating 'Rnr' = $(X_1 + X_2 + \dots + X_n)$ divided by n
 - e) **Over all Power Sector Region Rating 'R_{BHEL}'** = (Rer+ Rwr+ Rsr+ Rnr) divided by 4

(where "X₁, X₂, X₃,...X_n" is the net weighted score obtained by the bidder as per the "Evaluation of Contractor Performance (Quarterly)" against the various contracts 'n' under execution in the respective Region).
 - ii). **Weightage "B" assigned to bidders based on Overall Power Sector Rating (R_{BHEL}):**
 - a) If R_{BHEL} is 80% and above, "B" will be equal to '6'
 - b) If R_{BHEL} is > 70% < 80%, "B" will be equal to '5'
 - c) If R_{BHEL} is > 60% < 70%, "B" will be equal to '4'
 - d) If R_{BHEL} is = < 60%, "B" will be equal to '0'
- III. **Evaluation of Bidders capacity to execute the job under tender:** shall be based on the sum of scores obtained in 'A' and 'B', as below:

- a) **6 or above : Considered 'Qualified' for the job under tender**
- b) **Less than 6: Considered 'NOT Qualified' for the job under tender**

IV. Explanatory note:

- a) Similar work means GTG,GTG,BOILER or Turbine or Civil or Electrical or CI, etc irrespective of rating of Plant
 - b) Quarter shall be as per the quarter defined in the "Evaluation of Contractor performance (Quarterly)". For contracts where annexed Quarterly Evaluation performance was not part of the contract, 'Quarterly Performance Reports' previous to the last quarter reckoned from the date of latest due date of submission, given by the respective project site against the contract will be the basis for evaluation.
 - c) Vendors who are not executing any jobs presently in the Region and first timers to the Region, may be considered subject to satisfying all other tender conditions
 - d) 'Under execution' shall mean works in progress upto GTG,GTG,BOILER Steam Blowing (for GTG,GTG,BOILER and Auxilliaries) or Synchronisation (for all other jobs including Civil) shall be considered.
- 10.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation 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. No additional claim shall be entertained by BHEL in future, on account of non-acquaintance of above.
- 11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 12.0 BHEL may decide holding pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.
- 13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.
- 14.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 15.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in

the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (xi) of 1 above.**

- 16.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of pre-qualification evaluation/ techno-commercial bids, approval/ acceptance of customer (as applicable), etc. and date of opening of price bids shall be intimated to only such bidders.
- 17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) or specified otherwise in SCC of tender.
- 19.0 BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction. .
- However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDs' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.
- 20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 23.0 In case Consortium Bidding is allowed as per Pre Qualifying Requirement, then Prime Bidder and Consortium Partner shall enter into Consortium Agreement. Validity period of Consortium Agreement shall be 6 months after which the same can be re validated.
- 'Stand alone' bidder cannot become a **'prime bidder' or a 'consortium bidder' in a consortium bidding**. Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non compliance, consortium bids of such Prime bidders will be rejected. .
- 24.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements" duly self certified and stamped by the authorized signatory, indexed and properly linked in the format

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for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.

25.0 The bidder may have to produce original document for verification if so decided by BHEL.

26.0 Order of Precedence

In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:

- a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
- b. Notice Inviting Tender (NIT)
- c. Price Bid
- d. Technical Conditions of Contract (TCC)—Volume-1A
- e. Special Conditions of Contract (SCC) —Volume-1B
- f. General Conditions of Contract (GCC) —Volume-1C
- g. Forms and Procedures —Volume-1D

for BHARAT HEAVY ELECTRICALS LTD

(SCT)

Enclosure

01. Annexure-1: Pre Qualifying criteria.
 02. Annexure-2: Check List .
 03. Annexure – 3- Integrity Pact
- Other Tender documents as per this NIT.

ANNEXURE - 1

PRE QUALIFYING CRITERIA

JOB	<p>CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS COMPRISING OF FOUNDATIONS FOR GTG, HRSG, STACK, HRSG CHIMNEY, FANS, PIPES & CABLE RACKS & OTHER EQUIPMENT FOUNDATIONS, TRENCHES, TANKS, GTG HALL, AUXILIARY PLANT BUILDINGS, BALANCE OF PLANT (BOP) CIVIL WORKS, PAVING, ROADS, DRAINS, CULVERTS, SEWAGE SYSTEMS, ELECTRICAL EARTHING ETC. INCLUDING RCC BORED CAST IN SITU PILING.</p> <p style="text-align: center;">FOR</p> <p style="text-align: center;">1X30 MW GTG + 125T/HR HRSG COGEN. PLANT AT IOCL BARODA, GUJARAT</p>
TENDER NO	BHE/PW/PUR/VIOCI-CVL/994

SL NO	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		Name and Description of qualifying criteria (Bidder Should Fill Up the Details in this column for PQR)	Page no of supporting document of bidders offer
A	Submission of Integrity Pact duly signed (if applicable)	APPLICABLE FOR THIS TENDER	
B	Assessment of Capacity of Bidder to execute the work as per sl no 9 of NIT (if applicable)	APPLICABLE FOR THIS TENDER	
C	<p><u>Technical</u></p> <p>Bidders shall essentially meet all the Qualifying Requirements C (i.e. C.1 , C2 and C3) , D.1, D.2 , D.3 , E & F as under.</p> <p>(PRIME BIDDER IS CIVIL AGENCY WHO SATISFY- C.1)</p> <p>1) PRIME- BIDDER- Execution of at least 2446M3 concreting quantities within a period of twelve consecutive months in one work order or cumulative of two concurrently running contracts in last seven years as on latest date of bid submission.</p>		

	<p>AND</p> <p>2) Execution of "Bored cast in-situ RCC Piles" of minimum 5155RM using Rotary Hydraulic Rigs and its corresponding concreting of 887M3 within a period six consecutive months in one work order or cumulative of two concurrently running contracts in last seven years as on latest date of bid submission..</p> <p>AND</p> <p>3) Bidder must have successfully executed Fabrication & Erection of Structural Works of 245MT or more within a period of twelve consecutive months in one work order or cumulative of two concurrently running contracts in last seven years as on latest date of bid submission..</p> <p>However the Prime Bidder (who is submitting the offer) do not satisfy above criteria of C.2 for Piling work & C.3 for Structural Work may have tie up with an experienced two different agencies meeting the above qualifying requirement. In such case, the prime bidder shall also submit along with the technical bid proper documents related to experience of the agency (i.e. work order, work completion certificate & profile of organization) to meet the QR. Prime bidder has to submit the copy of tie up agreements (with both agencies separately) executed between two agencies on Rs 50/- non judicial stamp paper duly certified by Notary as per Format No- F-22 of Vol- BCD of tender.</p> <p>In case of Consortium formed by Prime bidder following shall be complied.</p> <p>Prime Bidder shall comply with additional technical qualification criteria as below.</p>	
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	<p>Executed Civil work in Power/ Industrial project in last seven years as on latest date of bid submission as below.</p> <p>a) One work of 1440 lakhs against one work order Or b) Two works each of 900 lakhs against two separate work orders or c) Three works each of 720 lakhs against three separate work orders And d) A stand alone BHEL –PS-WR registered vendor cannot participate as consortium partner.</p>		
D.1	<p><u>Financial TURNOVER</u> Bidders must have achieved an average annual financial turnover (Audited) of Rs 540.00 Lakhs or more over last three Financial Years (FY) i.e. 2008-2009, 2009-2010, 2010-2011.</p>		
D.2	<p>NETWORTH Net worth of the Bidder based on the latest Audited Accounts of 2010-2011 as furnished for 'D1' above should be positive.</p>		
D.3	<p>PROFIT Bidder must have earned cash profit in any one of the three Financial Years as applicable in the last three years defined in 'D1' above based on latest Audited Accounts.</p>		
E	<p>Approval of Customer Note: Names of Prime Bidder & Consortium Partner who stand qualified after compliance of criteria A to D shall be forwarded to customer for their approval. Price bid of only those bidders shall be opened who are approved by customer.</p>	APPLICABLE	
F	<p>Consortium criteria (applicable)</p>	APPLICABLE	

Explanatory Notes for 'PQR'

A) Explanatory Notes for PQR 'C'- 'Technical'

1. 'Executed' means the vendor should have achieved the criteria specified in the Common QRs even if the Contract has not been completed or closed.
2. **Explanatory Notes for PQR 'C'**
 - a. Prime bidder and Tie-up Partner shall meet their respective technical Pre qualifying Criteria.
 - b. Prime bidder shall meet all other Pre-Qualifying Criteria of the Tender
 - c. Prime Bidder shall be responsible for overall execution of the Contract.
 - d. Tie-up partner shall provide Technical Supervision and support to the Prime Bidder for execution of job.
 - e. The Consortium partner shall submit SD (Security Deposit) equivalent to 2% of the total contract value in addition to the SD submitted by the prime bidder for the total contract value.
 - f. Prime bidder and the Tie-up partner are required to enter into a Tie-up Agreement with a validity period of Six months initially (During submission of tender). Thereafter both the agencies shall extend the validity of the agreement for the entire contract period, if the work is awarded.
 - g. In case Tie-up partner backs out, another Tie-up partner meeting the QR shall be engaged by the Prime Bidder and if not, the respective work will be withdrawn and executed on risk and cost basis of prime bidder.
 - h. In case Prime Bidder withdraws, the whole contract shall be considered cancelled and short closed

B) Explanatory Notes for PQR 'D'- 'Financial'

1. Net Worth = Paid up share capital + Reserves (Share Capital OR Partnership Capital OR Proprietor Capital as the case may be)
2. Profit shall be NET Profit (PAT + Non Cash Expenditure viz depreciation).
3. In case audited financial statement have not been submitted for all the three years as indicated in 'D1' above, then applicable audited statement submitted by the bidder against the requisite three year, will be averaged for three years.

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

BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT IN THE RESPECTIVE ANNEXURES IN THEIR OFFER along with copies of Work Orders, Work Completion certificates, Audited profit and Loss Account for the last three years and other related documents as per PQR & tender specification..

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ANNEXURE - 2

CHECK LIST

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

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Fax No:	
4	EMD DETAILS	DD No: Date : Bank : Amount: <u>Please tick (✓) whichever applicable:-</u> ONE TIME EMD / ONLY FOR THIS TENDER	
		APPLICABILITY	BIDDER REPLY
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 submitted	Applicable	YES/NO
8	Copy of PAN Card submitted	Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable/N ot Applicable	YES/NO
10	Integrity Pact	Applicable	-----
11	Declaration by Authorised Signatory submitted	Applicable	YES/NO
12	No Deviation Certificate submitted	Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions submitted	Applicable	YES/NO

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14	Declaration for relation in BHEL submitted	Applicable	YES/NO
15	Non Disclosure Certificate submitted	Applicable	YES/NO
16	Bank Account Details for E-Payment submitted	Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable	-----
18	Tie Ups / Consortium Agreement against this tender	Applicable for this tender	-----
19	Power of Attorney for Submission of Tender/Signing Contract Agreement submitted	Applicable	YES/NO
20	Analysis of Unit rates submitted	Applicable	YES/NO

NOTE : STRIKE OFF 'YES' OR 'NO', AS APPLICABLE

DATE:

AUTHORISED SIGNATORY
(With Name, Designation and Company seal)

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House" Siri Fort, New Delhi – 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context of meaning hereof shall include its successors or assigns of the ONE PART

And

_____, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 - Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for itself or third person, any material or immaterial benefit which the person is not legally entitled to.

-
- 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
- 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
- 2.1.1 the Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2 The bidder(s)/ Contractors(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 The Bidders (s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from tender process and execution from future contracts

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per separate “Guidelines on for Suspension of Business Dealings with Suppliers/ Contractors” framed by the Principal.

Section 4 – Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

- 5.1 **The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption.** approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on his subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-Contractors

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from his sub-contractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those sub-contractors whose contract value is more than 20% of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.

- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section -7 Criminal Charges against violating Bidders/ Contractors/ Sub-contractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Sub-contractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section – 8 Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s)/ Sib-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meeting could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

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- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC/PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.10 The word 'Monitor' would include both singular and plural.

Section 9 – Pact Duration

- 9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.
- 9.2 If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the reminder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

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10.5 Only those Bidders/ Contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On Behalf of the Principal
(Office Seal)

For & On Behalf of the Bidder/ Contractor
(Office Seal)

ANNEXURE IV

IMPORTANT INFORMATION

1. PRICE VARIATION COMPENSATION

Refer Clause 2.17 of Volume I C ‘General Conditions of Contract’ (Price Variation Compensation): For the purpose of calculating PVC, following ‘Commodities shall be reckoned for the respective categories:

Category	Commodity to be Used for PVC Calculation
Electrode	Welding Rod (Individual Commodity)
High Speed Diesel	High Speed Diesel (Individual Commodity)
Cement	Grey cement (Individual Commodity)
Structural & Reinforcement Steel	a1. Iron & semis (Group Item)
Materials (Other than Cement & Steel)	All Commodities (Group Item)

2. INTEREST BEARING RECOVERABLE ADVANCE

Refer Clause 2.13 of Volume I C ‘General Conditions of Contract’ (Interest Bearing Recoverable Advance): Following additional points shall be noted:

- Bank Guarantee towards ‘Interest Bearing Advance’ shall be atleast 110% of the advance so as to enable recovery of not only principle amount but also the interest portion, if so required.
 - ‘Interest Bearing Recoverable Advance’ shall not be paid in less than two installments. Contractor shall establish the utilization of advance drawn before the release of next installment.
- 3. The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site (www.bhel.com ---> Tender Notification -> List of Banned Firms)**
- 4. IOCVL VOADODA-** is a Refinery Project as such Safety Requirements of this project are stringent and hence bidders has to comply all the safety requirement during execution of contract as per IOCL Safety Specifications given in this tender in (Vol- IE) SPECIAL CONDITIONS OF CONTRACT – SAFETY AND ENVIRONMENTAL MANAGEMENT SYSTEM- APPENDIX-7. BHEL will levy penalty in case of Non-compliance of safety requirements as specified in this tender.

Rev 00
6th
JULY

TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC) CONTENTS

SI No	DESCRIPTION	Chapter	No. OF PAGES
Volume-IA	Part-I: Contract specific details		
1	Project Information	Chapter-I	2
2	Scope of Works and Technical Specifications	Chapter-II	10
3	Facilities in the scope of Contractor/BHEL (Scope Matrix)	Chapter-III	8
4	T&Ps and MMEs to be deployed by Contractor	Chapter-IV	3
5	T&Ps and MMEs to be deployed by BHEL on sharing basis	Chapter-V	1
6	Time Schedule	Chapter-VI	1
7	Terms of Payment	Chapter-VII	2
8	Taxes and other Duties	Chapter-VIII	2
9	Tender Drawings	Chapter-IX	2
10	Appendix	Chapter-X	1

TECHNICAL CONDITIONS OF CONTRACT (TCC) CONTENTS

1.0	PROJECT INFORMATION – IOCL Vadodara Project
1.1	<p><u>Introduction</u></p> <p>Bharat Heavy Electricals Ltd. has received a turnkey contract to set up a 1X30 MW GTG + 1X125 TPH HRSG Based Co-generation Plant from Customer (M/s. Indian Oil Corporation Limited) at their existing IOCL, Gujarat Refinery, Jawahar Nagar, Vadodara premise. Indian Oil Corporation Ltd. (IOCL), is currently setting up GT+HRSG Unit known to be the 6th GT + HRSG Unit. Two units of the same capacity GT + HRSG (Unit#4&5) is already in operation at site in adjacent to proposed Unit#6 machine.</p> <p><u>Approach to site</u></p> <p>The proposed project site is located at a distance 15 KM from Vadodara City and 400 KM from Mumbai. The nearest railway station is Vadodara (Gujarat). The nearest airport is Vadodara.</p>
1.2	<p><u>Climatic Condition</u></p> <p>1. Barometric Pressure:</p> <p>(i)Normal :1008.2 mbar (ii)Minimum :1000.7mbar (iii)Maximum:1013.2mbar</p> <p>2. Site elevation: 37.7meters above the sea level</p> <p>3. Ambient Temperature:</p> <p>(i) Minimum Temperature (winter dry bulb):4.4Degree Centigrade (ii) Maximum Temperature (Summer dry bulb):46.7DegreeCentigrade</p> <p>(iii) Relative humidity:21% (iv) Relative humidity:89%</p> <p>4. Rain Fall:</p> <p>Maximumrainfall:77mm (rainy season is from July to September)</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC) CONTENTS

	<p>5. Wind Speed experienced during a cyclone in November 1982:</p> <p>125Km/Hr. for 2 Hours, 90 Km/Hr.; average N-W (320 degree N)</p> <p>Wind Velocity (gust wind): Max.61 Km/Hr.</p> <p>(i) 20-61 Km/Hr.-4 days annually (ii) 1-19 Km/Hr.-289 days annually (iii) Under 1 Km/Hr.-72 days annually</p> <p>Above information furnished are for general guidance of Contractor. However Contractor has advised to visit the site and appraise himself about the conditions of site and infrastructure available in the area for fulfilling their commitments under the contract.</p>
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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

2.0 SCOPE OF WORK

2.0.0 Micro Grading:

After the completion of civil work the entire area shall be micro graded up to required levels by the contractor to achieve the ground profile as per pavement level requirement at no extra cost. Filling/ cutting required to bring the site up to the required finished levels is in the scope of the contractor. Extra earth required to make up to paved levels shall be arranged by the contractor at his own cost from approved borrow areas.

2.0.1 The work to be performed under the scope of this tender mainly consists of but not limited to complete Civil works below and above ground level comprising of cast-in-situ bored RCC piles including test piles, Pile caps/foundations, pedestals, foundation bolts, inserts, embedment, rails, plinth beam, grade beam, grade slab, all equipment and fan foundation, GTG foundation, HRSG foundation, stack, HRSG chimney, Plant buildings, RCC cable/ pipe trench below GL etc, Earth mat with riser, test pits, Roads, Drains, paving, fencing, gates, RCC framed building/Plant building, Structural and architectural works and their maintenance for specified period of the following :

For building sizes and number of equipments refer plot plan, please note that these are tentative and likely to change.

(1) Buildings:

- (i) GTG Hall
- (ii) CEMS/Analyser Room
- (iii) GT Chiller Room
- (iv) De-aerator and BFP Structure
- (v) Transformer Yard

(2) FOUNDATION FOR THE FOLLOWING EQUIPMENT

2.1 Main Equipment

- (a) GTG – 1no.
- (b) HRSG – 1No.
- (c) Main Stack and Bypass stack foundation
- (d) GT, Station Aux. Transformers
- (e) Inlet Air Filter & Duct Supports for GT & Generator
- (f) GTG & Bypass Stack auxiliaries
- (g) HRSG Auxiliaries

2.2 Fuel Gas System for GT

- (a) Gas conditioning skid
- (b) Condensate drain tank
- (c) Knock-out drum of HRSG

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

2.3 Feed water system

- (a) HP BFPs
- (b) IP BFPs
- (c) LP dosing skids (Hydrazine)
- (d) LP dosing skid (Morpholine)
- (e) LP BFPs
- (f) LP dosing preparation tanks

2.4 Black start facilities

- (a) Black start cooling tower
- (b) Cooling Tower sump
- (c) Black start CW pumps
- (d) Inst. Air surge vessel
- (e) Feed water pumps for boiler

2.5 Air Conditioning system

- (a) Vapour absorption machine
- (b) Chilled water pumps
- (c) CW pumps
- (d) Condensate tank
- (e) Transfer pumps
- (f) AHU

(3) FOUNDATION & Super structure for the following:

- (a) Pipe rack cum cable rack
- (b) De-aerator

(4) Construction the following Services:

- (a) Approach road and road work within the power plant area
- (b) Storm water drains
- (c) Oily sewer system
- (d) Contaminated rain water system
- (e) Sanitary sewer system
- (f) Service water lines
- (g) RCC cable & Pipe trenches including inserts & pre-casts cover slabs
- (h) Pipe sleepers
- (i) Concrete Paving
- (j) Civil works related to Fire fighting, AC, Ventilation etc.
- (k) Structural platforms, monorail beams, walkways, crossovers, handrails etc. for misc. equipments, piping etc.
- (l) Earthing and Earth pits
- (m) Fencing & Gates

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

- (n) **Bored cast in situ piles for all foundations & buildings including test piles.**
- (o) And any left-over below/Above GL civil works which has not been specifically mentioned here but required for successful completion of the project are deemed to be within the scope of this contract.

(5) Site Grading of main plant area

(6) Misc. work of area cleaning of BHEL open storage yard including repairs of existing WBM road.

(7) Removal and restacking (in nearby area) of scrap comprising of Steel materials, cable drums, insulation materials, valves and any other materials laying on the open storage yard.

2.0.1.1 THE WORK WILL INVOLVE.

All civil works including RCC bored cast-in-situ Piles and above GL wherever specifically mentioned connected with the above mentioned structures such as earth work, concrete work, brick work, steel work, embedment, plastering and painting, wooden and metal doors, windows and partitions, waterproofing, flooring, plumbing, road work, drainage, grouting etc.

2.0.1.2 PILING WORK:

The work will involve:

- 1) Installation & Testing of 500mm dia. Bored cast-in situ piles approximately 18m, 15m, 12m long for all foundations & buildings.
- 2) The scope will cover all works connected with installations and Testing of Bored Cast-in-situ piles including mobilizations of rigs and other equipments their erection/dismantling/transportation/assembling and erecting from one area to another within the plant, preparation of firm ground as required for supporting the pile rigs, supply of materials, sampling and testing of materials consumables, labours, transportation, testing of piles (both test as well as work piles), cutting of piles above PCL (pile cut-off level) and embedding the exposed reinforcement of pile in pile cap, removal of debris etc. all complete as required for the proper and satisfactory completion of the job.

2.0.1.3 CIVIL AND ARCHITECTURAL WORKS

The scope covers all Civil and Architectural within the battery limits. The important works covered are as below.

- 1) Excavation of earth and backfilling including dewatering of excavations for foundations, trenches, tunnels pits, etc. till the construction of the same is completed and disposal of surplus.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

- 2) Construction of RCC pile caps with pedestals, foundation footing for lightly loaded structures, trenches, tunnels, sumps, grade beams, tie beams at foundation level, grade slabs, floor slabs and roof slabs, equipment foundations etc.
- 3) Complete civil, Structural and architectural works such as brick work, plastering, painting, all types of floor/roof finishes, all types joinery etc.
- 4) Preparation and submission of detailed calculations, arrangement drawings and detail drawings of formwork, staging and scaffolding for all reinforced concrete structures and foundations as directed by the Engineer for his checking and approval.
- 5) Preparation of detailed working drawings and bar bending schedules for all reinforced concrete work and getting them approved by the BHEL Engineer.
- 6) Taking delivery from BHEL stores, fabrication and erection steelwork (both TMT & Structural steel).
- 7) Fabrication supply and fixing of anchor bolts, sleeves, fixing frames, embedment etc. in concrete.
- 8) Supply of all instruments and personnel for conducting necessary tests at site as specified/as directed by the Engineer.
- 9) Making appropriate fabrication drawing as per agreed schedule before starting fabrication work for any structural GA drawing.
- 10) Taking delivery from BHEL stores fabrication and erection of structural steel work including all interfacing works and miscellaneous works, supply of steel will be made by BHEL. The nature of work shall include columns , beams, splicing of steel works as needed, bracings, sheeting runners , sag rods, ties struts, walkways, galleries, stairs, ladders, hand railing , floor gratings, chequered plate work, M.S pipes, equipment supporting platform, and all other structures required for the successful completion of the project.
- 11) Supply & fixing of floor gratings as per specification
- 12) Supply of high tensile bolts, mild steel bolts, nuts, plain/taper and spring washers, all electrodes required for shop and field work.
- 13) Shop and final painting as per technical specification after properly cleaning the steel surface.
- 14) Grouting under stanchion bases.

2.0.1.4 Delivery of free issue materials from BHEL stores

The work involves:

- 1) Taking delivery of all free issue materials from BHEL stores, loading, Transportation and unloading at site for fabrication and erection.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

2.0.1.5 GENERAL

- 1) The drawings enclosed with this tender are intended to give the tenderer a general idea of the type and extent of work involved. The drawings are as such only indicative and not to be considered as the exact construction drawings.

Further this is to be noted that the drawings and the documents furnished along with this specification are the sole property of B.H.E.L. It must not be used directly or indirectly in any way detrimental to the interest of the company.

- 2) The scope of work will also include such other related works although they may not be specifically mentioned in the above paragraph and all such incidental items not specified but reasonably imply and necessary for completion of the job as a whole all as desired and as directed by the engineer.
- 3) The detail scope of work covered above is not a comprehensive list of items of work involved. The detail scope of work may vary considerably depending on the actual construction requirements.

2.0.1.6 ALSO INCLUDED IN THE SCOPE

Unless otherwise specified, the work to be provided by the contractor for the items mentioned in the "Schedule of items" shall include but not be limited to the following.

- 1) Furnishing all labour, 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 on specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provide by the engineer during the course of works.
- 2) Furnishing samples of all materials required by the engineers for testing/inspection and approval for use in the works. The samples may be retained by the engineer for final incorporation in the works.
- 3) Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the engineer.
- 4) Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, that is required for all works including temporary works.
- 5) Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
- 6) Carrying out topographic survey of the entire and 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., The

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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contractor shall provide the owner/BHEL such a 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.

- 7) Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.
- 8) Arranging for joint checking (with BHEL/BHEL's Customer/Consultant) of all site construction activities Preparation of joint protocols for each & every activity and maintaining quality records for audit/inspection.
- 9) **Approval from Statutory and Local Authorities as per requirement.** However BHEL shall issue all the relevant drawings & documents for the same. All legal fee shall be reimbursed by BHEL as per actual on production of documentary proof.
- 10) The plot for construction area/ fabrication yard/ field office/ construction stores has to be developed by the contractor of its own and the Client shall only identify the space on as in where is basis. All the infrastructure facilities required by contractor for carrying out the above work which include roads, approaches, drainage system, pavements etc. shall be developed & provided by the contractor of its own.

2.0.1.7 WORKS BY OTHERS

No work under the specification will be provided by any agency other than the contractor unless specifically mentioned elsewhere in the contract.

TECHNICAL SPECIFICATIONS & DRAWINGS FOR INFORMATION.

SECTION DESCRIPTION

- 1) SECTION – A LIST OF TECHNICAL SPECIFICATIONS
- 2) SECTION – B LIST OF TENDER DRAWINGS (Refer Chapter IX)

NOTE:

Contractor has to make himself well conversant with the Customer specification. In case of ambiguity between BHEL and customer specification, customer specification shall prevail.

SECTION-A: LIST OF TECHNICAL SPECIFICATIONS.

BHEL PED HYDERABAD SPECIFICATIONS				
Sl. No	Description	Specification/Document number	Rev	Pages
1	GENERAL SCOPE	PEDC/STD.SPEC/001	0	3
2	PROPERTIES. STORAGE & HANDLING OF COMMON BUILDING MATERIALS	PEDC/STD.SPEC/002	0	5

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3	CEMENT CONCRETE-PLAIN& REINFORCED	PEDC/STD.SPEC/004	0	56
4	FABRICATION & STRUCTURAL STEEL WORK	PEDC/STD.SPEC/005	0	25
5	ERECTION OF STRUCTURAL STEEL WORK	PEDC/STD.SPEC/006	0	15
6	MISCELLANEOUS STEEL WORK	PEDC/STD.SPEC/007	0	5
7	MISCELLANEOUS METAL	PEDC/STD.SPEC/008	0	5
8	INSERTS / EMBEDMENTS IN CONCRETE WORK	PEDC/STD.SPEC/0010	0	3
9	METAL DOORS,WINDOWS, VENTILATORS LOUVERS ETC.	PEDC/STD.SPEC/0017	0	10
10	ROLLING STEEL SHUTTERS & GRILLS ETC.	PEDC/STD.SPEC/0018	0	4
11	TYPE & MAKE OF MATERIALS TO BE USED.	PEDC/STD.SPEC/0027	0	2
PILING				
12	(a) PART I – Preamble	PEDC/STD.SPEC/0040-a	0	2
13	(b) PART II - GENERAL SPECIFICATIONS.	PEDC/STD.SPEC/0040-b	0	4
14	(c) PART III - SPECIFIC REQUIREMENTS.	PEDC/STD.SPEC/0040-c	01	7
15	(d) PILING PART-IV – MATERIAL FOR REINFORCED CONCRETE PILES	PEDC/STD.SPEC/0040-d	0	8
16	(e) PILING PART-V -TESTING OF CONCRETE PILES	PEDC/STD.SPEC/0040-E	0	11
17	(f) PILING PART-VI - CONSTRUCTION AND INSTALLATION OF RCC BORED CAST IN-SITU PILES	PEDC/STD.SPEC/0040-F	0	8
18	Subcontracting Specification to PSWR IOCL Baroda Rev01	PECC/IOCL BRD/001	01	17
19	General Design Basis Report for Civil, Structural & Architectural works	PECC - 00273	0	21
20	Architectural Std. Drawings IOCL BRD	-	0	18

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IOCL SPECIFICATIONS				
22	'Scope of Work for Civil, Structural and Architectural ' (A-6235-110-010A)	JC11ELT194 FILE 240 OF 309 (V3S6)	-	9
23	Index for Civil engg. spec	JC11ELT194 FILE 244 OF 309 _V3S6_	0	1
24	General Specification	JC11ELT194 FILE 245 OF 309 (V3S6) - A 101		7
25	Earth work Grading & Banking	JC11ELT194 FILE 246 OF 309 (V3S6) -A310		6
26	Earth work other than grading & Banking	JC11ELT194 FILE 247 OF 309 (V3S6) - A311		6
27	Bored Cast-in-situ Piling	JC11ELT194 FILE 248 OF 309 (V3S6)-A312		21
28	Driven Cast-in-situ Piling	JC11ELT194 FILE 249 OF 309 (V3S6)-A313		18
29	Rebarr Work	JC11ELT194 FILE 250 OF 309 (V3S6)-A314		7
30	Formworks	JC11ELT194 FILE 251 OF 309 (V3S6)-A316		11
31	Concrete Works	JC11ELT194 FILE 252 OF 309 (V3S6)-A318		26
32	Fire Proofing of steel structures	JC11ELT194 FILE 253 OF 309 (V3S6)-A320		10
33	Structural Steel Works	JC11ELT194 FILE 254 OF 309 (V3S6)-A322		38
34	Painting for Structural Steel	JC11ELT194 FILE 255 OF 309 (V3S6)-A323		13
35	Masonry Works	JC11ELT194 FILE 256 OF 309 (V3S6)-A324		15
36	Plastering & Pointing Works	JC11ELT194 FILE 257 OF 309 (V3S6)-A326		12
37	Painting Works	JC11ELT194 FILE 258 OF 309 (V3S6)-A327		13
38	Flooring & Lining Works	JC11ELT194 FILE 259 OF 309 (V3S6)-A328		14
39	Joinery & Glazing Works	JC11ELT194 FILE 260 OF 309 (V3S6)-A329		16
40	Roofing & Sliding Works	JC11ELT194 FILE 261 OF 309 (V3S6)-A330		13
41	Water Proofing Works	JC11ELT194 FILE 262 OF 309 (V3S6)-A331		12
42	False Ceiling works	JC11ELT194 FILE 263 OF 309 (V3S6)-A332		4
43	False Flooring	JC11ELT194 FILE 264 OF 309 (V3S6)-A332 II		4
44	Fence & Gate Works	JC11ELT194 FILE 265 OF 309 (V3S6)-A333		6
45	Sanitary & Plumbing	JC11ELT194 FILE 266 OF 309 (V3S6)-A334		10
46	Anti termite	JC11ELT194 FILE 267 OF 309 (V3S6)-A335		6
47	Road & Pavement	JC11ELT194 FILE 268 OF 309 (V3S6)-A340		19
48	Demolishing & Dismantling	JC11ELT194 FILE 269 OF 309 (V3S6)-A342		8
49	Soil Investigation & Foundation Report	JC11ELT194 FILE 270 OF 309 (V3S6)-A351		22
50	Tank Pad Foundation	JC11ELT194 FILE 271 OF 309 (V3S6)-A352		9
51	Topographic Survey	JC11ELT194 FILE 272 OF 309 (V3S6)-A355		7
52	Geotechnical Investigation Report	JC11ELT194 FILE 280 OF 309 (V3S6)		301
53	Standard Construction Specifications for Painting	O-301 A Painting Specifications		36

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	Works			
54	IOCL - Safety & Environmental Practices	SAFETY AND ENVIRONMENTAL PRACTICES DOC		23
55	A-6235-001 to A-6235-005	JC11ELT194 FILE 9 OF 309 (V3S1)		258

2.0.1.8 PREAMBLE FOR THE SCHEDULE OF QUANTITIES/BOQ.

1) Details of the items in this Schedule shall be read in conjunction with the Corresponding IOCL specifications, drawings and other documents and shall have precedence over any contrary statement mentioned anywhere in this document.

2) The work shall be carried out as per construction drawings, specifications, the description of the items in this schedule and/or Engineer's instructions, Drawings enclosed with these documents are only indicative giving some idea of the type of work involved. The layout, sizes and details of the building, structures and foundations shown in tender drawings may vary at a large extent during actual construction. Final drawings will be issued progressively during the execution of the work.

3) Items of work provided in this schedule but not covered in the specifications shall be executed strictly as per instructions of the Engineer.

4) Unless specifically mentioned otherwise in the contract, the bidder shall quote his rates for the finished items and shall provide for the complete cost towards fuel, tools, tackle, equipment, constructional plant, temporary works, labour materials, levies, taxes, transport, layout, repairs, rectification, maintenance till handing over, supervision, shops, establishments, services, temporary roads, revenue expenses, contingencies, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the works according to the contract.

5) The rate quoted shall be inclusive of cleaning the site of any vegetations, dressing and levelling etc., required for commencement of site activities. No separate payment will be made towards the same.

6) The rate shall also be inclusive of carrying out topography survey of site to establish levels and coordinates at suitable intervals, from existing grid levels and coordinates furnished by the owner, establish bench marks, setting out the location and levels of the proposed structures, constructions and making references, pillars and other identification marks etc. No separate payment will be made towards the same.

7) The quantities of the various items mentioned in the schedule are approximate and may vary up to any extent or be deleted altogether. The overall variation in contract value on execution shall be dealt as per GCC. Contractor has to obtain prior approval of BHEL/IOCL before procurement of bought out items/ building materials including Cement.

8) Rates shall be quoted both in figures and in words in clear legible writing. No over writing is allowed. All scoring and cancellation should be counter signed by the bidder. In case of illegibility, the interpretation of the engineer shall be final. All entries shall be in English language.

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9) Engineers decision shall be final and binding on the contractors regarding clarification of items in this schedule with respect to the other section of the contract.

10) In case of any discrepancy between item description, relevant drawing and/or specification Clarification shall be sought at tender stage itself. Otherwise it shall be assumed that the bidder has quoted for the more stringent requirement.

2.0.1.9 HIERARCHY

In case of any conflict/deviations amongst various documents, the order of precedence shall be as follows

- 1) Statutory Regulations
- 2) IOCL specification
- 3) Items in Schedule of quantities
- 4) IS/BS standards
- 5) BHEL's standard specification (with prior approval of Engineer-in-charge).

Laying / Cutting & Re-welding of associated electrical earthing works below the road & drains and surrounding areas shall also be done by civil contractor as per drawings for which 40mm dia. MS rod/GI flats shall be supplied by BHEL free of cost.

2.0.2 Construction Power & Water:

2.0.2.1 CONSTRUCTION POWER: Shall be provided Free of cost.

1. Construction power (three phase, 415 V/ 440 V) will be provided at one point near the site at a distance of approx. 500M. **The electricity shall be provided on free of cost basis.** Further distribution shall be arranged by the contractor at his own cost. Contractor shall be responsible for fulfillment of all requirements including statutory requirements in this regard. Contractor shall deploy and install required energy meter, cables, fuses, distribution boards, switchboards, bus bars, earthing arrangements, protection devices and any other installation as specified by statutory authority/act. Contractor shall also obtain approvals of appropriate authority and pay necessary fees, levies etc towards the clearance of such installations, prior to use. Sufficient power factor compensation equipments like capacitor shall be provided by contractor for reactive loads like welding machines etc. In case of any fine/penalty on account of low power factor, same shall be shared by contractor proportionately according to power consumption.
2. Contractor shall make necessary arrangements for onward distribution of construction power taking due care of surrounding construction activities like movement of cranes & vehicles, civil work, fabrication/construction/assembly/ erection etc and safety of

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personnel. It may become necessary to relocate some of the installations to facilitate work by other agencies or by him.

3. It shall be the responsibility of the Contractor to provide, maintain the complete installation on the load side of the supply with due regard to the safety requirements at site. All cabling and installations shall comply in all respects with the appropriate statutory requirements. The installation and maintenance of this shall be done by licensed and experienced electrician.
4. While reasonable efforts will be made to ensure continuous electric power supply, interruptions cannot be ruled out and no claim from the Contractor shall be entertained on this account such as idle labor, extension of time etc. The Contractor shall adjust his working shift accordingly and deploy additional manpower, if necessary, so as to achieve the target.
5. Contractor shall be well equipped with back-up power supply arrangement like DG set and diesel operated welding machine etc to tackle situations arising due to failure of supplied power, so as to ensure continuity and completion of critical processes that are underway at the time of power failure or important activities planned in immediate future.
6. BHEL is not responsible for any loss or damage to the Contractor's equipment as a result of variations in voltage or frequency or interruptions in power supply.
7. **Contractor to note that till construction power is made available by BHEL/IOCL, contractor shall make his own arrangement like DG set etc. The contractor shall also take the approval/ permission of Gujarat State statutory authorities for his DG set installation.**
8. Though construction power is free, Contractor is advised to maintain the calibrated energy measuring instruments and use their system as efficiently as possible to maintain the HT side input energy meter reading and LT side outgoing energy meter reading to sub-contractors as equal.
- 15) Any taxes, duties, levies, cess etc as being charged/ levied by IOCL/ state statutory authority shall be passed on to the sub-contractors proportionately in the respective calendar month bill.

2.0.2.2 CONSTRUCTION AND POTABLE WATER shall be made available free of cost at a single point within battery limit which is to be further distributed by contractor. No additional payment shall be made on account of this.

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2.0.2.3 ISOLATION OF WORKING AREA BY PROVIDING BARRICADING:

CONTRACTOR SHALL HAVE TO PROVIDE PROPER BARRICADING OF COMPLETE PLOT AREA OF WORK SITE (INCLUDING THE AREA OF ASSEMBLY/PRE-ASSEMBLY/STORAGE YARD ETC. OF HIS OPERATIONS) BY USING SUITABLE SUPPORTS STRUCTURES (MS CHANNEL/ANGLES/PIPES) & COVERING BY GI SHEETS CLADDING TO ISOLATE THE PROJECT & HIS WORK SITE AREA FROM SAFETY POINT OF VIEW BEFORE START OF CONSTRUCTION ACTIVITY. **THIS IS A MANDATORY REQUIREMENT.** BARRICADING SHALL BE OF 4.00 M TO 5.00M HEIGHT FROM GL. AND TOTAL PERIMETER LENGTH OF PLOT AREA TO BE BARRICADED IS ABOUT 700 TO 800 METERS. THE DESIGN, FABRICATION AND FIXING OF SUCH SUPPORTS & BARRICADING SHALL TAKE CARE THE LOCAL CLIMATIC CONDITION & WIND PRESSURE AND SHOULD HAVE APPROVAL OF IOCL/BHEL. BARRICADING SHALL HAVE THE PROVISION OF ENTRY GATES AT 2-3 LOCATIONS FOR MOVEMENT OF HEAVY DUTY CRANES (150-200 T CAP) / TRUCKS/TRAILERS ETC. FOR EXECUTION OF WORK. AFTER COMPLETION OF WORK, RETRIEVABLE MATERIALS SHALL BE THE CONTRACTORS PROPERTY. **BARRICADING WORK SHALL BE THE PART OF SCOPE OF WORK AS A SAFETY PROVISIONS TO WORK INSIDE THE REFINERY PLANT AND CONTRACTOR'S QUOTED RATES SHALL BE INCLUSIVE OF THIS ASPECT & NO ANY EXTRA PAYMENT SHALL BE MADE ON THIS ACCOUNT.**

2.0.2.4 OPEN SPACE FOR CONTRACTOR'S SITE OFFICE, STORAGE AREA, CLOSED STORES FABRICATION YARD FOR REINFORCEMENT BARS AND STRUCTURAL STEEL:

Bidders should note that the work being an extension of operational refinery plant, there is **acute shortage of working space**. All the efforts shall be made to provide approx. 2500 Sqm. open space nearby the work area for the above purpose. In case of requirement of more space, land shall be provided at a distance of approx. 2KM from work area within the plant boundary near BHEL Open storage yard for fabrication of structural steel/ bulk storage of materials. Further transportation of fabricated structures/ other construction materials to the work area shall be done by bidders within the quoted price and no extra claim shall be entertained on this account.

2.0.2.5 STRINGENT SAFETY RULES TO BE FOLLOWED DURING CONSTRUCTION INSIDE THE REFINERY (IOCL)

Contractor should note that in addition to BHEL requirements of safety, occupational health and environmental management, contractor shall strictly follow & abide the safety laws/rules & regulation requirements of IOCL at site and in the event of any deviation/ dispute, the requirements of IOCL in above regard shall supersede the BHEL requirements. Contractor shall arrange the required safety facilities such as first aid, emergency transport, fire protection/fire extinguishers/sand buckets/water buckets, barricading of area, display of safety rules/poster/ danger marks, putting of danger

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boards/ cordoning of unsafe areas, putting the safety taps/ safety fencing, safety tag etc. as part of scope of work as per requirement of IOCL/BHEL. For non-compliance/violation of safety rules and fine/penalty imposed by IOCL as their rules & regulations shall be to the account of contractor & same shall be paid by contractor. In even of any recovery from BHEL bills by customer on account of contractor against such fine/penalty, BHEL shall recover such amount with 30% departmental overheads of BHEL from any available bills/payments of contractor which is due for payment from BHEL. Contractor has to take work permit (Cold/Hot permit) and late hours working beyond normal working hours on daily basis before commencement of work as per IOCL safety rules. All the vehicles entering inside should have valid permit/gate passes and fitted with muffler in its exhaust pipe. Bidder has to deploy an experienced safety supervisor to ensure day to day safety requirement with sufficient supporting staff along with him.

2.0.2.6 READY MIX CONCRETE (RMC) FOR ALL RCC AS WELL AS PCC WORKS

Contractor shall arrange Ready Mix Concrete of required grade from outside source approved by BHEL /IOCL for all reinforced cement concrete and plain cement concrete works. Contractor shall submit mix design of various grades of concrete for RMC along with the test report of aggregates, cement etc. for approval of BHEL/IOCL. Cast-in-situ concrete may be permitted on special cases as per the site requirement for RCC, PCC, Screed concrete, concrete encasing of structural steel for fire protection, etc. as per approved mix design when quantity required is considerably less and it is difficult to bring RMC. Such use shall be permitted in a restricted way in case of exigency to avoid the delay in progress of work with prior approval of BHEL. Payment shall be made as per the quoted rate under relevant items without any extra cost.

2.0.3 Field Quality Assurance:

The contractor shall be responsible for day-to-day quality checks of concrete and other building materials during the progress of work. All quality records and log sheets shall be maintained as per the requirement of BHEL/BHEL'S customer and as per field quality plan approved by **BHEL/IOCL**. For this, contractor shall either establish their own field quality lab or have tie-up with approved lab by BHEL in/outside of the plant.

2.0.4 Reconciliation of steel issued by BHEL (free of cost):

2.0.4.1 MATERIAL

- 1) Steel like (structural, reinforcement bars and 40mm dia. MS round earthing rod/ GI flats) as specified in relevant BOQ shall be issued at free of cost by BHEL for use in the work

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covered in this contract from BHEL stores/store yard. The contractor shall collect these materials from BHEL stores/store yard at specified places at his own cost and store the same at the work site or in his stores as per standard norms. Materials issued will be used only for construction of permanent works.

- 2) BHEL reserves the right to recover from the contractor any loss arising out of damage/ theft or any other causes or during verification/stacking or at any time under the custody of the contractor.
- 3) The contractor shall take care of material issued by BHEL and shall protect the same from damage and weathering. Contractor shall construct waterproof cement store (**capacity minimum 250 MT/ 5000 Bags**) for storing and stacking of cement **procured by the contractor**. Design & drawing required for storage of cement shall be prepared by the vendor and shall be approved by BHEL's site in-charge before taking up for the construction work.
- 4) The contractor shall in no case be entitled for any compensation on account of any delay in supply or non-supply thereof for all or any such materials. However in case of non-availability of any specific section(s) which delays the completion of work, such cases shall be recorded separately during the joint review meeting at site and then shall be considered for time extension of contract.
- 5) No material shall be issued to the contractor except as those indicated and mentioned above i.e structural steel, reinforcement and MS round earthing rod/GI flats as specified in relevant BOQ. Contractor will have to make his own arrangement at his own cost for procurement of any other materials except as mentioned above, as required for the works and of such quality as acceptable to BHEL.
- 6) The contractor shall maintain proper store account for all the BHEL issued materials and shall give **Three (03) copies of monthly-computerized reconciliation statement** of such account showing total receipt, consumption and balance at site to the BHEL. BHEL Engineer's certification for the reconciliation of steel shall be final. The detailed reconciliation along with scrape shall be done **at least once in six months (06) or before submission of final bill which comes earlier**.
- 7) Contractor shall also carryout in complete association with BHEL, the material management functions and execution like day-to-day update of materials, issued to contractor, accounting for surplus/scrap material returned etc. These functions shall also be carried out through computerized system utilizing suitable software. Contractor shall engage experienced software personnel to associate on dedicated basis for efficient discharge of the same in time.

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- 8) The contractor shall solely be responsible for the safety & security of material after it is handed over and issued to contractor by the BHEL.
- 9) BHEL issued materials, shall not be under any circumstances whatsoever, and shall be taken out of the project site unless otherwise permitted by BHEL for outside job.

2.0.5 FOLLOW UP & HANDLING OF MATERIALS ISSUED BY BHEL:

- 1) BHEL will place Purchase Order (P.O) on the manufactures for procurement of structural steel, reinforcement bars, SS steel and Earthing rods etc as specified in BOQ and successful bidders will provide all necessary supports for follow up/chase up with manufactures/supplies/vendors for speedy delivery of materials at site including posting a concerned person(s) for short duration at manufactures factory within their quoted rates.
- 2) Steel like (structural, reinforcement and MS round earthing rod/ GI flats) as specified in relevant BOQ shall be issued at free of cost by BHEL for use in the work covered in this contract from BHEL stores/storage yard. As per the approved drawings contractor shall furnish their section wise requirement well in advance.
- 3) Materials shall be issued by BHEL based on the weighment basis/linear measurements & sectional weight and payment shall also be done in similar way. However on specific request of the contractor **“as a special case to expedite the job”** the consignment received at BHEL stores can directly be diverted to the work site following issuance procedure of BHEL. Such direct issues shall be as per the Chelan/document/LR received with the consignment. Contractor at their cost in such cases shall do unloading of materials from lorry.
- 4) It would be the responsibility of the contractor to keep in constant contact with BHEL site to find out the delivery status, arrival of the consignments and arrange for escort to accompany the truck/ trailer for transportation of above materials by BHEL's supplier, if necessary.
- 5) All materials issued by BHEL shall be stacked, stored above ground level **by use of concrete or wooden sleepers. No materials shall remain on ground at any time.** All concrete or wooden sleepers required for stacking the materials shall be arranged by contractor (successful bidder of this package) at his own cost within the quoted rates. All other equipments like winches, D-Shackles, slings of various sizes, max puller, pulley

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blocks, jacks, trucks, trailers etc. Required for such handling of steel from BHEL stores/storage yard etc. Shall be arranged by contractor within quoted/accepted rates.

- 6) The contractor shall take delivery of the materials from the designated place within the project premises at his own cost and store the same at his stores as per standard norms. Open land for such purposes shall be provided by BHEL on free of cost basis. Temporary barbed wire fencing of the open storage yard is to be done by the contractor and is included under the scope of his work. Contractor shall also remove grass, bushes, trees etc wherever required off the land provided to him and shall make proper continuous up keeping of the open yard /land by removing grass, bushes trees etc and same is included under the scope of his work & No extra payment shall be made to the contractor in this regard. The bidder shall make complete arrangement of necessary security personnel's to safeguard all such materials in his custody. Materials issued will be used only for construction of permanent works. The contractor shall take care of material issued by BHEL and shall protect the same from theft, damage and weathering. Excessive rusting of steel in custody of agency/contractor must be avoided. **In case, due to any cause attributable to the contractor, such rusting of steel occur rendering the same unusable, then such quantity of steel shall be recovered from the interim payment at the penal rate specified in the tender.**

3.0.6 ISSUE OF BHEL MATERIALS

Issue of steel: -The steel shall be issued to the contractor on the following basis:

(A)	Structural Steel, MS Flats , MS Plates/ Chequered Plates etc	Weightment Basis (unit – MT) / Linear Measurement (section wt. As per relevant IS code)
(B)	Reinforcement Steel	Weightment basis (unit – MT)/ linear and earthing rod (MS round). Measurement (section wt. As per relevant IS code)

All the steel (structural, reinforcement, earthing ms rod, MS/GI flats) issued by the BHEL shall be properly accounted for. The total quantity of steel required for the work will be calculated from the approved bar bending schedule, fabrication drawings, approved laps, chairs and lugs. The measurement for payment as well as for accounting shall be based on linear measurements and the sectional weight as indicated in the following IS specifications.

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Sl.no	IS code (s)	Description
1	IS: 808-1964	beams, channels and angles
2	IS: 1730-1961	plates, sheets and strips
3	IS:1732- 1971/IS-1786	Rounds including deformed high yield strength bars/TMT rebar.

In case any such sectional weights are not available in the above documents, the manufacturer recommendation shall be binding. The steel issued to the contractor shall be mainly in standard length and sections as received from the supplier.

However, the contractor shall be bound to accept the steel in length as available in the project stores no claims for extra payment because of issue of non-standard length will be entertained. In case MS flats as required in the fabrication of structures are not available, the contractor shall cut such width out of the available MS plates to make flats at no extra cost till such material is available and procured by BHEL.

The contractor shall satisfy himself of the quality and quantity of the materials at the time of taking delivery from BHEL stores/storage yard. No claims whatsoever will be entertained by BHEL because of quality or quantity after the contractor takes the materials from BHEL stores/storage yard.

The contractor shall submit to the engineer, a statement indicating estimated quantity of steel required during a quarter at least two months in advance of the quarter. In addition, the contractor shall also furnish the **estimated requirement of steel during a month by the third week of the previous month indicating his requirement.** Following shall be limit for the maximum quantity of BHEL issue materials that would be with the contractor at any point of time when work is in progress (excluding what has already been incorporated in the works).

Sl. No.	Issue of materials	Max. Qty in contractor's store.
1	Reinforcement steel & Earthing rod 40mm. MS Round.	Requirement of one month
2	Structural steel	Requirement of one month

Bidders to ensure that no lamination materials are taken over by them from BHEL stores. Fabrication wastage, if any due to above, shall not be compensated by BHEL.

Bidder to note that all fasteners like MS/HT/HSFG bolts/Nuts, Lock Nuts, Washers etc shall be supplied by the bidder as per relevant items of BOQ.

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Bidder to note that cement and steel required for their enabling job like store/site office etc shall be arranged at his own cost.

2.0.7 RETURN OF MATERIALS:

Return of steel:-

All surplus steel and all wastage materials will be taken back on weightment basis. However linear measurements shall also be acceptable for unused/ full size materials. Surplus, unused and un-tampered steel shall be sorted section-wise and returned separately for a place directed by BHEL/engineer within the project area, return of such materials will not be entitled to any handling and incidental charges.

All wastage / scrap (including melting scrap, wastage, and unusable scrap) shall be returned item wise to the stores and a receipt obtained for material accounting purposes. Return of such material will not be entitled to any additional cost due handling and transportation and incidental charge.

All scrap for reinforcement (cut pieces) shall be returned separately.

All scrap for structural steel including melting scrap shall be returned separately.

2.0.8 STEEL CONSUMPTION AND WASTAGE:-

Structural steel, reinforcement and earthing rod 40 mm MS round steel, GI flats consumption and wastage.

- 1) The theoretical consumption of various sections and/or diameter of reinforcement and earthing MS round/GI flats, rails shall be based on approved construction drawing and bar bending schedule. Weight shall be calculated considering/based on linear measurements and the sectional weights as per Indian standards. No extra cost shall be payable to the contractor for any deviation in weights for the different procedures adopted for issue and calculation of the **theoretical consumption including rolling tolerances**. However if rolling margins exceeds the limit stipulated in IS codes, the same shall be considered for reconciliation purpose.
- I) Actual consumption = Issue – Surplus (unused).
- II) Surplus = Un-tampered and unused qty. of steel returned by the contractor to BHEL store along-with relevant documents.
- III) Wastage = Actual consumption – Theoretical consumption.

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❖ Wastage of reinforcement steel

Allowable wastage: - plus five percentage (+5%) of the theoretical consumption shall be considered as allowable wastage for both reinforcement steel as well as earthing rod/flats. Wastage is further classified as cut pieces/serviceable scrap (pieces of reinforcement steel/GI strip/40mm dia. MS earth rod of lengths 3 m and above. Both

Sl. No.	Reinforcement steel & earthing rod 40 mm MS round	Basis of issue & Penal recovery
R-1	Theoretical consumption (without considering wastage and scrap or loss)	Free
R-2	Wastage limited to plus five percent (+5%) of aforesaid theoretical Consumption (R-1) towards allowable Wastage (cut pieces plus scrap to be Returned to BHEL).	Free
R-3	Wastage beyond five percent (+5%) of the theoretical consumption above (R-1). (Cut pieces plus scrap to be returned to BHEL).	Penal Rate

serviceable & unserviceable shall be accounted separately.

❖ Wastage of structural steel:

Allowable wastage: - plus five percentage (+5%) of the theoretical consumption shall be considered as allowable wastage for both structural steel as well as MS plates. Wastage as further classified as cut pieces/serviceable scrap (pieces of rolled section lengths 3 m and above, MS plate 1.0m² and above with minimum width 200 mm) and scrap/unserviceable (less than above) measured as per actual weightment basis. Invisible wastage (loss of materials due to gas cutting, straightening of edges etc) shall be limited to 0.5% (zero point five percent) of theoretical consumption and shall be considered for reconciliation purposes only. But this invisible wastage shall be considered to be included in allowable wastage (i.e. Five percent).

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

Sl. No.	Structural Steel & MS plats , Rolled section, plates & SS liner etc	Basis of issue & Penal recovery
S-1	Theoretical consumption (without considering wastage and scrap or loss)	Free
S-2	Wastage limited to plus five percent (+5%) of aforesaid theoretical Consumption (S-1) towards allowable Wastage (cut pieces plus scrap to be Returned to BHEL).	Free
S-3	Wastage beyond five percent (+5%) of the theoretical consumption above (S-1). (Cut pieces plus scrap to be returned to BHEL).	Penal Rate

2.0.9 **RECONCILIATION OF BHEL ISSUED MATERIALS: -**

- 1) The contractor shall submit a reconciliation statement of steel issued to them with each RA bill. BHEL engineer's certification will be final on this matter.
- 2) At the time of submission of bill(s), the contractor shall properly account for the material issued to him as specified herein to the satisfaction of BHEL certifying that the balance materials are available with contractor's custody at site. The detailed reconciliation along with scrape shall be done **at least once in six months (06) or before submission of final bill which comes earlier.**
- 3) At the time of submission of bills by the contractor, if it is noticed by BHEL that the wastage is high and calls recovery at the penal rate, then BHEL will proceed for recovery for the excess wastage as per penal recovery rates as specified.
- 4) The approved drawings/bar bending schedules are to be considered for the purpose of reconciliation of materials.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

2.0.10 RECOVERY OF MATERIAL:-

- If wastage exceeds the specified limit, the recovery of excess wastage shall be made from monthly r/a bill at the penal rate.

Penal Rate of Materials

Sl.No	Description	UOM	Penal Rate (in Rs)
A	Reinforcement steel and earthing rod etc.	MT	55, 000/-
B	Structural steel		
1	Chqd. Plates/MS plates	MT	60, 000/-
2	Flats/ Beams/ Channel/ Angles etc. (rolled sections).	MT	60, 000/-

2.0.11 PROCUREMENT OF MATERIALS BY SUCCESSFUL CONTRACTORS AND TESTING:

Material required for the entire job (other than issued by BHEL as explained above) like cement, sand, aggregates, windows, doors, ventilators, rolling shutter, sanitary fixtures, painting & finishing material, stop-log gates, travelling screen, electrical fittings and wiring material and all other material required for the completion of entire scope, bolts & nuts, HSFG/HT bolts have to be arranged by the contractor, except those specifically indicated as BHEL scope of supply. BHEL reserves the right to reject any material not found satisfactory.

Contractor shall produce manufacturer's test certificate (**MTC**) for cement for every batch of manufacturing along with each consignment brought to the site. Cement shall be procured from fresh stock only. Apart from the above, it shall be the responsibility of contractor to get the testing of cement, or any other materials procured from outside laboratory approved by **BHEL/IOCL** to ascertain the quality if insisted by **BHEL/BHEL's customer**.

Rate quoted shall be inclusive of all such contingencies and no additional payment shall be made on this account. For this purpose, sample shall be collected at site in presence of **BHEL/BHEL customer's** representative. **The variation in price of all the plant materials supplied by the contractor shall be subject to the relevant price variation clause (PVC).**

Bidders are requested to specifically note the following:

*Bidders are requested to have **pre-bid visit/ inspection of site** to make them fully acquainted with the site situation & nature of job. No claim shall be entertained at later date on account of non-familiarization of site condition. Bidders may fix up their site visit in consultation with construction manager BHEL site office IOCL, BARODA. Name, address & contact point of site is as below:*

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

SHRI OM PRAKASH

AGM-PMX

BHEL, HQ, NAGPUR

E-MAIL ID: omprakash@bhelpswr.co.in

Mob. No: +919422811163

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III : Facilities in the scope of Contractor/BHEL

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1	ESTABLISHMENT			
3.1.1	FOR CONSTRUCTION PURPOSE:			
a	Open space for office (as per availability)	Yes		Location will be finalized after joint survey with owner/ IOCL
b	Open space for storage (as per availability)	Yes		Location will be finalized after joint survey with owner/ IOCL
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
d	Bidder's all office equipments, office / store / canteen consumables		Yes	
e	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	
f	Fire fighting equipments like buckets, extinguishers etc		Yes	
g	Fencing of storage area, office, canteen etc of the bidder		Yes	
3.1.2	FOR LIVING PURPOSES OF THE BIDDER			
a	Open space for labour colony (as per availability)		Yes	Contractor has to make his own arrangements for space, shelter and transportation of labours as per their requirement.
b	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	
3.2.0	ELECTRICITY			
3.2.1	Electricity for construction purposes 3 Phase 415/440 V (To be specified whether chargeable or free)			

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

Sl.No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
a	Single point source	Yes		Shall be provided by BHEL/IOCL free of cost. Pl. refer clause no. 2.0.2 in this regard.
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.2	<i>Electricity for the office, stores, canteen etc of the bidder.</i>			
a	Single point source	Yes		
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.3	<i>Electricity for living accommodation of the bidder's staff, engineers, supervisors etc</i>		Yes	Contractor has to make his own arrangement.
a	Single point source		Yes	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.3.0	<i>WATER SUPPLY</i>			
3.3.1	<i>For construction purposes: (to be specified whether chargeable or free)</i>			
a	Making the water available at single point	Yes		Shall be provided by BHEL/IOCL free of cost.

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

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

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

Sl.No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.5.0	COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER			
a	Téléphone, fax, internet, intranet, e-mail etc		Yes	
3.6.0	COMPRESSED AIR wherever required for the work		Yes	
3.7.0	Demobilization of all the above facilities		YES	
3.8.0	TRANSPORTATION			
a	For site personnel of the bidder		Yes	
b	For bidder's equipments and consumables (T&P, Consumables etc)		Yes	

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

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

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – IV : T&Ps AND MME TO BE DEPLOYED BY CONTRACTOR

A: TOOL & PLANTS

DESCRIPTION																																																											
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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – IV : T&Ps AND MME TO BE DEPLOYED BY CONTRACTOR

DESCRIPTION		
12.	Self priming Dewatering pump of various capacity (Diesel/Electric) From 3 HP to 25 HP	04Nos.
13.	Curing / dewatering pump – 1.5 / 2 HP	02Nos.
14.	Hydraulic Excavator /Poclain	01No.
15.	JCB	01Nos.
16.	<ul style="list-style-type: none"> Ply Shuttering board with adequate supporting structure – (Old steel shuttering plates will not be allowed). Steel shuttering (fare face) 	Lot (As per requirement)
17.	Pipe Scaffolding, Clamps / Swivel Couplers (One/Two Way), Props, Jacks, Screw Heads, MS Pipes, Wooden Battens, Planks, Bullies, H-Frames, Tie Rods with Nuts, Adjustable Achro Span (Considering Individual Areas)	As per requirement.
18.	Dumper	04Nos.
19.	Reinforcement bending machine	02Nos.
20.	Reinforcement cutting machine	02Nos.
21.	MS scaffolding pipe with matching Couplers	6000RM
22.	Power driven earth rammer	02Nos.
23.	Total Station	01No.
24.	Auto level & staff	02Nos.
25.	Concrete Cube Moulds	36Nos.
26.	Tippers	2 Nos.
27.	Road roller/Vibro roller	As per requirement
28.	Water Tanker	01No.
29.	POLES, CABLES, HALOGENS, BULBS ETC FOR AREA ILLUMINATION	As per requirement
30.	COMPUTER(window Xp) with printing & CD writing facility	2sets
31.	COMMUNICATION FACILITIES – LANDLINE, WLL, MOBILE, FAX ETC.	As per requirement

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – IV : T&Ps AND MME TO BE DEPLOYED BY CONTRACTOR

DESCRIPTION	
	<p>(c) CIVIL WORKS - FIELD QUALITY LAB EQUIPMENTS –</p> <ul style="list-style-type: none"> (a) Automatic compression testing machine(2000KN) – 1no (b) Cube moulds(150mm size) –36 nos (c) Slump cone with tamping rod – 02no (d) Sieves of different sizes for fine & coarse aggregate testing – 1 set (e) Core cutter test apparatus – 05sets (f) Oven (capacity 120ltr, range – 250c) – 1no (g) Moisture container(steel/aluminum) – 04nos (h) Rapid moisture meter – 02nos (i) Vicat apparatus with plungers for cement testing – 1set (j) Cube moulds (70mm size) – 06nos (k) Physical balance – 02no. (l) Automatic vibration m/c – 01 no. (m) Jars – 4 nos. <p>Bidder must submit T&P deployment plan inclusive of above T&Ps .</p>

B: MEASURING AND MONITORING DEVICES (MMD):

AS PER REQUIREMENT TO BE FINALIZED AT SITE.

NOTE:

This above list is only indicative and neither exhaustive nor limiting. Quantities indicated above are only the minimum required. Contractor shall deploy all necessary T&P to meet the schedules & as prescribed by BHEL engineer and required for completion of work.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – V: T&Ps and MMEs to be deployed by BHEL on sharing basis

5.1 CRANES:

BHEL will provide the following listed crane on sharing basis for the purpose indicated against the respective crane:

Sl. No.	DESCRIPTION & CAPACITY	QUANTITY	PURPOSE
1.	150T CAPACITY CRAWLER CRANE	1	Handling at erection site and Erection of structures of power house(TG Hall), De-aerator etc

Bidders shall note that allotment (sharing arrangement) of the above Crane will be done by BHEL with due consideration of priority of the project activity. Contractor shall have to submit to BHEL his requirement of crane well in advance to ensure smooth execution of work.

Contractor shall provide fuel, operating crew, preventive/routine maintenance during his work as a part of the scope. In case BHEL provides the cranes through BHEL's hiring agencies, the aforesaid responsibilities EXCEPT THE FUEL (which will remain in contractor's scope) will be arranged by the hiring agency and BHEL will recover Rs 10000/- (Ten thousand only) per month (30 days x 8 Hrs per day) on pro-rata basis or part thereof towards this services. Contractors shall also provide necessary manpower assistance and T & P for assembly & dismantling of Boom, Jib and any other attachment of the cranes as deemed necessary for the project work. Contractor shall lay necessary sleeper beds, backfilling of approaches wherever necessary for safe movement of the cranes as directed by BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Time Schedule

6.1 TIME SCHEDULE & MOBILIZATION

6.1.1 INITIAL MOBILIZATION AND TENTATIVE SCHEDULE

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

The contractor has to subsequently augment his resources in such a manner that the entire works are completed within the contract period of **17 (Seventeen) months** in a manner required by BHEL to match with the project schedule.

6.1.2 CONTRACT PERIOD AND SCHEDULE FOR COMPLETION

The entire work under the scope of this contract shall be carried out in such a manner that the following listed major milestones are achieved as per completion schedule given against each activity & release for erection by other agency.

Schedule of completion - Civil Works For HRSG & GTG

All the related Civil works are to be completed to match with the following **Project Mile stones** as per L-1 Schedule. Contractor has to develop L-2/L-3 schedule in line with the major mile stone activity & submit to BHEL for approval & further monitoring.

HRSG Erection Start:	15/12/2012
GT Erection start:	04/03/2013
Hydro Test:	02/08/2013
Open Cycle commissioning:	10/09/2013
Co. Gen. commissioning:	17/12/2013

The tentative schedule of completion of various Civil foundation, building & structures are as below:

S. No.	Activity	Date of completion Assuming DOS: 15/06/12
1	Completion of Bore cast-in-situ RCC piles (including test piles) in phased manner area wise	Oct. 12
2	Readiness of HRSG foundation	Nov. 2012
3	Readiness of Steel Stack Foundation of HRSG	Dec. 2012
4	Readiness of GT and GTG foundations	Jan. 2013
5	Readiness of BYPASS STACK foundation	April 2013
6	Readiness of GTG Hall	May 2013

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Time Schedule

7	Readiness of other major equipment foundn. & Aux. foundn.	July 2013
8	Readiness of all Auxiliary building and structures	Aug. 2013
9	Readiness of transformer foundations, Firewalls etc.	May 2013
10	Pipe/ Cable rack foundations and structures	July 2013
11	Miscellaneous Job like cable trench , Pipe Trench , Civil works related to Fire Fighting, Paving, Roads, Sewage systems, Earthing & Earthing pits etc	15 th Nov. 2013 in gradual manner as per plant commissioning program.

Common activities like Plant roads, drains, fencing, paving and other misc. works etc shall be completed in Phase wise manner / Instruction of Engineer within the Contractual time.

Note:

- **Agency should note that the construction works for GTG, HRSG along with its auxiliaries shall have to go parallelly to match with the commissioning schedule of the plant. For this it will be necessary to deploy “Dedicated Resources” like Manpower, Machineries and Materials Area wise to execute the works simultaneously.**
- **Bidders are requested to submit Resource deployment plan Area wise with detail program in line with above schedule in the form of Bar Chart / MS project planer along with their offer.**

6.1.3

IN ORDER TO MEET ABOVE SCHEDULE AND OTHER INTERMEDIATE TARGETS/ACTIVITIES AS SET BY BHEL ENGINEER IN CHARGE AT SITE & TO MEET CUSTOMER REQUIREMENTS/PROJECT SCHEDULE, CONTRACTOR SHALL ARRANGE ALL NECESSARY RESOURCES AND WORK FORCE IN CONSULTATION WITH BHEL ENGINEER AT SITE TO UNDERTAKE WORKS CONCURRENTLY IN ALL POSSIBLE FRONTS AS MADE AVAILABLE TO CONTRACTOR.

CONTRACTOR SHALL NOTE THAT INDIVIDUAL MILESTONES AS ABOVE SHALL BE ACHIEVED AS PER SCHEDULE FURNISHED ABOVE. **THE DATE OF START OF FIRST EXCAVATION/START OF TEST PILE SHALL BE RECKONED AS THE START OF CONTRACT PERIOD FOR THIS PURPOSE.**

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VII: TERMS OF PAYMENT

7.00 TERMS OF PAYMENT

7.0.1 PROGRESSIVE PAYMENT FOR CIVIL, STRUCTURAL AND ARCHITECTURAL WORK.

THE PERCENTAGE OF PAYMENT FOR PROGRESSIVE COMPLETION OF WORK IN VARIOUS CATEGORIES OF WORK SHALL BE AS UNDER:

1.0.2 CIVIL AND ARCHITECTURAL WORK

100% OF ITEM RATE ON PRORATA BASIS AGAINST MONTHLY RA BILLS.

1.0.3 STRUCTURAL WORK

100% OF ITEM RATE ON PRORATA BASIS AGAINST MONTHLY RA BILLS AS FOLLOWS.

Item 2301 (a) i.e Fabrication shall be further bifurcated as below:

- | | | | |
|------|---|---|------------------------|
| (i) | ON COMPLETION OF FABRICATION | - | 80% OF THE QUOTED RATE |
| (ii) | ON COMPLETION OF SURFACE PREPARATION & APPLICATION
OF ONE COAT OF PRIMER PAINT | | 20% OF THE QUOTED RATE |

Item 2301 (b): i.e Erection shall be further bifurcated as below:

- | | | | |
|------|--|---|------------------------|
| (i) | ON COMPLETION OF ERECTION | - | 80% OF THE QUOTED RATE |
| (ii) | ON COMPLETION OF WELDING & ALIGNMENT
AND 2ND COAT OF PRIMER | | 20% OF THE QUOTED RATE |

The RA bill payment shall be made as per Cl no 10.0 of Chapter –X of SCC (page-44) and as per cl no: 2.6 of GCC

1.0.4 EXTRA/ADDITIONAL ITEMS OF WORK:-

As Per GCC.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

8.0 TAXES, DUTIES, LEVIES

8.1.1

The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions or other charges which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. **In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.**

However, provisions regarding Service Tax and Value Added Tax (VAT) on output services and goods shall be as per following clauses.

8.1.2 Service Tax & Cess on Service Tax

Contractor's price/rates shall be **exclusive** of Service Tax and Cess on Services. In case, it becomes mandatory for the contractor under provisions of relevant act/law to collect the Service Tax & Cess from BHEL and pay the same to the concerned tax authorities, such applicable amount will be paid by BHEL at the prevailing Service Tax Rate **(presently 12.36 %)** on the admitted bill value.

Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract. Contractor shall submit serially numbered Service Tax and Cess Invoice, signed by him or a person authorized by him in respect of taxable service provided, and shall contain the following, namely,

- 1.The name, address and the registration number of the contractor,**
- 2.The name and address of the party receiving taxable service,**
- 3.Description, classification and value of taxable service provided and,**
- 4.The service tax payable thereon.**

All the Four conditions shall be fulfilled in the invoice before release of service tax payment.

Wherever, more than one route/option are available for discharge of service tax liability under a particular service, (e.g. "works contract Service"), contractor shall obtain prior written consent from BHEL site before billing the amount towards Service Tax.

8.1.3 VAT (Sales Tax /WCT)

As regards Value Added Tax (VAT)/CST on transfer of property in goods involved in Works Contract (previously known as Works Contract Tax) applicable as per local laws, the price quoted by the contractor shall be **inclusive** of the same and in no case input or output VAT/CST will be reimbursed extra.

In any case the Contractor shall register himself with the respective Sales Tax authorities of the state and submit proof of such registration to BHEL along with the first RA bill. Contractor will submit all the details of VAT/CST paid for the contract in the prescribed format of the respective state VAT laws. Also, the contractor will issue the tax Invoices to BHEL as per the Tax laws of respective state on monthly basis. Contractor shall also be required to furnish to BHEL necessary proof of VAT remittance on monthly basis.

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

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

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

8.1.4 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.

8.1.5 Submission of Periodical Reports

Contractor shall submit periodical reports in respect of following aspects of operation:

- 1) Consumption of welding electrodes and gases
- 2) Consumption of construction power
- 3) Manpower reports
- 4) Daily and Monthly Progress reports
- 5) Field calibration reports

BHEL at site will inform formats for these reports.

8.1.6 It is the responsibility of the contractor to arrange gate pass for all his employees, T&P etc. Necessary coordination with customer officials is the responsibility of the contractor. Contractor to follow all the procedures laid down by the customer for making gate passes. Where permitted, by customer/ BHEL, to work beyond normal working hours, the contractor shall arrange necessary work permit for working beyond normal working hours

8.2 BUILDING & OTHER CONSTRUCTION WORKERS (REGULATION OF EMPLOYMENT AND CONDITIONS OF SERVICE) ACT, 1996 (BOCW Act) AND RULES OF 1998 READ WITH BUILDING & OTHER CONSTRUCTION WORKERS CESS Act, 1996 & CESS RULES, 1998.

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In case any portion of work involves execution through building or construction workers, then compliance to the above titled Acts shall be ensured by the contractor and contractor shall obtain license and deposit the cess under the Act. In the circumstances it may be ensured as under:-

- i. It shall be the sole responsibility of the contractor in the capacity of employer to forthwith (within a period of 15 days from the award of work) apply for a licence to the Competent Authority under the BOCW Act and obtain proper certificate thereof by specifying the scope of its work. It shall also be responsibility of the contractor to furnish a copy of such certificate of licence / permission to BHEL within a period of one month from the date of award of contract.
- ii. It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under these act and rules including that of payment / deposit of 1% cess on the extant of work involving building or construction workers engaged by the contractor within a period of one month from the receipt of payment.
- iii. It shall be the responsibility of the sub-contractor to furnish the receipts / challans towards deposit of the cess together with the number, name and other details of beneficiaries (building workers) engaged by the sub-contractor during the preceding month.
- iv. It shall be the absolute responsibility of the sub-contractor to make payment of all statutory payments & compensations to its workers including that is provided under the Workmen's Compensation Act, 1923.

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CHAPTER IX –DRAWINGS

FOLLOWING DRAWINGS ARE ENCLOSED WITH THE TENDER.

➤ **Drawings Given by Customer / BHEL PED Hyd.**

SL. NO.	TITLE	DRAWING NO.	REV
1	PLOT PLAN	0-381-01-01388	R1
2	STANDARD DRAWING FOR STEEL STRUCTURE - GRATING & CHEQUERED PLATE FLOORING DETAILS	D-6235-108-003	R1
3	STANDARD DRAWING FOR STEEL STRUCTURE - HANDRAIL DETAILS	D-6235-108-004	R0
4	STANDARD DRAWING FOR STEEL STRUCTURE - STAIRCASE DETAILS	D-6235-108-005	R1
5	STANDARD DRAWING FOR STEEL STRUCTURE - LADDER DETAILS	D-6235-108-006	R0
6	PMC FOR UTILITIES AND OFFSITE LAYOUT OF BOREHOLES	19-2583-00/C.01/0001/A0	R1
7	DETAILS OF EARTH ELECTRODE IN TEST PIT	GT57191-sh-2001	00
8	DETAILS OF PIPE ELECTRODE	GT57191-sh-1002	00

NOTE: These tender drawings are not hosted in our web site. These drawings shall be available in our office at Nagpur in Hard Copy. Bidders can collect these drawings while purchasing tender specification. The above drawings are indicative and just for idea of the bidders. Work shall be carried out as per the RFC (Approved for construction) drawing issued during the construction stage.

SPECIAL CONDITIONS OF CONTRACT (SCC)

CHAPTER X –APPENDIX

Appendix A: **Tentative Manpower Requirement**

1. Project manager – with adequate experience in Industrial Foundation, Building & Structural Works, Power Plant Civil & Structural Works - 1 Head
2. Experienced Civil Engineers – 5 heads
3. Experienced Foreman / Supervisors - 5 heads
4. Planning & Billing Engineer – 01 heads
5. Stores, Gate Pass – 02 heads
6. Accounts & Administration- 01no
7. Quality Control Engineer – 1 head
8. Safety Engineer – 1no along with supporting staff.
9. Surveyor – 02 head capable to handle total station
10. Operator, Licensed Electrician, Mechanic - As per requirement
11. Experienced Carpenters & Helpers – lot for similar nature of work
12. Experienced Bar Benders & Helpers – lot for similar nature of work
- 13.** Security Guards (Round The Clock) – As per requirement