



**BHARAT HEAVY ELECTRICAL LIMITED**

(A GOVERNMENT OF INDIA UNDERTAKING)

ELECTRONICS DIVISION

P.B. NO.: 2606, MYSORE ROAD, BANGALORE-560 026.

**NOTICE INVITING TENDER (NIT)**

**(TWO PART OPEN TENDER)**

FOR THE WORK OF  
**DISMANTLING OF EXISTING CONTROL & INSTRUMENTATION SYSTEM  
AND  
ERECTION & COMMISSIONING OF NEW CONTROL &  
INSTRUMENTATION SYSTEM  
FOR  
TWO UNITS AND COMMON SYSTEM**

AT

NATIONAL CAPITAL POWER STATION (NCPS), 4x210MW, STAGE-I, NTPC DADRI,  
GAUTAM BUDH NAGAR, UTTAR PRADESH – 203 207

**TENDER REF. NO.:** CE/ES/2014-15/03/DADRI-R&M/E&C/GS

**TENDER DUE DATE:** 04.07.2014 & **TIME:** 13:00 Hrs.

**IMPORTANT NOTE**

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

**NOTICE INVITING TENDER****(TWO PART OPEN TENDER)**

Sealed offers under two part bid system are invited from competent contractors, fulfilling qualifying requirements, with sound financial capacity and experience for undertaking the following work as per detailed schedule of work given in Tender Documents. No sale of Bid documents will be done. The Bidder shall download the Bid document from our websites, fill the same completely & submit

TENDER REFERENCE NO & DATE	CE/ES/2014-15/03/DADRI-R&M/E&C/GS
NAME OF WORK	Dismantling of existing C & I System and Erection & Commissioning of new C&I System in 2 units and Common system.
PLACE OF WORK EXECUTION	STAGE-I (4X210MW), NCPS (Thermal), NTPC DADRI GAUTAM BUDH NAGAR, UTTAR PRADESH INDIA. PIN – 203 207
Earnest Money Deposit (EMD)	Rs. 2,00,000.00 /- (Indian Rupees Two Lakhs Only)
Estimated Value of the Work	Rs. 161.00 Lakhs. (Rupees One Hundred and Sixty One Lakhs only)
DUE DATE & TIME OF TENDER SUBMISSION	04.07.2014 13:00 Hrs.
DATE & TIME of Techno - Commercial Bid Opening	04.07.2014 13:30 Hrs.
Address for Submission of completed Tender	Mr. G SARAVANAN Sr. DGM, EXTERNAL SERVICES 5 <sup>TH</sup> FLOOR, NEW ENGINEERING BUILDING BHEL – ELECTRONICS DIVISION MYSORE ROAD, BANGALORE KARNATAKA. PIN – 560 026
Contact Details for Queries related to this tender only.	Phone: +91 – 80 – 26989240 FAX: +91 – 80 – 26989222 / 26989217 e-mail: <a href="mailto:saravanang@bheledn.co.in">saravanang@bheledn.co.in</a>

## Contents

PRE-QUALIFICATION REQUIREMENTS (PQR) .....	6
PROCEDURE FOR THE SUBMISSION OF SEALED TENDERS .....	7
PROJECT INFORMATION .....	8
INSTRUCTIONS TO BIDDERS (ITB) .....	9
GENERAL CONDITIONS OF CONTRACT .....	16
SPECIAL CONDITIONS OF CONTRACT (SCC).....	28
ERECTION CONDITIONS OF CONTRACT (ECC).....	38
ANNEXURE-1 .....	51
PROVISIONAL LIST OF MATERIALS/EQUIPMENT/SYSTEMS .....	51
ANNEXURE-2 .....	55
OFFER FORWARDING LETTER / TENDER SUBMISSION LETTER .....	55
ANNEXURE-3 .....	56
NO DEVIATION CERTIFICATE .....	56
ANNEXURE-4 .....	57
DECLARATION CONFIRMING KNOWLEDGE ABOUT SITE CONDITIONS .....	57
ANNEXURE-5 .....	58
DECLARATION FOR RELATION IN BHEL .....	58
ANNEXURE-6 .....	59
NON – DISCLOSURE AGREEMENT MEMORANDUM OF UNDERSTANDING .....	59
ANNEXURE-7 .....	60
INDICATIVE LIST OF MAJOR T&P's TO BE PROVIDED BY CONTRACTOR FOR EXECUTION OF TENDERED WORKS....	60
ANNEXURE-8.....	62
FINANCIAL VIABILITY.....	62
ANNEXURE-9 .....	63
ANALYSIS OF SIMILAR JOBS EXECUTED / IN PROGRESS .....	63
ANNEXURE-10 .....	64
STATUS OF TOOLS & PLANTS .....	64
ANNEXURE-11 .....	65
MONTH WISE MANPOWER AND T&P DEPLOYMENT PLAN.....	65
ANNEXURE-12.....	66



ANALYSIS OF UNIT RATE QUOTED .....	66
ANNEXURE-13.....	67
DECLARATION BY AUTHORISED SIGNATORY OF BIDDER.....	67
ANNEXURE-14.....	68
BANK GUARANTEE FOR SECURITY DEPOSIT.....	68
ANNEXURE-15.....	71
POWER OF ATTORNEY for SUBMISSION OF TENDER/SIGNING CONTRACT AGREEMENT .....	71
ANNEXURE-16.....	72
FORMAT FOR CLAIM FOR REFUND OF SECURITY DEPOSIT .....	72
ANNEXURE-17 .....	74
FORMAT OF DECLARATION TO BE GIVEN WITH FINAL BILL .....	74
ANNEXURE-18.....	75
ELECTRONIC FUND TRANSFER (EFT) or PAY LINK DIRECT CREDIT FORM.....	75
ANNEXURE-19.....	76
Terms & Conditions of Reverse Auction .....	76
CHECKLIST AND SCHEDULE OF GENERAL PARTICULARS.....	77
<b>PART-II (PRICE BID)</b> .....	<b>7979</b>
<b>PRICE SCHEDULE</b> .....	<b>80</b>



## PART – I

# TECHNO COMMERCIAL BID

## PRE-QUALIFICATION REQUIREMENTS (PQR)

Bidders who wish to participate should satisfy the following 'Qualifying Requirements':

1. Bidder should have an experience of having executed the work of Erection & Commissioning of Control & Instrumentation system (consisting of DCS Panels, Instrumentation / Control / LT Power cables, field instruments etc.) in a Thermal Power Plant Project of 110MW or higher rating during any of the preceding SEVEN years from 31.03.2014.
2. The work experience as described above should be either of the following. A copy of the 'Work Order' and the corresponding 'Work Completion Certificate' shall be enclosed as proof.
  - a) Three completed works each costing not less than an amount equal to Rs. 64,40,000.00 (Indian Rupees Sixty Four Lakhs and Forty Thousand Only)  
OR
  - b) Two completed works each costing not less than an amount equal to Rs. 80,50,000.00 (Indian Rupees Eighty Lakhs and Fifty Thousand Only)  
OR
  - c) One completed work costing not less than an amount equal to Rs. 1,28,80,000.00 (Indian Rupees One Crore Twenty Eight Lakhs and Eighty Thousand only).
3. Bankers Solvency Certificate from Nationalized / Scheduled Bank issued not earlier than 12 months from the final date of Tender submission for value not less than Rs. 16,10,000.00 (Indian Rupees Sixteen Lakhs and Ten Thousand Only).
4. Average annual financial turn over during the last 3 years, ending 31st March of the previous financial year, should be equal to or greater than Rs. 48,30,000.00 (Indian Rupees Forty Eight Lakhs Thirty Thousand Only).
5. Bidder selection is subject to the approval of **NTPC Ltd., NCPS (Thermal), Stage-I, Gautam Budh Nagar (UP)**.

## PROCEDURE FOR THE SUBMISSION OF SEALED TENDERS

1. Interested and qualified bidders shall download the complete Tender Document from the websites [www.bhel.com](http://www.bhel.com) , [www.bheledn.com](http://www.bheledn.com) , [tenders.gov.in](http://tenders.gov.in) and the hard copy shall be used for submission of the offer.
2. The offer shall be submitted in a sealed envelope to Officer inviting tender on or before the due date as indicated in tender notice which in turn shall contain three separate sealed envelopes therein as follows:
  - 2.1 **1<sup>st</sup> envelope** super scribed '**EMD AND TENDER FEE**' containing the financial instrument towards Earnest Money Deposit and the crossed Demand Draft of Rs. 2000/- (Indian Rupees Two Thousand only) towards Tender Fee.
  - 2.2 **2<sup>nd</sup> envelope** super scribed '**TECHNO COMMERCIAL BID**' containing, one Complete set of tender documents included in Part I of tender, all schedules, data sheets and details to be submitted as per the tender specification including the offer letter duly signed and stamped. Each page of this NIT should be signed and stamped as a token of acceptance of all the Terms & Conditions of NIT.
  - 2.3 **3<sup>rd</sup> envelope** super scribed '**PRICE BID**' containing the Schedule of Rates duly filled in, signed & stamped by the Bidder in the given format in PART-II of this NIT. Bidder has to quote for each item of the Price Bid.
- 3 **The bidder shall clearly indicate his name and address as well as the Tender Reference Number, due Date & Time and name of work on top of all the four envelopes..**
- 4 Complete Tender documents duly filled and signed by bidder or bidder's authorized representative, shall reach this office by 1300 hours on 04.07.2014. Bidders may submit their offers by hand or by Registered post or by Speed post or by courier service. However BHEL takes no responsibility for any loss / delay of documents or correspondences sent by courier / post. The Techno Commercial bid shall be opened on 04.07.2014 at 1330 Hours at Reception area of BHEL – Electronics Division, Bangalore – 560 026 in the presence of bidders who choose to be present.
- 5 Tenders received after the due date and time are treated as Late Tenders and shall not be considered for evaluation.

## PROJECT INFORMATION

BHEL-EDN, Bangalore is executing the Renovation & Modernisation of Control & Instrumentation system of Stage-I, NCPS (THERMAL), NTPC Dadri. NCPS (THERMAL)-Dadri consists of four (4) Units of 210MW.

### **Details of Stage/Units:**

Project Name:	NCPS (THERMAL), DADRI
Project Stage:	Stage-I
No. of Units X Capacity:	4X210MW
Project Setting Up By:	NTPC Limited

### **Location and Approach:**

Project Location:	(i) Place: Dadri
	(ii) District: Gautam Budh Nagar
	(iii) State: Uttar Pradesh
	(iv) Country: India
Latitude and Longitude of Project Location	North: 28 Degree 36' N East: 77 Degree 36' 25" E
Nearest Railway Station:	Dadri
Distance of Project Site from the Railway Station:	8.5 KM (approx.)
Nearest Major Town:	Dadri Town
Distance of the Town from the Project Site:	6.75 KM
Nearest Commercial Airport:	New Delhi
Distance of airport from the Project Site:	70 KM
Nearest Highway:	National Highway 3 & 24
Any Other Information:	Further to the information given here, Bidders are advised to visit the Project Site and collect data on local site conditions.

## INSTRUCTIONS TO BIDDERS (ITB)

1. This tender is for Control & Instrumentation R&M work in two units and associated common system. Bidders may note that the tender will be finalized shortly. Requests for extension in due date will not be considered by BHEL. Bidders are requested to furnish the required documents, certificates and annexures duly 'filled up' for early finalization of the tender.
2. It shall be the responsibility of the bidder to go through the tender documents carefully and submit all the relevant documents stipulated in the tender for evaluation. Pre-qualification of the bids will be based on the details furnished at the time of submission of the bid.
3. The tender shall be SIGNED AND STAMPED ON EACH PAGE by the Bidder himself or by his authorized representative. In the latter case, a certified copy of the power of attorney under which the said representative is authorized should also be submitted with the offer. In the case of a firm, all the partners or such or any of them as are authorized under the deed of partnership should sign.
4. Tenders not received in time, incomplete in any respect, containing absurd or unworkable rates and amounts, not in accordance with the tender conditions / specification etc., as well as conditional and unwitnessed tenders are liable to be summarily rejected. No page of the tender documents shall be removed or altered and the whole set of tender documents as downloaded from web sites of BHEL must be submitted after filling up and signing.
5. No overwriting / corrections / insertions / cancellations in tender documents by bidders shall be allowed. However, if correction is unavoidable, the same shall be duly attested by authorized signatory. Failure to comply with these instructions may result in rejection of the tender.
6. No Deviation with respect to tender clauses/conditions 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. Offers with deviation are liable for rejection.
7. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the bidders who resort to canvassing will be liable to rejection.
8. If the bidder deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage or to cancel the contract, if awarded and the bidder shall forfeit the Earnest Money/Security Deposit/any other moneys due.
9. If a bidder expires after the submission of his tender or after the acceptance of his tender, BHEL may at its discretion, cancel such tender. If a partner of a firm expires after the submission of the tender or after the acceptance of the tender, BHEL may cancel such tender at its discretion unless the firm retains its character.
10. Should a bidder or contractor or in the case of a firm or Company of contractors / one or more of its Partners / shareholders / Directors have a relation or relations employed in BHEL, the authority inviting tender shall be informed (as per Annexure-5) to the fact along with the offer, failing which BHEL may, at its sole discretion reject the tender or cancel the contract and forfeit the Earnest Money / Security Deposit.

11. All corrigenda, addenda, amendments and clarifications to this tender will be hosted on web sites [www.bhel.com](http://www.bhel.com) & [www.bheledn.com](http://www.bheledn.com) and not in the newspaper. Bidders shall keep themselves updated by visiting the websites regularly.
12. For any clarification on the tender document, bidder may seek the same in writing (2 copies) together with soft version (through e-mail) on or before 25.06.2014, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after 25.06.2014 due to postal delay.
13. In the event of any conflict between two clauses 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 on or before 25.06.2014.
14. EARNEST MONEY DEPOSIT: Every tender must be accompanied by an amount of Rs. 2,00,000/- (Rupees Two Lakhs only) towards Earnest Money Deposit in any one of the following forms.

**Note: Bank Guarantee, Cheque, Cash, Money orders or Postal orders will not be accepted.**

- 14.1 By Cash (As permissible under Income Tax Act): The amount should be remitted by the party to the cashier of Bharat Heavy Electricals Limited and cash receipt issued by him shall be enclosed along with the tender.
- 14.2 By Pay order or Demand Draft in favour of 'Bharat Heavy Electricals Limited' and payable at Bangalore.
- 14.3 Tenders received without Earnest Money in full in the manner prescribed above will not be considered.
- 14.4 The Earnest Money Deposit of the successful bidder will be retained towards part of Security Deposit.
- 14.5 In the case of unsuccessful bidders, the Earnest Money will be refunded normally within thirty (30) days of acceptance of award of work by the successful bidder.
- 14.6 BHEL reserves the right of imposing forfeiture of Earnest Money Deposit on the successful bidder in case he,
  - 14.6.1 After opening of Tender, revokes his tender within the validity period or increases his earlier quoted rates.
  - 14.6.2 Does not commence the work within the period as per LOI/Contract. In case the LOI/Contract is silent in this regard then within 15 days after award of contract.
- 14.7 EMD shall not carry any interest.
- 14.8 Bidders, who so ever desires, may deposit one time Earnest Money Deposit of Rs. 2,00,000/- (Rupees Two Lakhs only) in cash (As permissible under Income Tax Act) / DD / pay order only with the cashier of BHEL. Bidders, who furnish one time EMD as above, will not be required to furnish EMD time and again along with their tenders submitted to BHEL-EDN. However they will be required to indicate the cash receipt & date of one time EMD in their bid / tender. EMD provided against any other tender shall not be adjusted either partly or fully against this tender.

15. Bidders, along with their offer shall submit a crossed Demand Draft for an amount of Rs. 2000/- (Rupees Two Thousand only) drawn in favour of "BHEL" payable at Bangalore towards Tender Fee. This amount is non-refundable.
16. BHEL may decide holding discussions with any/ all intending bidders before opening sealed Price-Bid. On such communication from BHEL, the bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL.
17. ***Rates / Prices including discounts / rebates shall not be mentioned by bidder anywhere in the techno-commercial portion of offer, it shall be mentioned in the relevant price schedule only as per procedure for submission of tenders.***
18. The bidder shall quote the rates in English Language and International Numerals. These rates shall be entered in figures as well as in words. In case of difference in rates between words and figures THE LESSER OF THE TWO will be treated as valid rate. For the purpose of this tender, the metric system of units shall be used.
19. Quantities mentioned in the rate schedule are approximate only and liable for variation to any extent. No claim for escalation or otherwise on account of deviation of quantity in question will be entertained.
20. The sealed 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. The bidders qualifying in Techno Commercial bid will be intimated separately for participating in Price bid opening. Price bid of the bidders who are not pre-qualified shall be returned along with the EMD. BHEL's decision in this regard shall be final & binding.
21. Unsolicited rebate / discount shall NOT be accepted after Techno commercial bid opening.
22. Tenders should remain valid for acceptance for a minimum period of ninety (90) days from the date of Techno commercial bid opening. The bidder shall not be entitled during the said period of 90 days, without the consent in writing of the company, to revoke or cancel his tender or to vary the rates given by him, or any terms thereof. Bids once submitted within due Date & Time shall not be returned.
23. BHEL reserves the right to accept or reject any or all tenders without assigning any reason whatsoever.
24. BHEL also reserve the right to reject the bidder with unsatisfactory past performance in execution of a contract. BHEL's decision in this regard shall be final & binding.
25. The bidder may have to produce original documents for verification if so decided by BHEL.
26. The successful bidder, whose tender is accepted, will be intimated regarding the acceptance of his tender by a Work Order / Letter of Intent (LOI) to the address mentioned in his offer. The bidder after accepting the award of work shall execute 'contract agreement' in the prescribed format of BHEL on a non-judicial stamp paper (to be arranged by the successful bidder) before start of work.
27. The successful contractor is expected to mobilise his team and start the work within 15 days from the date of issue of Work Order / LOI or within such period as BHEL may allow.

28. The contractor shall take all the steps to augment resources to complete the planned activities as informed by BHEL. Adequate and suitable manpower, tools & tackles, facilities, etc., shall be arranged by the contractor. To complete the work, 'round the clock' activities shall be planned in shifts by the contractor. As many parallel activities are planned simultaneously the contractor shall plan to mobilise as many groups for working in different areas independently.
29. The successful bidder should not sub-contract the part or complete work detailed in the tender specification without written permission from BHEL. The bidder is solely responsible to BHEL for the work awarded to him.
30. The bidder is advised to actually visit the project site and fully acquaint himself with site conditions, transportation routes, various distances, facilities, Local taxes, toll charges and levels, wage structure (local labour minimum wages & prevailing wage agreements at site), quantum of work etc., before quoting their rates for this work. BHEL shall not be responsible in any way for non-familiarization of site conditions. Once the Contractor has quoted for the work, it is implied that he has ascertained various site conditions and No claim whatsoever on this account shall be entertained on a later date.
31. SECURITY DEPOSIT
- 31.1 Upon acceptance of tender, the successful bidder must deposit the required amount of Security Deposit within 15 days from the date of issue of Letter of Intent but before start of work.
- 31.2 The Total amount of Security Deposit shall be as follows:
- For contract value of more than Rupees 50 (Fifty) Lakhs, The Security Deposit is Rs. 4 (Four) Lakhs + 5% of the contract amount exceeding Rs. 50 lakhs. The contract value is arrived at after including the applicable taxes like service tax, WCT etc.
- 31.3 The Security Deposit shall be deposited in any one of the following forms:-
- 31.3.1 The Security Deposit as indicated in the Letter of Intent in cash (As permissible under Income Tax Act).
- 31.3.2 Pay order, Demand Draft in favour of 'BHEL' and payable at Bangalore.
- 31.3.3 Local cheques of scheduled banks, subject to realization.
- 31.3.4 Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc.(Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back)
- 31.3.5 Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.
- 31.3.6 Fixed Deposit Receipt (FDR) issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- 31.3.7 Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be DEPOSITED before start of the work and the balance 50% may be recovered from the running bills.

31.3.8 EMD of the successful bidder shall be converted and adjusted against the security deposit.

NOTE: Acceptance of Security Deposit against Sl. No. (31.3.4) and (31.3.6) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

31.4 The Security deposit shall not carry any interest.

31.5 Security deposit shall not be refunded to the contractor except in accordance with the terms of the contract.

31.6 The validity of the Bank Guarantee furnished towards Security Deposit under (31.3.5) above shall be up to the period of completion of work as stipulated in the Letter of Intent + claim period of 6 months and the same shall be kept valid by the bidder by timely renewals till the satisfactory completion of the Guarantee period without any additional cost to BHEL.

31.7 If the value of the work done at any time exceeds the accepted agreement value, the Security Deposit shall be correspondingly enhanced and the extra Security Deposit shall be immediately deposited by the Contractor or recovered from payments due to him/her.

31.8 Failure to deposit the Security Deposit within the stipulated time, may lead to forfeiture of Earnest Money Deposit and Cancellation of the award of work.

31.9 In any part of Security Deposit of the Contractor is held in the form of approved securities, it shall be kept transferred in the name of Bharat Heavy Electricals Limited, in such a manner that the same can be realized fully without referring to the contractor. BHEL shall not be responsible for any depreciation in the value of the Security while in BHEL's custody or for any loss of interest thereon.

31.10 BHEL reserves the right of forfeiture of Security Deposit in addition to other claims and penalties in the event of contractor's failure to fulfill any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract. BHEL reserves the right to set off the security Deposit, against any claims of any other contracts with BHEL.

31.11 RETURN OF SECURITY DEPOSIT: If the contractor fully performs and completes the work in all respects to the entire satisfaction of BHEL, and presents an absolute "No Demand Certificate" in the prescribed form (refer Annexure-16) and returns properties belonging to BHEL taken, borrowed or hired by him / her for carrying out the said works, 50% of the amount of Security Deposit will be released to the contractor after deducting all costs, expenses and other amounts that are to be paid to BHEL under this or other contracts entered into with contractor. It may be noted, that in no case the Security Deposit shall be refunded / released prior to passing of final bill. Balance half of the amount of Security Deposit will be released only after SIX months from release of first 50% of Security Deposit.

Note: The Bank Guarantees are to be submitted as per BHEL -EDN proforma (refer Annexure-14) and the format is subject to approval from BHEL.

32. BHEL will not be bound by any Power of Attorney granted by the bidder or by changes in the composition of the firm made subsequent to the execution of the contract. BHEL may, however, recognise such Power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.
33. DATA TO BE ENCLOSED: Full information shall be given by the bidder in respect of the following. Non submission of this information may lead to rejection of the offer.
- 33.1 FINANCIAL STATUS: Financial viability as per proforma enclosed at ANNEXURE – 8.
- 33.2 INCOME TAX CERTIFICATES: A Certificate of Income tax clearance from the appropriate authority in the forms prescribed therefore duly indicating annual turnover. These certificates shall be valid for one year from the date of issue or for the period prescribed therein for all tenders submitted during the period.
- 33.3 PREVIOUS EXPERIENCE: A Statement giving particulars of various similar works executed by the bidder (duly supported by documentary evidence) indicating the value of each work, the site location, the duration, date of completion etc., strictly as per the enclosure at ANNEXURE – 9.
- 33.4 MANPOWER and T & P DEPLOYMENT PLAN: Month wise and Category wise manpower as well as T & P deployment plan of bidder for the execution of work under this contract as per proforma enclosed at Annexure - 11. The Organisation Chart of manpower that is totally available with bidder shall also be submitted with the offer.
- 33.5 An attested copy of the Power of Attorney, in case the tender is signed by an individual other than the sole Proprietor, shall be attached.
- 33.6 IN CASE OF AN INDIVIDUAL: His full name, experience, address and nature of business.

OR

IN CASE OF PARTNERSHIP FIRMS: The names of all the partners with addresses and their experience. A copy of the partnership deed / instrument of Partnership duly certified by a Notary Public shall be enclosed.

OR

IN CASE OF COMPANIES: Date and place of registration including date of commencement certificate in case of public companies and the nature of business carried out by the Company. Certified copies of memorandum and Articles of Association are also to be furnished. Also indicate names, addresses and experience of the Directors.

- 33.7 A list of tools and tackles (including cranes, tractor, trailers, forklifts, hand trolleys etc., wherever applicable) that the bidder is having and those that will be deployed on this job as per proforma enclosed at ANNEXURE – 10 & 11.
- 33.8 Analysis of Unit Rate Quoted as per proforma enclosed at ANNEXURE – 12.
- 33.9 Declaration sheet as per proforma enclosed at ANNEXURE – 13.
- 33.10 IN ADDITION TO THE ABOVE, the particulars required elsewhere in tender documents.

33.11 Checklist and schedule of general particulars duly filled in, signed and stamped.

Note: In terms of clauses 33.1 to 33.11 above, all the data required to be enclosed with the tender need to be furnished neatly typed, signed and stamped in the given formats only (in the form of separate sheets) failing which the tender may be considered as incomplete and is liable for rejection. Documentary proofs wherever necessary also need to be enclosed.

34. BHEL reserves the right to go for Reverse Auction (RA) instead of opening the sealed envelope Price Bid, submitted by the bidder. This will be decided after Techno-Commercial evaluation. All bidders have to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA. In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit "online sealed bid" in the Reverse Auction. Non-submission of "online sealed bid" by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue. Information and General Terms and Conditions governing RA is provided in Annexure-19 of this tender.

In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice without seeking anymore price Impacts on account of BHEL not going for Reverse Auction. Hence please quote your best lowest price in first instant itself.

## GENERAL CONDITIONS OF CONTRACT (GCC)

### 1. Definition and Interpretations:

The following terms and expressions shall have the meaning hereby assigned to them except where the context otherwise requires:

- 1.1 BHEL (or B.H.E.L. Ltd.) shall mean Bharat Heavy Electricals Limited, a Company registered under the Indian Companies Act 1956, with its Registered Office at BHEL HOUSE, SIRI FORT, NEW DELHI-110049 or its authorised officers or its Engineer or other employees authorised to deal with any matters with which these persons are concerned, on its behalf.
- 1.2 'EXECUTIVE DIRECTOR' or 'GENERAL MANAGER (In-Charge)' or 'GENERAL MANAGER' shall mean the Officer in Administrative charge of the contracting Unit of BHEL.
- 1.3 'ENGINEER' or 'ENGINEER-IN-CHARGE' shall mean Engineer deputed by BHEL. The terms include Addl. General Manager, Sr. Deputy General Manager, Deputy General Manager, Construction Manager, Resident Manager, Site Engineer, Resident Engineer and Assistant Site Engineer of BHEL at the site as well as the officers in charge at Head Office.
- 1.4 'SITE' shall mean the place or places at which the plants / equipment are to be Dismantled / Installed / Erected / Commissioned and services are to be performed as per the specifications of this Tender.
- 1.5 'CLIENT OF BHEL' or 'CUSTOMER' shall mean the project authorities with whom BHEL has entered into a contract for supply of equipment or provision of services or both.
- 1.6 'CONTRACTOR' shall mean the individual, firm or company who enters into contract with BHEL and shall include their executors, administrators, successors and permitted assigns.
- 1.7 'CONTRACT' or 'CONTRACT DOCUMENT' shall mean and include the agreement, the work order, the accepted appendices of rates, Schedules of Quantities, if any, General Conditions of Contract, Special Conditions of Contract, Instructions to Bidders, the drawings, the technical specifications, the special specifications, if any. The tender terms stipulated by the bidder in the tender documents or subsequent letters shall not form part of the Contract unless specifically accepted in writing by BHEL in the Letter of Intent and incorporated in the Agreement.
- 1.8 'GENERAL CONDITIONS OF CONTRACT' shall mean the 'Instructions to Bidders' and 'General Conditions of Contract' pertaining to the work detailed.
- 1.9 'TENDER SPECIFICATIONS' shall mean the Special Conditions, Technical Specifications, appendices, Site information and drawings pertaining to the work for which the bidder are required to submit their offer. Individual Specification Number will be assigned to each tender specification.
- 1.10 'TENDER' or 'TENDER DOCUMENTS' shall mean Notice Inviting Tender, Instructions to Bidders, General Conditions of Contract, Common Conditions, Special Conditions of Contract, Price Bid, Rate Schedule, Technical Specifications, Appendices, Annexures, Corrigendum, Amendments, Forms, Procedures, Site information, etc. and drawings/documents pertaining to the work for which the bidder are required to submit their offers.

- 1.11 'LETTER OF INTENT' shall mean the intimation by a letter/telegram/telex/fax/e-mail to the bidder that the tender has been accepted in accordance with provisions contained in the letter. The responsibility of the contractor commences from the date of issue of this letter and all the terms and conditions of contract are applicable from this date.
- 1.12 'COMPLETION TIME' shall mean the period by date specified in the Letter of Intent or date mutually agreed upon for handing over the installed equipment/ plant which are found acceptable by the Engineer being of required standard and conforming to the specifications of the Contract..
- 1.13 'PLANT' shall mean and connote the entire assembly of the plant and equipment covered by the Contract.
- 1.14 'EQUIPMENT' shall mean all equipment, machineries, materials, structural, electrical and other components of the plant covered by the Contract.
- 1.15 'TESTS' shall mean and include such test or tests to be carried out by the contractor as prescribed in the Contract or considered necessary by BHEL in order to ascertain the quality, workmanship, performance and efficiency of the contracted work or part thereof.
- 1.16 'APPROVED', 'DIRECTED' or 'INSTRUCTED' shall mean approved, directed or instructed by BHEL.
- 1.17 'WORK' or 'CONTRACT WORK' shall mean and include supply of all categories of labour, specified consumables, tools and tackles required for complete and satisfactory dismantling of existing system and its handover to BHEL's client, site transportation, unpacking, installation and commissioning of the new equipment to the entire satisfaction of BHEL.
- 1.18 'SINGULAR' and 'PLURAL' etc. Words carrying singular number shall also include plural and vice versa where the context so requires. Words importing masculine gender shall be taken to include the feminine gender and words importing persons shall include any Company or Association or Body of Individuals, whether incorporated or not.
- 1.19 'HEADINGS' The headings in various parts of this tender/contract/bid are solely for the purpose of facilitating reference and shall neither constitute a part of the contract nor affect its interpretation.
- 1.20 'MONTH' shall mean calendar month.
- 1.21 'WRITING' shall include any manuscript, typed, written or printed statement under the signature or seal as the case maybe.

## 2. LAW GOVERNING THE CONTRACT AND COURT JURISDICTION

The contract shall be governed by the Law for the time being in force in the Republic of India. The Civil Court having original Civil Jurisdiction at Bangalore shall alone have exclusive jurisdiction in regard to all claims in respect of the Contract. No other Civil Court shall have jurisdiction in case of any dispute, under this contract.

### 3. ISSUE OF NOTICES TO CONTRACTOR

Any notice hereunder may be served on the contractor through his duly authorized representative or may be served by registered mail direct to the address furnished by the contractor. Proof of issue of any such notice could be conclusive of the contractor having been duly informed of all contents therein.

### 4. USE OF LAND

No land belonging to BHEL or its customer under temporary possession of BHEL shall be occupied by the Contractor without the written permission of BHEL.

### 5. COMMENCEMENTS AND COMPLETION OF WORK

- 5.1 The contractor shall commence the work within the time indicated in the Letter of Intent and shall proceed with the same with due expedition without delay.
- 5.2 If the successful bidder fails to commence the work within the stipulated time, BHEL, at its sole discretion, will have the right to cancel the contract. His Earnest Money and/or Security Deposit will stand forfeited without any further reference to him without prejudice to any and all of BHEL's other rights and remedies in this regard.
- 5.3 All the works shall be carried out under the direction and to the satisfaction of BHEL.
- 5.4 The dismantled / installed / commissioned equipment/system or Service provided or work performed under the Contract, as the case may be, shall be taken over when it has been completed in all respects.

### 6. MEASUREMENTS OF WORK AND MODE OF PAYMENT

- 6.1 All payments due to the contractor shall be made by Electronic Fund Transfer (EFT).
- 6.2 For progress / running bill payments, the contractor shall present detailed measurement sheets in TRIPLICATE duly indicating all relevant details based on documents and connected drawings for the work done during the month/period under different categories in line with terms of payment as per Letter of Intent. The basis of arriving at the quantities shall be the relevant documents (Protocols/ Joint Inspection sheet/any other records as deemed necessary by BHEL). These measurement sheets shall be prepared jointly with Engineer and signed by both the parties.
- 6.3 These measurement sheets will be checked by the Engineer and quantities and percentages eligible for payment under different groups shall be decided by him. The abstract of quantities and percentages so arrived based on the terms of payment shall be entered in the Measurement Book and signed by both the parties.
- 6.4 Based on the above quantities, contractor shall prepare the bills in the prescribed proforma and work out the financial value. These will be entered in the Measurement Book and signed by both the parties. Payment shall be made by BHEL after effecting the recoveries due from the contractor.
- 6.5 All recoveries due from the contractor for the month/period shall be effected in full from corresponding running bills unless specific approval from Competent Authority is obtained to the contrary.

- 6.6 Measurement shall be restricted to that quantity for which it is required to ascertain the financial liability of BHEL under this contract.
- 6.7 Measurement shall be taken jointly by persons duly authorized by BHEL and the Contractor.
- 6.8 The Contractor shall bear the expenditure involved, if any, in making the measurements in the work. The Contractor shall, without extra cost to BHEL, provide all the assistance with appliances and other things necessary for measurement.
- 6.9 If, at any time due to any reason whatsoever, it becomes necessary to re-measure the work done, in full or in part, the expenses towards such re-measurement shall be borne by the Contractor.
- 6.10 Passing of bills covered by such measurements does not amount to acceptance by BHEL of the completion of the work measured. Any left out work has to be completed by the Contractor, as directed.
- 6.11 Final measurement bill shall be prepared in the proforma prescribed for the purpose, based on the certificate issued by the Engineer that the entire work as stipulated in the tender specifications has been completed in all respects to the entire satisfaction of BHEL. The Contractor shall give unqualified 'No Claim' and 'No Demand' certificates. All the tools and tackles loaned to him should be returned in condition satisfactory to BHEL. The abstract of final quantities and financial values shall also be entered in the Measurement Book and signed by both the parties. The final bill shall be paid within a reasonable time after completion of the work. After the payment of final bill, only the guarantee obligation percentage value, if applicable, shall remain unpaid which shall be released in accordance with **Clause 15 of GCC**.

## 7. RIGHTS OF BHEL

BHEL reserves the following rights in respect of this contract during the original contract period or its extensions if any, as per the provisions of the contract, without entitling the contractor for any compensation:

- 7.1 To withdraw any portion of work and/or to restrict/alter quantum of work as indicated in the contract during the progress of work and get it done through another agency and/or by the departmental labour to suit BHEL's commitments to its customer or in case BHEL decides to advance the completion due to other emergent reasons/BHEL's obligation to its customer.
- 7.2 To terminate the contract or get any part of the work done through other agency or deploy BHEL's own/hired/otherwise arranged resources, at the risk and cost of the contractor after due notice of a period of one week by BHEL, in the event of:-
  - I. Contractor's continued poor progress
  - II. Withdrawal from or abandonment of the work before completion of the work
  - III. Contractor's inability to progress the work for completion as stipulated in the contract
  - IV. Poor quality of work
  - V. Corrupt act of Contractor
  - VI. Insolvency of the Contractor

- VII. Persistent disregard to the instructions of BHEL Engineer
  - VIII. Assignment, transfer, sub-letting of contract without BHEL's written permission
  - IX. Non fulfillment of any contractual obligations
  - X. In the opinion of BHEL, the contractor is overloaded and is not in a position to execute the job as per required schedule
- 7.3 To meet the expenses including BHEL overheads of 30% & Liquidated Damage/penalties arising out of "Risk & Cost" as explained above under clause No. 7.2 BHEL shall recover the amount from any money due from Contractor including Security Deposit or by forfeiting any T&P or material of the contractor under this contract or any other contract of BHEL or by any other means or any combination thereof.
- 7.4 To effect recovery from any amounts due to the contractor under this or any other contract or in any other form, the moneys BHEL is statutorily forced to pay to anybody, due to contractor's failure to fulfill any of his obligations. BHEL shall levy overheads of 15% on all such payments.
- 7.5 To terminate the contract or to restrict the quantum of work and pay for the portion of work executed in case BHEL's contract with their customer are terminated for any reason, as per mutual agreement.
- 7.6 While every endeavour will be made by BHEL to this end, BHEL cannot guarantee uninterrupted work due to conditions beyond its control. The Contractor will not be entitled to any compensation/extra payment on this account.
- 7.7 To restrict or increase the quantity and nature of work to suit site requirements, since the tender specification is based on preliminary documents and quantities furnished therein are indicative and approximate and the unit rates quoted shall not be subject to revision.
- 7.8 In case the execution of works comes to a complete halt or reaches a stage wherein worthwhile works cannot be executed and there is no possibility of commencement of work for a period of not less than two months, due to reasons not attributable to the contractor and other than Force Majeure conditions, BHEL may consider permitting the contractor to demobilize forthwith and remobilize at an agreed future date. The Contractor will not be entitled to any compensation/extra payment on this account. ORC in such cases shall not be applicable for the period between the period of demobilization and remobilization. The duration of contract/time extension shall accordingly get modified suitably. In case of any conflict, BHEL decision in this regard shall be final and binding on the contractor.

## 8. RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF LOCAL LAWS, EMPLOYMENT OF WORKERS ETC.

The following are the responsibilities of the Contractor in respect of observance of local laws, employment of personnel, payment of taxes etc. without any additional cost to BHEL.

- 8.1 As far as possible, unskilled workers shall be engaged from the local areas in which the work is being executed. All the documentary and procedural requirements as stipulated by NTPC for obtaining gate pass for the labour and contractor's personnel shall be strictly complied with.

- 8.2 The contractor at all times during the continuance of this contract, shall in all his dealings with the local labour for the time being employed on or in connection with the work, has due regard to all local festivals, religious and other customs. The minimum wages, Bonus payment, Leave payment as per local procedures to be adopted strictly by the bidder. The P.F even for temporary labour to be paid strictly and document like payment voucher to be produced every month.
- 8.3 The contractor shall comply with all State and Central Laws, Statutory Rules, Regulations, etc., such as the payment of wages Act, The Minimum Wages Act, The workmen's Compensation Act, The Employer's Liability Act, The industrial Disputes Act, The Employees' Provident Fund Act, Employees' State Insurance Scheme, the Contract Labour (Regulations and Abolition Act, 1970) and other Acts, Rules and Regulations for labour as may be enacted by the Government during the tenure of the Contract and having force or jurisdiction at site. The contractor shall give to the local Governing Body, Police and other concerned Authorities all such notice as maybe required under law.
- 8.4 The Contractor, in the event of his engaging 20 (Twenty) or more workmen, will obtain independent license under the Contract Labour (Regulations and Abolition Act, 1970) from the concerned authorities based on the certificate (Form-V) issued by the principal employer/customer. Labour licence may be obtained from Labour bureau Shimla/Dehradun
- 8.5 The contractor shall pay all taxes, fees, license charges, deposits, duties, tolls, royalty, commissions or other charges which may be levied on account of any of his operations connected with this contract. In case BHEL is forced to make any such payment, BHEL shall recover the same from the contractor either from moneys due to him or otherwise as deemed fit.
- 8.6 The contractor will also meet all expenses in connection with his welder's qualification/ re-qualification tests etc.
- 8.7 The contractor shall be responsible for the provision of health and sanitary arrangements more particularly described in the Contract Labour (Regulations and Abolition Act, 1970) and safety precautions as may be required for safe and satisfactory execution of the contract.
- 8.8 The contractor shall be responsible for proper accommodation including adequate medical facilities for the personnel employed by him.
- 8.9 The contractor shall be responsible for the proper behavior and observance of all regulations by the staff employed by him.
- 8.10 The contractor shall ensure that no damage is caused to any person/property of other parties working at site. If any such damage is caused, it shall be the responsibility of the contractor to make good the losses and compensate them.
- 8.11 All the properties/equipment/components of BHEL/its customer loaned with or without deposit, to the contractor shall remain the properties of BHEL/its customer. The contractor shall use such properties for the purpose of execution of this contract. All such properties/equipment/components shall be taken to be in good condition unless notified to the contrary by the contractor within 48 hours. The contractor shall return them in good condition as and when required by BHEL/its customer. In case of non-return, loss, damage, repairs etc., the cost thereof, as may be fixed by the Engineer, will be recovered from the contractor.

- 8.12 It shall not be obligatory on the part of BHEL to supply any tools and tackles or materials other than those specifically agreed to be given by BHEL. However, depending upon availability / possibility, BHEL / its customer's equipment and other materials may be made available to the contractor on payment of hire charges as fixed by them, subject to the conditions laid down by BHEL / its customer from time to time. Unless paid in advance, such hire and other charges shall be recovered from out of dues to the contractor of security deposit in one installment.
- 8.13 The contractor shall fully indemnify and keep indemnified BHEL & its customer against all claims of whatever nature arising during the course of execution of this contract.
- 8.14 In case the contractor is required to undertake any work outside the scope of this contract, the amount payable shall be as may be mutually agreed upon.
- 8.15 In case of any class of work for which there is no specification laid down in the contract, such work shall be carried out in accordance with the instructions and requirements of the Engineer.
- 8.16 Any delay in completion of works or non-achievement of periodical targets, due to reasons attributable to the contractor, will have to be compensated by the contractor either by increased manpower and resources or by working extra hours or more than one shift at no extra cost to BHEL.
- 8.17 The contractor shall execute the work under the conditions usual to such power plant construction and in conjunction with numerous other operations at site. The contractor and his personnel shall cooperate and coordinate with other agencies at project site and proceed in a manner that shall help in the progress of work at site as a whole.
- 8.18 The contractor will be directly responsible for payment of wages to his workmen. A pay-roll sheet giving details of all payments made to the workmen duly signed by the contractor's representative should be furnished to BHEL, if called so for. In case the contractor fails to make payment of wages to his workmen in time BHEL may be compelled to make payment to the workmen at the contractor's risk. In such a situation suitable action shall be taken against the contractor including imposition of penalty. The contractor shall produce a labour clearance certificate from the concerned official along with his bills.
- 8.19 No levy, payment or charges made or imposed shall be impeached by reason of any clerical error or by reason of any mistake in the amount levied, demanded or charged.
- 8.20 No idle labour charges will be admissible in the event of any stoppage of work resulting in the contractor's workmen being rendered idle due to any reason at any time.
- 8.21 The contractor shall take all reasonable care to protect the materials and the work till such time the plant / equipment has been taken over by BHEL / its customer.
- 8.22 Contractor shall not stop work or abandon the site for whatsoever reason or dispute, excepting for force majeure conditions. All problems / disputes shall be separately discussed and settled without affecting the progress of work. Stoppage or abandonment of work, other than under force majeure conditions, shall be treated as breach of work of contract and dealt with accordingly.
- 8.23 The contractor shall keep the area of work clean and shall remove the debris etc. while executing day-to-day work. Upon completion of work, the contractor shall remove from the vicinity of work, all scrap, packing materials, rubbish, unused and other materials and deposit

them in places specified by the Engineer. The contractor will also demolish all the hutments, sheds, offices, etc. constructed and used by him/her shall clean the debris. In the event of his failure to do so, the same will be arranged to be done by the Engineer and the expenses recovered from the contractor.

- 8.24 The contractor shall execute the work in the most substantial and workmen like manner in the stipulated time. Accuracy of work and timely execution is expected from the contractor and shall be responsible to ensure that the quality, assembly and workmanship conform to the dimensions and clearance given in the drawings and / or as per the instructions of the Engineer.
- 8.25 The contractor shall furnish fortnightly labour deployment report indicating the classification and number of workmen engaged, date wise and category wise. Besides, the contractor shall also furnish progress reports on work at regular intervals as required by the Engineer.

## 9. RESPONSIBILITIES OF CONTRACTOR IN RESPECT OF SAFETY OF MEN, EQUIPMENT, MATERIAL AND ENVIRONMENT

- 9.1 All safety rules and codes applied by BHEL and its customer at site shall be observed by the contractor and his workmen without exception. The Contractor shall be responsible for the safety of the equipment / material and work to be performed by him and shall maintain all lights, fencing guards, sign etc. or other protections necessary for the purpose. Contractor shall also take such additional precautions as may be indicated from time to time by the Engineer, with a view to prevent pilferage, accidents, fire hazards etc. The contractor shall arrange for such safety devices as are necessary for this type of work and carryout the requisite site tests for handling equipment, lifting tools, tackles etc. as per usual standards and practices.
- 9.2 The contractor shall provide to its work force and ensure the use of the following personal protective equipment as found necessary and as directed by the authorized BHEL officials.
- 9.2.1 Safety Helmets conforming to IS-2925
  - 9.2.2 Safety Belts conforming to IS-3521
  - 9.2.3 Safety shoes conforming to IS-1989
  - 9.2.4 Eye & Face Protection devices conforming to IS-8520 and IS-8940
  - 9.2.5 Hand & Body protection devices conforming to IS-2573, IS-6994, IS-8807 & IS-8519.
- 9.3 All tools, tackles, lifting appliances, material handling equipment, scaffolds, cradles, safety nets, ladders, equipment etc. used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorized BHEL official who shall have the right to ban the use of any item.
- 9.4 All electrical equipment, connections and wiring for construction power, its distribution and use shall conform to the requirements of Indian Electricity Act and Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works. All electrical appliances including portable electric tools used by contractor shall have safe plugging system to source of power and be appropriately earthed.

- 9.5 The contractor shall not use any hand lamp energized by electric power with supply voltage of more than 24 volts. For work in confined spaces, lighting shall be arranged with power source of not more than 24 volts.
- 9.6 Where it becomes necessary to provide and/or store petroleum products, explosives, chemicals and liquid or gaseous fuel or any other substance that may cause fire or explosion, the contractor shall be responsible for carrying out such provision and / or storage in accordance with the rules and regulations laid down in the relevant Government Acts, such as Petroleum Act, Explosive Act, Petroleum and Carbides of Calcium Manual of the Chief controller of Explosives, Government of India etc. Prior approval of the authorized BHEL official at the site shall also be taken by the contractor in all such matters.
- 9.7 The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working, when natural daylight may not be adequate for clear visibility.
- 9.8 In case of a fatal or disabling injury / accident to any person at construction sites due to lapses by the contractor, the victim and / or his / her dependents shall be compensated by the contractor as per statutory requirements. However, if considered necessary, BHEL shall have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.
- 9.9 In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover the cost of such damages from the payments due to the contractor after holding an appropriate enquiry.
- 9.10 In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have the right to recover cost of such delay from the payments due to the contractor, after notifying the contractor suitably and giving him opportunity to present his case.
- 9.11 If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given reasonable opportunity to do so and/or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorized BHEL official, BHEL shall have the right to take the corrective steps at the risk and cost of the contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.
- 9.12 The contractor shall submit report of all accidents, fires, property damage and dangerous occurrence, but in any case not later than 12 hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition, periodic reports on safety shall also be submitted by contractor to the authorized BHEL official from time to time as prescribed.
- 9.13 During the course of shifting, verification, and restacking, the scrap lumbers with protruding nails, sharp edges etc., and all other packing material debris including combustible scrap shall be kept cleared from working areas, passage ways and in and around store area.
- 9.14 Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dropped, struck or permitted to strike each other violently. When cylinders are transported by powered vehicles, they shall be secured in a vertical position.

- 9.15 The contractor shall be responsible for the safe storage of his radioactive sources.
- 9.16 All the contractor's supervisory personnel and sufficient number of workers shall be trained for firefighting and shall be assigned specific fire protection duties. Enough number of such trained personnel must be available during the tenure of the contract.
- 9.17 Contractor shall provide enough fire protecting equipment of the types and numbers at his office, stores, erection site, other temporary structures, labour colony area etc. Access to such fire protection equipment shall be easy and kept open at all times. Compliance of the above requirement under fire protection shall in no way relieve the contractor of any of his responsibility and liabilities to fire accident occurring. In the event fire safety measures are not to BHEL's satisfaction, BHEL shall have option to provide the same and recover the cost plus incidentals from contractor's bills and/or impose penalty as deemed fit by the Engineer.
- 9.18 Before commencing the work, the contractor shall appoint/nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.
- 9.19 If safety record of the contractor in execution of the awarded job is to the satisfaction of Safety Department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion of the job.

#### 10. CONFIDENTIAL INFORMATION:

- 10.1 The Contractor shall keep confidential and shall not, without the written consent of BHEL, divulge to any third party any documents, data or other information furnished directly or indirectly by BHEL in connection with the contract, whether such information has been furnished prior to, during or following termination of the contract.
- 10.2 The contractor shall not use such documents, data and other information received from BHEL for any purpose other than execution of Contract.

#### 11. CONSEQUENCES OF CANCELLATION

- 11.1 Whenever BHEL exercise its authority to terminate the contract / withdraw a portion of work under Clause 7 of GCC, the work may be got completed by any other means at the contractor's risk and cost provided that in the event of the cost of completion (as certified by the Engineer which shall be final and binding on the contractor) being less than the contract value, the advantage shall accrue to BHEL. If the cost of completion exceeds the moneys due to the contractor under the contract, the contractor shall either pay the excess amount demanded by BHEL or the same shall be recovered from the contractor. This will be in addition to the forfeiture of Security Deposit and recovery of liquidated damages as per relevant clauses.
- 11.2 In case BHEL completes the work under the provisions of this clause, the cost of such completion to be taken into account for determining the excess cost to be charged to the contractor shall consist of cost of materials purchased and / or labour provided by BHEL with an addition of such percentage to cover supervision and establishment charges as may be decided by BHEL.

#### 12. INSURANCE

- 12.1 BHEL / its customer shall arrange for insuring the materials /property of BHEL / its customer covering the risks during transit, storage, erection and commissioning.

- 12.2 IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INSURE HIS WORKMEN AGAINST RISKS OF ACCIDENTS AND INJURY WHILE AT WORK AS REQUIRED BY THE RELEVANT RULES AND TO PAY COMPENSATION, IF ANY, TO THEM AS PER WORKMEN'S COMPENSATION ACT. THE CONTRACTOR SHALL ALSO INSURE HIS STAFF AGAINST ACCIDENTS. THE WORK WILL BE CARRIED OUT IN A PROTECTED AREA AND ALL THE RULES AND REGULATIONS OF BHEL / ITS CLIENT IN THE PROJECT AREA WHICH IS IN FORCE FROM TIME TO TIME WILL HAVE TO BE FOLLOWED BY THE CONTRACTOR.
- 12.3 If due to negligence and / or non-observance of safety and other precautions, any accident / injury occurs to any other persons / public, the contractor shall pay necessary compensation and other expenses, if so decided by the appropriate authority.
- 12.4 The contractor will take necessary precautions and due care to protect the material, while in his custody from any damage/loss till the same is taken over by BHEL or customer. For lodging/processing of insurance claim the contractor will submit necessary documents. BHEL will reserve the right to recover the loss from the contractor, in case the damage/loss is due to carelessness/negligence on the part of the contractor. In case of any theft of material under contractor's custody, matter shall be reported to police by the contractor immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL for taking up with insurance.
- 12.5 If due to negligence/carelessness on the part of the contractor, any material/equipment gets damaged, the contractor shall submit necessary documents for lodging insurance claims as required by BHEL Engineer. BHEL shall however reserve the right to recover deductible franchise and also unsettled portion of insurance claim amount from the contractor.
- 12.6 If due to negligence / carelessness on the part of the contractor, any surrounding properties also get damaged, BHEL shall reserves the right to recover the loss from the contractor.
- 12.7 The contractor may note that BHEL T&Ps/IMTEs are not insured. The Contractor will take necessary precautions and due care to protect the same while in his custody from any damage/loss till the same is handed over back to BHEL. In case the damage/loss is due to carelessness/negligence on the part of the contractor, the Contractor is liable to get them repair/replaced immediately and in case of his failure to do so within a reasonable time, BHEL will reserve the right to recover the loss from the contractor.

### 13. STRIKES AND LOCKOUTS

- 13.1 The contractor will be solely responsible for all disputes and other issues connected with his workmen. In the event of contractors workmen resorting to strike or the contractor resorting to lockout and if the strike or lockout so declared is not settled within a period of one week, BHEL shall have the right to get the work executed by employing its own men or through other agencies or both. The cost incurred by BHEL in this regard shall be recovered from the contractor.
- 13.2 For any purpose whatsoever, the employees of the contractor shall not be deemed to be in the employment of BHEL.

## 14. FORCE MAJEURE

- 14.1 The following shall amount to force majeure conditions. Acts of God, Act of any Government, War, Sabotage, Riots, Civil Commotion, Police Action, Revolution, Flood, Fire, Cyclone, Earthquake and Epidemic and other similar causes over which the contractor has no control.
- 14.2 If the contractor suffers delay in the due execution of the contract, due to delays caused by force majeure conditions, as defined above, the agreed time for completion of the work covered by this contract shall be extended by a period of time equal to the period of delay, provided that on the occurrence of any such contingency, the contractor immediately reports to BHEL in writing the causes for the delay but the Contractor shall not be eligible for any compensation on this account.

## 15. GUARANTEE

Even though the work will be carried out under the supervision of the Engineer, the contractor will be responsible for the quality of the workmanship and shall guarantee the work done for a period of twelve months from the date of 'Achieving Full load operation' and shall rectify, free of cost to BHEL, all defects arising out of faulty erection during the guarantee period. In this case, the guarantee period will start from the date of completion of rectification. In case this event is delayed due to reasons not attributable to contractor, the date shall be decided by BHEL and in the event of the contractor failing to repair the defective works within the time specified by the Engineer, BHEL may proceed to undertake the repairs of such defective works at the contractor's risk and cost, without prejudice to any other rights and recover the same from out of any moneys payable to the contractor or by other legal means.

## 16. ARBITRATION

All disputes between the parties to the contract arising out of or in relation to the contract, other than those for which the decision of the Engineer or any other person is by the contract expressed to be final and conclusive, shall after written notice to either party to the contract to the other party, be referred to sole arbitration of the General Manager or his nominee. The arbitration shall be conducted in accordance with the provisions of the Arbitration and Reconciliation Act, 1996 of India. The parties to the contract understand and agree that it will be no objection that the General Manager or the person nominated as Arbitrator had earlier in his official capacity to deal directly or indirectly with matters to which the contract relates or that in course of his official duties had expressed views on all or any of the matters in dispute or difference. The award of the Arbitrator shall be final and binding on the parties to this contract. In the event of Arbitrator dying, neglecting or refusing to act or resigning or being unable to act for any reason or his award being set aside by the Court for any reason, it shall be lawful for the General Manager or his successor, as the case may be, either to act himself as the Arbitrator or to appoint another Arbitrator in place of the outgoing Arbitrator in the manner aforesaid. The arbitrator may, from time to time, with the consent of both the parties to the contract, enlarge the time for making the award. Work under the contract shall be continued during the arbitration proceedings. The venue of the arbitration shall be the place from which the contract is issued or such other place as the Arbitrator at his discretion may determine.

## SPECIAL CONDITIONS OF CONTRACT (SCC)

1. These special conditions are to be read in conjunction with the General Conditions of Contract and wherever variations and ambiguities are found on specific conditions, the provisions of these Special Conditions of Contract shall take precedence over the aforesaid General Conditions of Contract.
2. The contractor shall comply with the orders and instructions issued by the officers, supervisors and staff of BHEL. Noncompliance of instructions issued by the BHEL Engineers shall attract action as per the Clause No. 7 of GCC and its sub-clauses.
3. Due to the nature of work i.e., Renovation and Modernisation, the quantum of work is expected to vary.
4. The contractor shall maintain true, correct and detailed account of all work done by him in the prescribed form and manner prescribed by the BHEL Engineer from time to time. The record shall show separately all item of work, stipulated in the work order of the contract. The contractor shall produce the records so maintained by him for inspection by the BHEL Engineer, whenever sought.
5. The contractor shall take all the steps to augment resources to complete the planned activities as informed by BHEL. Adequate and suitable manpower, tools & tackles, facilities, etc shall be arranged by the contractor. To complete the work, 'round the clock' activities shall be planned in shifts by the contractor. As many parallel activities are planned simultaneously the contractor shall plan to mobilise as many groups for working in different areas independently.
6. Health, Safety & Environment Management (HSE)
  - 6.1 BHEL – EDN is ISO 9001-2000, ISO 14001-1996, OHSAS 18001-1999, ISO 27001 and SA-8000 certified company. Quality of work, to customer's satisfaction and system requirements is the essence of these certifications. The contractor in all respects will organize his work, systems, environment, process control documentation, tools, plant, inspection, measuring and testing equipment etc. as per instructions of BHEL engineer. The contractor will be responsible for Health, Safety & Environment management (HSE) at site for the activities to be carried out by them in accordance with requirements of BHEL / its customer. The Contractor shall be fully responsible for accidents caused due to him or his agents or workmen's negligence or carelessness in regard to the observance of the safety requirements and shall be liable to pay compensation for injuries. It may be noted that non-compliance to HSE requirements will result in penal action. In case of violations of safety requirements, the contractor shall be liable for a penalty of Rs. 200/- for the first violation and Rs. 500/- for each subsequent violation. For serious lapses, as decided by BHEL Engineer, fines up to Rs. 5000/- at a time can be imposed. The amount towards penalties as above will be deducted from running bills of the Contractor. The amount so collected above will be utilized for supporting the safety activities at site. The decision of BHEL on above will be final and binding on the Contractor.
  - 6.2 Besides provision with regard to SAFETY under Clause 9 of GCC, the contractor will be responsible for Health, Safety & Environment management at site for the activities to be carried out by them in accordance with requirements of this Contract and regulations applicable at site. The contractor shall continuously take special care to ensure the safety and prevention of human and equipment accidents and maintain good sanitary conditions in and around the site. All the work and plant operation must be carried out in the safest possible manner. The Engineer reserves the right to stop any process which, in

the Engineer's opinion, is being performed dangerously. In this case the contractor must immediately adhere to the requisite safety precautions and any delays attributed to the work stoppage on this account shall not affect the agreed contractual finishing dates. Some of the common safety rules to be followed during working are as follows: -

- 6.2.1 No outsider is allowed to enter construction area without permission.
  - 6.2.2 Nobody is allowed to enter at construction site without Safety Shoe.
  - 6.2.3 Never enter work area without Safety helmet & chin strap in place.
  - 6.2.4 No climbing/working allowed without proper safety belt above 2m height.
  - 6.2.5 Do not exceed the speed limit of 20 KMPH for vehicles within premises.
  - 6.2.6 No debris obstacles to be allowed to be dumped on the roads & passages. Maintain record of all accidents / incidents. All accidents/incidents need to be reported to site In-charge & also need to be investigated (formats & procedure should be finalized).
  - 6.2.7 Do not walk on pipelines or false ceiling. Maintain good Housekeeping at work site.
  - 6.2.8 No photography / Videography shall be allowed without permission. Site Safety training to be imparted to all workers & plan to be made to cover each and every worker for this training.
  - 6.2.9 All safety equipment must be of International standards & checked by safety officer before use.
  - 6.2.10 Good Housekeeping, Separate waste bins to be used for flammable & non-flammable material.
  - 6.2.11 Testing certificates for lifting tools & tackle and inspection at regular intervals, besides thorough inspection prior using the same.
  - 6.2.12 Checking of tags of equipment like grinding machine, welding machine, gas cutting set etc., by supervisors before use.
- 6.3 All the records, reports and monitoring for the observance of Health, Safety and Environment rules and regulation shall be as per the forms & procedures of BHEL, which will be provided by BHEL Engineer during the execution of work at site. Contractor has to submit such records and reports as and when demanded by BHEL Engineer.

## 7. The contractor shall comply with following towards social Accountability:

- 7.1 The contractor shall not employ any person less than 15 years of age in pursuant to ILO convention. If any child labour were found to have been engaged, the contractor shall be levied with expenses of bearing his education expenditure which will include stipend to substantiate appropriate education or employ any other member of family enabling to bear the child education expenditure.
- 7.2 The contractor shall not engage Forced/Bonded Labour and shall abide by abolition of Bonded Labour System (Abolition) Act, 1976.
- 7.3 The contractor shall maintain Health & Safety requirement as stipulated in the contract and contract Labour (Regulation & Abolition) Act, 1970.
- 7.4 The contractor shall abide by UN convention w.r.t. Human Rights and shall be liable for Decimation/Corporal punishment for failure in meeting with relevant requirements.

- 7.5 The contractor shall abide the requirement of contract Labour (Regulation & Abolition) Act, 1970 for working hours.
- 7.6 The Contractor shall abide by the statutory requirement of Minimum Wages Act 1948, payment of Wages Act 1936.
- 7.7 The Contractor shall arrange potable drinking water to its employees & workers.

## 8. TOOLS AND PLANTS / INSPECTION MEASURING AND TEST EQUIPMENTS (IMTEs)

- 8.1 All T&Ps and IMTEs, which are required for successful and timely execution of the work covered within the scope of this tender, shall be arranged and provided by the contractor at his own cost in working condition. In the event of the failure of contractor to bring necessary and sufficient T&Ps and IMTEs, BHEL will be at liberty to arrange the same at the risk and cost of contractor including transportation cost of same from any of BHEL site/place and hire charges as applicable shall be deducted from contractor's bill. Decision of BHEL in this regard shall be final and binding on contractor.
- 8.2 All power distribution boards, connecting cables / welding cables, wire ropes, hoses etc. Including temporary air/water / electrical connections etc. shall have to be arranged by the contractor at his own cost. Power cables including supply of **the main incomer cable of required size and length and associated MCCB etc.** of sufficient capacity shall be arranged by the contractor at his own cost for the construction power supply.
- 8.3 Contractor shall ensure deployment of reliable and calibrated IMTEs (Inspection measuring and Test equipment). The IMTEs shall have test / calibration certificates from authorized / Govt. approved / accredited agencies traceable to National / International standards. Each IMTE shall have a label indicating calibration status i.e. date of calibration, calibration agency and due date for calibration. A list of such instruments deployed by contractor at site with its calibration status is to be submitted to BHEL Engineer for control.
- 8.4 Retesting/ re-calibration (calibration equipment) shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor shall have alternate arrangements for such IMTE so that work does not suffer when the particular instrument is sent for calibration. Also if any IMTEs not found fit for use, BHEL shall have the right to stop the use of such item and instruct the contractor to deploy proper item and recall i.e. repeat the readings taken by that instrument, failing which BHEL may deploy IMTEs and retake the readings at contractor's cost.
- 8.5 Contractor shall ensure deployment of serviced and healthy T&Ps including cranes, lifting tackles, wire rope, Manila rope, winches and slings etc. History card and maintenance records for major T&Ps will be maintained by the contractor and will be made available to BHEL Engineer for inspection as and when required. Identification for such T&Ps will be done as per BHEL Engineer's advice.
- 8.6 BHEL shall have lien on all T&Ps, IMTEs & other equipment of the contractor brought to the site for the purpose of execution of contract. BHEL shall continue to hold the lien on all such items throughout the period of contract. The contractor and/or his Sub-contractors, without the prior written approval of the Engineer, shall not remove any material or equipment brought to the site.

- 8.7 The week wise T&P and IMTEs deployment plan to be submitted as per format (at Annexure-11) is only to assess the capability as well as understanding of the contractor to execute the work. It shall be the contractor's responsibility to deploy the required T&Ps and IMTEs, for timely and successful completion of the job, to any extent over and above those indicated in the above deployment plan (including those which are not covered in the plan submitted) without any compensation on this account.
- 8.8 Under this contract, the contractor shall deploy all the Tools & Plant and IMTEs required to completing the works for the total period of the contract including the extended period within the accepted rates.

## 9. LABOUR & SUPERVISORY STAFF

- 9.1 The contractor shall take all the steps to augment resources to complete the planned activities as informed by BHEL. Adequate and suitable manpower, tools & tackles, facilities, etc shall be arranged by the contractor. To complete the work, 'round the clock' activities shall be planned in shifts by the contractor. As many parallel activities are planned simultaneously the contractor shall plan to mobilise as many groups for working in different areas independently.
- 9.2 The contractor shall deploy all the skilled workmen like fitters, welders, gas cutter, riggers, electricians, instrument technicians, etc., in addition to other skilled and unskilled workmen required for all the works of dismantling, erection, testing and commissioning as contemplated under these specification.
- 9.3 The contractor must employ personnel only after police verification. The personnel must have valid gate pass for entry in the plant. It also must be ensured that, their employees leave the plant premise after duty hours.
- 9.4 Only fully trained and competent men with previous experience on the job shall be employed. They shall hold valid certificates wherever necessary. BHEL reserves the right to decide on the suitability of the workers and other personnel who will be deployed by the contractor. BHEL reserves the right to ask for removal of any employee workman of the contractor at any time, if they find him unsuitable and the contractor shall forthwith remove him.
- 9.5 The adequate supervisory staff, including qualified Engineers, shall be deployed by the contractor to ensure proper out-turn of work and discipline on the part of the labour put on the job by the contractor and in general see that the works are carried out in a safe and proper manner and in coordination with other labour and staff deployed directly by BHEL or other contractors of BHEL or BHEL's client / other agency.
- 9.6 The work shall be executed under the usual conditions like rain, insufficient space, and improper approach roads etc. and in conjunction with numerous other operations at site. The contractor and his personnel shall cooperate with other personnel. The contractor will coordinate his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.
- 9.7 The contractor's supervisory staff shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract.
- 9.8 The contractor shall deploy the necessary number of qualified and approved full time electricians at his cost till the completion of work.
- 9.9 During the course of erection, if the progress is found unsatisfactory, or if the target dates fixed from time to time for every mile stones are to be advanced or in the opinion of BHEL, if it is found that the

skilled workmen like fitters, Electricians , technicians etc. deployed are not sufficient, BHEL after giving reasonable opportunity for a week to the contractor, will induct on the work the required workmen in addition to contractor's workmen to improve the progress and recover from the contractor's bills any charges incurred for engaging the additional workmen with overheads. Decision of BHEL engineer will be final and binding on the contractor.

- 9.10 It is the responsibility of the contractor to engage his workmen in shifts or on overtime basis for achieving the targets set by BHEL and also during the period of commissioning and testing of unit. The contractor's finally accepted rates / prices shall include all these contingencies.
- 9.11 If the contractor or his workmen or employees shall break, deface, injure or destroy any part of a building, road, fence, enclosure, water pipes, cables, drains, electric or telephone posts or wire, trees or any other property or to any part of erected components etc., the contractor shall make the same good at his own expense or in default, BHEL may cause the same to be made good by other workmen or by other means and deduct the expenses (of which BHEL's decision is final) from any money due to the contractor.
- 9.12 The monthly man power deployment plan to be submitted as per format (at Annexure-11) is only to assess the capability as well as understanding of the contractor to execute the work. It shall be the contractor's responsibility to deploy the required manpower, for timely and successful completion of the job, to any extent over and above those indicated in the above deployment plan (including those which are not covered in the plan submitted) without any compensation on this account. Separate persons shall be identified at site for quality control and safety by the contractor.

## 10. FACILITIES TO BE PROVIDED BY BHEL

- 10.1 BHEL shall provide limited open space for office free of rental charge. It is the responsibility of the contractor to construct sheds, provide all utilities like electricity, drinking water etc., as a part of his scope of work within the accepted rates. Electricity for office will be provided at a single point as decided by BHEL, further distribution will have to be made by the contractor at his own cost. The electricity shall be provided on free of cost basis to the contractor. Though the electricity will be provided on free of charge basis, the contractor shall ensure that there is no wastage. For this contractor will have to install Electricity Meter at his own cost. Periodical audits will be held to ensure that electricity is being optimally used. In case any wastage is observed BHEL reserves the right to recover any charges / penalty as deemed fit to be decided by Engineer.
- 10.2 Contractor shall be responsible for providing all necessary facilities like residential accommodation, transport, electricity, water, medical facilities etc. as required under various labour laws and statutory rules and regulations framed there under to the personnel employed by him.
- 10.3 On completion of work or as and when required by BHEL, all the temporary buildings, structures etc. in plant and in labour colony shall be dismantled and levelled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event of his failure to do so, it will be got done at his risk and cost, and expenses incurred shall be re-covered from the contractor along with prevailing overhead. The decision of BHEL Engineer in this regard shall be final.

## 11. TIME SCHEDULE

- 11.1 The contractor is required to mobilise his team for commencing the work within 15 days from the date of issue of Letter of Intent (LOI) unless BHEL decides to fix any other later date. However, BHEL

Engineer will certify the actual date of start of work after adequate mobilization of manpower, material handling equipment and other T&P by the contractor.

- 11.2 Being an R & M Work Installation and Commissioning of the equipment/systems is likely to be carried out in stages. The contract period shall be considered as **15 (Fifteen) months** from the date of issue of Letter of Intent. If the completion of work as detailed in these specifications gets delayed beyond the end of contract period (for the delay not attributable to the contractor), then depending on the balance works, BHEL at its discretion may extend the contract on existing terms and conditions for a further period of **Three Months**. The scope of work under this contract is deemed to be completed, when so certified by the Engineer.
- 11.3 In case the work is completed before the contractual period of 15 months, BHEL at its discretion will close the contract and no compensation is payable to contractor.
- 11.4 Being a shutdown related work, it is to be clearly understood and agreed that timely completion of activities is important and the plan shall be strictly adhered by the Contractor. The contractor shall mobilise additional resources like manpower, tools & tackles, etc., as required to complete the given task/work in the stipulated time of shutdown and as instructed by BHEL engineer at site. BHEL will be fully empowered to take necessary actions to fulfill its commitment to its client at the Risk and Cost of contractor. The additional resources deployed during peak activities may be withdrawn after completing the major works as decided by BHEL site engineer. During the intervening non-shutdown period, the contractor shall maintain adequate resources to carry out the preparatory/pre-shutdown activities of the next unit and common systems as discussed mutually and finally decided by BHEL at site.
- 11.5 One of the Units will be under shutdown, tentatively from first week of August 2014 and the other Unit shutdown is likely in April 2015. Bidder shall plan execution of work as per this schedule however execution of work in reality shall be carried out as per the actual shutdown plan of NTPC Ltd. Bidder shall not be eligible for any compensation on the grounds of preopening or postponing of shutdown dates.

Key milestones activities planned for Installation and Commissioning work in one unit and associated common system as covered by this contract are as follows:

<b>Milestones</b>	<b>To be Achieved By</b>
11.5.1 Date of intimation of shutdown	0 <sup>th</sup> Day
11.5.2 Mobilising site and Commencing of Pre-Shutdown activities	15 <sup>th</sup> Day
11.5.3 Completing of Pre-Shutdown activities	30 <sup>th</sup> Day
11.5.4 Mobilisation of manpower for shutdown activities	40 <sup>th</sup> Day
11.5.5 Completion of all Shutdown related work	65 <sup>th</sup> Day
11.5.6 Readiness for Unit synchronization	75 <sup>th</sup> Day
11.5.7 Attending to post commissioning works	90 <sup>th</sup> Day
11.5.8 Handing over of dismantled items and completion of balance Works & Rework (if any) for System stabilization	180 <sup>th</sup> Day

The above details are indicative only and are for the purpose of understanding of the works to be executed by the Contractor. However actual activities will be finalized by BHEL as per the shutdown plan of respective Units and contractor shall adhere to it strictly. BHEL shall take appropriate actions to meet customer's commitments in line with provisions of General Conditions of contract.

## TAXES, DUTIES AND OCTROI CHARGES

- 11.6 Except otherwise specifically provided in the contract the contractor shall bear and pay all taxes, duties, levies and charges with respect to this contract as assessed by all Municipal, State or National Government Authorities. In case BHEL is forced to pay any of such taxes on behalf of the contractor, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.
- 11.7 TDS under income Tax, sales Tax, VAT and surcharge etc., if any, shall be deducted at prevailing rates on gross invoice value from the running bills unless Exemption Certificate from appropriate Authority / authorities is furnished.
- 11.8 Price quoted shall be inclusive of all taxes, duties & any other charges except Service Tax. The service tax, as legally leviable & payable by the contractor under the provisions of applicable law / act, shall be paid by BHEL as per contractor's bill. However, contractor shall submit proof of payment of Service Tax. The contractor shall furnish proof of Service Tax registration with Central Excise Division covering the services covered under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by contractor on BHEL for this project.
- 11.9 Contractor shall get his organization registered with concerned Sales Tax/VAT authorities within 15 days of award of this contract. The delay on this account and delay in bringing the material shall be to contractor's account and no extension of time shall be allowed on this account. The Sales Tax/VAT registration for this contract shall be forwarded to BHEL within 30 days from the date of LOI. In case the contractor is already registered for Sales Tax/VAT with Govt. Authorities he must quote his registration no, while submitting their tender.
- 11.10 Contractor has to make his own arrangement at his cost for completing the formalities, if required, with Sales Tax/VAT Authorities, for bringing their materials, plants, and equipment at site for the execution of the work under this contract.
- 11.11 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.

## 12. TERMS OF PAYMENT

- 12.1 The 'Engineer' will certify the actual work executed in the measurement books and bills, which shall be accepted by the contractor in measurement book.
- 12.2 Contractor shall submit bills for the work completed under the specification, once in a month (for the period 25th to 24th of calendar month) preferably in the last week, detailing work done during the previous month. The format for billing shall be approved by 'Engineer' before raising invoices.

All payments shall be released from BHEL Bangalore. The process of certification at site and forwarding the bill to Bangalore and dispatch of payment to contractor is expected to take 4 to 6 weeks. Contractor is advised to take note of this and ensure labour payments in time (by 10th of every month) without fail. Non - receipt of payment /delay in getting payment from BHEL cannot be the reason for contractor to delay in making payment of wages to workers.

The contractor has to submit his running bills in printed format with serial numbers and mentioning the registration numbers for service tax, TIN, sales tax etc.

- 12.3 Subject to any deduction which BHEL may be authorized to make under the contract, the contractor on the certificate of the Engineer at site is entitled for payment as explained hereunder:

### 12.3.1 Dismantling of existing equipment / systems:

- 12.3.1.1 70% of item rate shall be paid on pro-rata basis on complete dismantling of equipment.
- 12.3.1.2 20% of item rate shall be paid on pro-rata basis on handing over the dismantled equipment / system at BHEL's designated place to NTPC Ltd. as certified by Engineer.
- 12.3.1.3 Last 10 % of the item rate value of work on completion of all pending works, reworks, material reconciliation, area cleaning and fulfillment of contractual obligations and on submission and passing of Final bill.

### 12.3.2 Removal / dismantling of cables

- 12.3.2.1 60% of item rate shall be paid on pro-rata basis on complete dismantling of equipment.
- 12.3.2.2 30% of item rate shall be paid on pro-rata basis on identification and tagging , handing over the cables at a designated place of NTPC Ltd. as instructed by Engineer.
- 12.3.2.3 Last 10 % of the item rate value of work on completion of all pending works, reworks, material reconciliation, area cleaning and fulfillment of contractual obligations and on submission and passing of Final bill.

### 12.3.3 Installation and Commissioning of new equipment / systems:

- 12.3.3.1 70 % of item rate shall be payable on pro rata basis on erection of equipment / system as certified by Engineer. The following shall be furnished along with the bill. Protocols for erection completion and calibration records duly signed by BHEL Engineer are to be furnished along with the monthly Bill.
- 12.3.3.2 20 % of the item rate value shall be payable on pro rata basis on completion of pre commissioning checks of equipment /system as certified by Engineer.

- 12.3.3.3 Last 10 % of the item rate value of work on completion of all pending works, reworks, material reconciliation, area cleaning and fulfillment of contractual obligations and on submission and passing of Final bill certified by Engineer.
- 12.4 The bills with all enclosures, as required by BHEL, shall be submitted to Engineer for his certification. Attendance certification by Engineer is also to be furnished.
- 12.5 The payment for the first running bill will be released only after production of copies of following:
- PF Registration / Membership certificate
  - Workmen compensation insurance policy
  - Labour licence if applicable ('form V' till Licence is issued).

### 13. RATE SCHEDULE

- 13.1 Contractor shall fully understand equipment description and scope of work before quoting. The scope of work and responsibility of the contractor as mentioned under these specifications shall be covered within the quoted rates.
- 13.2 The Contractor shall quote the rates as per the price schedule only; in Part-II Price bid (Original). Conditional price bids or price bids with any deviation/clarification etc. are liable to be rejected. No cutting/erasures/over writing shall be done.
- 13.3 Quantities mentioned in the Price schedule are liable for variation. However the actual quantities executed will be considered for payment. Considering the nature of work, the quantities indicated against each item may vary to a large extent.
- 13.4 Contractor's total quoted price as per rate schedule will be taken as tentative only.
- 13.5 Some of the items may be added or deleted which shall have to be executed by the contractor within his scope of work and shall be paid as per the rates awarded in the contract. The contractor undertakes to erect / commission actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be worked out on the basis of quantities actually erected at site and payments will also be regulated for the same on the basis of unit rates.
- 13.6 The rates entered in the work order/ rate schedule are intended to provide for the work duly and properly completed in accordance with the conditions of tender/contract. The rates accepted shall be deemed to have included all incidental charges or contingencies, which may have not been specifically provided for in the tender.
- 13.7 The bidders are required to quote for all the items of the rate schedule.
- 13.8 Rates quoted shall be FIRM and valid throughout the contract period including extension period, if any and no claim for enhancement/escalation on any ground whatsoever will be entertained and considered.

### 14. EXTRA WORK:

- 14.1 BHEL may consider for payment of extra works on man hour basis @ Rs.30/- (Rupees Thirty Only) for such of those works which:
- 14.1.1 Require major revamping or rework and which are totally unusual to normal erection work.
- 14.1.2 Require rectification / modification for improvement in the design during commissioning

14.1.3 Requiring fresh fabrication of components in place of rejected / replaced components.

14.1.4 However reworks carried out by a gang of one technician, two helpers for less than 4 Hrs. will not be considered for extra work.

14.2 The rates indicated as above, shall include over time, if any, consumables, supervision, use of tools and tackles and other site expenses and incidentals.

14.3 The extra works, if any, shall be carried out by a separate gang or beyond working hours which can be identified for certification of man hours. Log book should be maintained and should be signed (within a week's time) jointly by the contractor's site in charge and the BHEL Engineer on day to day basis. However, signing of the log book does not necessarily mean acceptance of the extra works which would be identified by Engineer whether work is covered in one of the above categories. Only those works and man hours which are certified by the Engineer may only be considered for payment. The decision of BHEL in this regard shall be final and binding on the contractor.

#### 15. LIQUIDATED DAMAGES:

15.1 If the contractor fails to successfully erect and commission complete equipment / systems of the respective unit within schedule of activities and shutdown is extended due to reasons solely attributable to contractor, then the contractor shall pay to BHEL as Liquidated Damages, and not as penalty, a sum equivalent to one half of the one percent (1/2%) of the contract award value per week or part thereof of delay subject to maximum of five percent (5%) of the contract award value.

15.2 BHEL shall intimate the date of commencement of shutdown in writing.

15.3 The payment of Liquidated Damages shall not in any way relieve the Contractor from any of its obligations to complete the facilities or from any other obligations and liabilities of the Contractor under the contract.

#### 16. OTHERS:

16.1 The contractor in the event of this work awarded to him, shall post an authorized, responsible person who should hold a valid power of attorney.

16.2 For the purpose of the contract, any order or instruction of the Engineer or his duly authorized representative shall be communicated to the contractor's representative at site office and the same will be deemed to have been communicated to the contractor at his legal address.

16.3 **Security Deposit:** - The contractor shall submit Security Deposit as per Clause No.31 of the Instructions to Bidders (ITB).

16.4 The contractor shall be in possession of necessary documents viz. ESI & PF registration form, Workman's Compensation Insurance, Police Verification of Workers, Labour Registration form of workers employed by contractor for this work, Individual ESI IDs of all workers, PF Statement of Workers, Indemnity Bond etc. as required by BHEL's regulations as well as regulations of our client i.e. NTPC Limited before he starts work. The contractor for this purpose shall make necessary arrangement well in time. These permits must be kept at the job site at all times and the contractor is to ensure that his personnel if any shall not enter site without a valid permit.

## 17.INSURANCE

- 17.1 Besides provisions under Clause No. 12 of GCC regarding insurance, the following shall also be applicable. The contractor shall also take care of the same while submitting their offer.
- 17.1.1 Insurance for all materials pertaining to the Contractor (T&Ps, Construction Materials etc.) during transit, storage and during construction shall be in his (Contractor's) scope.
- 17.1.2 The Contractor shall provide insurance cover to all persons employed/engaged by him throughout the period of Contract, including the extended period, if any.

## ERECTION CONDITIONS OF CONTRACT (ECC)

### 1. GENERAL:

- 1.1. The following provisions in this ECC section shall supplement the conditions already contained in the other parts of this contract.
- 1.2. The work of dismantling existing system and installation of new Control & Instrumentation system is proposed to be carried out in two units and Common system (consisting of common AHP, CWPH and Compressor area). However being an R&M work and units being in operation actual Units in which the work shall be executed depends on the permission from Grid for the shutdown of respective Unit. Contractor shall complete the entire work as detailed in tender specification within the contractual rates irrespective of the Unit which is provided to him for R&M work. It may also happen that during Contract time schedule, as specified in SCC, more than two Units are taken under shutdown by NTPC for the execution of R&M work, in that case with mutual agreement Contractor shall also complete the R&M work of Third unit as per the terms and conditions of this Contract and the quoted unit rates shall remain unchanged.
- 1.3. The Equipment/System to be Dismantled and Installed by Contractor consists of Control and Instrumentation System, along with the associated auxiliaries. A tentative list of such equipment/system is given in Annexure-1 of this tender document to give the general idea about the type and quantity of equipment/systems, however change in design/specification may occur as is usual in any such large work, for which no compensation will be payable. Contractor shall complete the entire work as detailed in tender specification within the contractual rates. The quantities shown are approximate and are liable to vary up to any extent. No increase in quoted / accepted rates / prices shall be allowed due to change in quantities of the equipment / systems. The contractor has to dismantle all the existing equipment which are rendered surplus due to R&M and install whatever actual equipment/systems are dispatched for the project irrespective of any variations and payments shall be released for the actual quantities dismantled or installed.
- 1.4. The work shall conform to dimensions and tolerances given in various drawings and documents that will be provided during erection. If any portion of work is found to be defective in workmanship, not conforming to drawings or other stipulations, the contractor shall dismantle and redo the work duly replacing the defective materials at his cost failing which the job will be carried out by BHEL by

engaging other agencies/ departments and recoveries will be effected from contractor's bills towards expenditure incurred including BHEL's usual overhead charges.

- 1.5. The contractor shall take all the steps to augment resources to complete the planned activities as informed by BHEL. Adequate and suitable manpower, tools & tackles, facilities, etc shall be arranged by the contractor. To complete the work, 'round the clock' activities shall be planned in shifts by the contractor. As many parallel activities are planned simultaneously the contractor shall plan to mobilise as many groups for working in different areas independently.
- 1.6. The contractor shall have sufficient number of experienced persons at site who can supervise and execute the work of dismantling and installation of Control & Instrumentation system.
- 1.7. It shall be the responsibility of the Contractor to keep in touch with BHEL Engineer at site and find out the availability of fronts and day to day action plan of BHEL. For this the Contractor or his authorized person shall contact the BHEL Site Office by 8.00 AM every day. The Contractor or his authorized person should always be available at work spot.
- 1.8. The Contractor has to use his own or arrange suitable equipment for safe handling, shifting, lifting to various heights and installation of new equipment and dismantling of existing system, including all necessary Tools & Plants required for the above work. Also consumables, T&Ps and IMTEs required for the execution of works as per this contract are to be provided by Contractor with no extra cost to BHEL.
- 1.9. Transport vehicles necessary for efficient and safe transportation of equipment to the designated location (within NTPC Dadri plant premises) has to be arranged by Contractor. All the vehicles used for the work should have valid documents like Insurance cover, RC Book, Vehicle fitness certificate etc.
- 1.10. The contractor shall be fully responsible for the Safety and Security of materials issued to him till it is handed over to BHEL after complete installation or returned back to BHEL Stores in case it become surplus on complete installation of the respective system.
- 1.11. The Contractor shall execute the work in the most substantial and workman like manner. The materials shall be handled with care and diligence. Any loss to BHEL due to contractor or his workmen's lapse / negligence shall have to be made good by the contractor.
- 1.12. In case Contractor is not able to achieve milestones as per the detailed schedule of activities provided to the contractor during execution of work by BHEL Engineer for any reason whatsoever BHEL shall be at liberty to get the work done by engaging other agency / equipment / T&P etc. at the risk and cost of the contractor.
- 1.13. It shall be the responsibility of the contractor to keep the work spots and space provided to him for his office and stores in neat and tidy conditions. All surplus/unusable materials shall be removed and deposited at location(s) specified by BHEL within the project premises. Compliance report on above shall be submitted by the contractor to BHEL. In case contractor fails to do so, BHEL shall get the same done at the risk and cost of the contractor.

1.14. Detailed procedures for Dismantling of existing system and Installation of new equipment/system shall be provided by BHEL during execution of work and Contractor shall follow the same completely and in totality.

## 2. SCOPE OF WORK:

2.1. It is not the intent to completely specify herein every details of dismantling, erection, testing and commissioning work required to be carried out by the Contractor. Nevertheless, the work shall include all items as necessary for complete dismantling, erection, testing and commissioning for the services stipulated in the Tender and systems/items within the scope of supply of BHEL, within the quoted rates, even though not specifically mentioned herein.

2.2. The omission of specific reference to any method, equipment or material necessary for the proper and efficient services towards installation of the plant shall not relieve the contractor of the responsibility of providing such services/ facilities to complete the work or portion of work awarded to him. The quoted/ accepted rates/ price shall deem to be inclusive of all such contingencies.

2.3. It may also be noted that the proposed R & M activities are to be executed in a project under operation, wherein the period of shutdown is to be kept at a minimum. The entire commissioning activities will have to be completed in the minimum possible shut down period and as indicated elsewhere in the Tender.

2.4. The scope of this contract shall include receipt of Equipment from BHEL Stores, Shifting it to the work spot, Unpacking, Inspection of equipment, Installation of Equipment/system with all its auxiliaries, supports, fixture etc., interconnection (including laying and termination of cables, interface piping, tubing, hardware etc.) with related plant and equipment, calibration, testing, loop checking, providing commissioning assistance for putting the Control & Instrumentation system together with all accessories, auxiliaries and associated equipment in full operational condition and in the manner acceptable to the BHEL. Installation of drive interface relays (being supplied by BHEL) in SWGR/MCC along with the associated cabling; however this work has to be done within the quoted rates for cable laying only. The contractor shall provide all services which may not be specifically stated in the specifications but are required for complete Installation of the equipment/systems being supplied by BHEL to NTPC Ltd. for the execution of C&I R&M work as referred in this specification. The work shall be consistent with modern power plant practices and shall be in compliance with all the applicable codes, Standards, Guidelines and Safety requirements in force on the date of issue of LOI by BHEL. The requirements of Statutory Authorities as applicable shall be complied even not actually spelt out.

2.5. Contractor's scope of work shall also include dismantling of existing Equipment/Instruments/Panels/Cabinets/Control Desks/Control Panels/Electrical Control Panels/Battery Chargers/Terminal blocks etc. which are to be replaced/modified or rendered surplus due to R&M and handing over the dismantled material in "as it is condition" at the designated place to BHEL's client. This will also include disconnection/dismantling and removal of the existing impulse pipes, cables, cable trays, JB's supports etc.

- 2.6. Dismantling and relocation of certain instruments. Details will be provided during execution of work. Quoted rates for dismantling of existing cabinets shall be inclusive of this work. No extra payments will be done by BHEL.
- 2.7. Preparing temporary openings at various locations for the movement of Equipment. Same shall be closed after completion of work.
- 2.8. Preparation of new Earthing and Grounding pit for C&I system, if required, within the quoted rates for installation of DCS Panels.
- 2.9. Providing assistance during post commissioning operation and maintenance of the equipment till stabilization of Unit as per the milestone schedule.
- 2.10. Minor Civil works like chipping, grouting etc. wherever required is to be carried out by the contractor within the quoted price. The contractor has to provide at his cost all material required for carrying out the grouting work including supply of cement etc.
- 2.11. Fabrication and fixing of base frames/supports/structures etc. however required structural steel will be provided by BHEL free of cost.
- 2.12. Checking the shipments and reporting missing/damaged items in writing to BHEL Engineer, unpacking of the shipped materials in presence of BHEL Engineer only, repairing minor damages and cleaning, maintaining proper record of material and issue of material.
- 2.13. All works such as cleaning, checking, leveling, aligning, assembling and temporary erection for alignment, dismantling of certain equipment for checking, cleaning, surface preparation, fabrication at site, cutting, grinding, straightening, chamfering, filing, chipping, drilling, machining, surface grinding, shaping, fitting up etc. as may be applicable in such erection works are to be treated as incidental to erection and necessary to complete the work satisfactorily and shall be carried out by the contractor as part of the work.
- 2.14. Any fixtures, scaffolding materials, concrete block supports, steel structures required for temporary supporting, for pre-assembly or checking, welding, lifting and handling during pre-assembly and erection shall be arranged by contractor at his cost.
- 2.15. Tagging of all field instruments, cables and junction boxes as per the instruction of BHEL Engineer.
- 2.16. MATERIAL HANDLING AND STORAGE:
  - 2.16.1. All the materials shall be issued to the Contractor from BHEL Stores on standard indent form and approval from BHEL Engineer.
  - 2.16.2. All the equipment shall be handled very carefully to prevent any damage or loss. No untested wire ropes/ slings etc. shall be used for unloading / handling. The equipment shall be properly protected to prevent damage either to the equipment or to the floor where they are stored. The equipment from the stores shall be moved to the actual location at the appropriate time so as to avoid damage of such equipment at site. Test certificates for lifting tackles shall be produced by the contractor before use.

- 2.16.3. Contractor shall be responsible for examining all the plant and material issued to him and notify the Engineer immediately of any damage, shortage, discrepancy etc. before they are moved to erection area. The contractor shall submit to the Engineer every week, a report detailing all the receipts during the week. However, the contractor shall be solely responsible for any shortages or damages in transit, handling, storage and erection of the equipment once received by him. In case any equipment / material is lost / damaged while in the custody of the contractor, the cost of repair / replacement if any to bring back the equipment in original order shall be deducted from the contractor's bill.
- BHEL's decision in this regard shall be final and binding on the contractor.
- 2.16.4. The contractor shall remove all the packing materials and protective devices used for various equipment during transit and storage before the equipment are installed.
- 2.16.5. The contractor shall ensure that all surplus / damaged / scrap / unused material, packing wood / containers/ special transporting frames etc. are returned to BHEL / customer at a place in project area identified by the Engineer. An account will be maintained by the contractor for all such items received and returned to BHEL and duly reconciled before closing of the contract.
- 2.17. The following provisions cover the technical requirements for some of equipment installation. The brief idea about the work involved is indicated below however the work is to be carried out in accordance with the recommendations of the equipment manufacturer drawings, documents furnished to the contractor by BHEL or as directed by BHEL Engineer.
- 2.17.1. DCS PANELS:
- 2.17.1.1. Items covered under DCS panels are maxDNA panels, Relay panels, Marshalling panels, Electrical control panel etc. Canopy for these equipment wherever supplied shall be installed by contractor within the quoted rate indicated in the rate schedule. These panels will be in the form suites of one, two, three, four and five panels. However payments will be made as per the actual number of panels installed by contractor.
- 2.17.1.2. Erection at site / control room including chipping of floor, fabrication and fixing of base channel frame, levelling & alignment with spirit level, welding the base channel to the embedded plates / channels, grouting (if required), fixing of anti-vibration pads, termination of inter panel connections, mounting /connections of loose instruments, inter panel bus bar connections, commissioning including charging of panels, loop checking and system checking. Terminations of cables will be by conventional screwed connections, by crimping connections and by maxi Termination tool. Checking of internal wiring, rectification, testing and calibration of equipment mounted inside is in the scope of contractor. The contractor may have to change / replace items found faulty without any extra cost, however materials for this shall be provided by BHEL. Mostly panels will be delivered fully wired. However, wherever required termination of loose wires, bus wires is to be done. Any internal wiring of the equipment which has been left incomplete because of shipping split or which requires minor modifications shall be carried out by the Contractor at no extra cost to BHEL. The cleaning of panels has to be done with electrical vacuum cleaner, besides conventional cleaning with brush etc. The drilling of holes in the

gland plates for cable entry shall be part of panel erection. All blank holes / gaps in the gland plates / boxes etc. shall be properly sealed. The base frames shall be painted suitably. The contractor shall carry out the plugging and sealing of left out holes in the gland plates and other openings at the bottom of panels at his own cost by using good quality sealing material as advised by BHEL. Any minor alterations required in the bus bar arrangement, wiring in the panels/ cubicles shall also form part of the work. During testing, commissioning, some equipment / modules may need replacement / repairs.

#### 2.17.2. UPS AND 24V DC POWER SUPPLY SYSTEM:

2.17.2.1. Erection of Panels after foundations checking / fabrication of base frames or stools (wherever applicable) and carrying out minor modification wherever required; Joining of panels, inter-panel cabling, Glanding, bus bar & earth bar connections, mounting of loose supplied items, commissioning assistance for Testing of complete board / calibration of all instruments and schemes; Dummy load test of Chargers including arranging of dummy load and temporary power supply etc. All glands and Lugs for power cabling will be part of BHEL supply. Drilling of Holes for glands is in contractor scope. Contractor will arrange for necessary tools and implements accordingly.

2.17.2.2. Erection of battery after assembly of battery stands, inter-connection of batteries and first charging; Capacity testing using dummy load and subsequent recharging (in case of failure of capacity test, the charging Discharging cycle is to be repeated). Erection of Battery Isolator Boxes and interconnection is included in Battery erection. Replacement activity of defective cells during warranty is also in contractor's scope and price indicated is deemed to be inclusive of this work. Arrangement of all consumables for the above tests, filling of electrolyte is in contractor's scope.

#### 2.17.3. INSTRUMENTS (TRANSMITTERS / GAUGES / SWITCHES /TEMPERATURE SENSING ELEMENTS LIKE RTDs & THERMOCOUPLES):

2.17.3.1. New instruments shall be installed in the existing LIE/LIRs, JBs, Thermo wells, etc. Repair and painting of the existing LIE/LIRs has to be done by the Contractor.

2.17.3.2. Mounting of measuring instruments includes installation of condensate pots, root valves, drain valves, impulse piping, drain cocks, gauge-zeroing cocks, valve manifolds and all other accessories as required.

2.17.3.3. The scope shall also include calibration and checking of Instruments. Some instruments may need repeated calibration / replacement. The same will be carried out by the contractor at no extra cost to BHEL including calibration of instruments needed for replacement, which will be supplied by BHEL.

2.17.3.4. Tags on all the instruments shall be provided by the contractor as directed by BHEL Engineer at no extra cost to BHEL.

#### 2.17.4. IMPULSE PIPE/LINE:

The impulse line work comprises of Identifying the proper type (refer specification) of Impulse pipe, cleaning (oil flushed/chemical cleaned/air blown/steam blown/with wire brush/Hydraulic tested etc.), edge preparation, cold bending, laying to the required slopes, clamping, installation of isolation / drain valves, condensate pots and other fittings by socket welding, connecting with the process end and to the instruments, carrying out NDT, Hydraulic/air leak/pressure drop testing the impulse lines, and painting the lines as per requirement of BHEL engineer. Proper tagging of valves and impulse lines on both ends shall be done for proper identification. Painting of impulse lines with primer and with final paint of color as per NTPC standards including supply of paint is in contractor's scope. Flow elements are provided with SS root valves. Welding of these SS root valves with AS /CS impulse pipes is to be carried out within the quoted rates for Impulse pipes. The rate quoted per meter shall include all the above work.

#### 2.17.5. JUNCTION BOX AND POWER DISTRIBUTION BOARDS

Includes assembly / fabrication, welding of semi-prefabricated limbs of the racks / cable ducts / other related supporting structural parts, chipping of floor and grouting etc. drilling of bottom gland plates for cable entry and earthing with earth pads.

#### 2.17.6. CABLE TRAY

2.17.6.1. Cost of cable tray erection as per BOQ Cum Rate Schedule shall include fabrication of supports to suit site requirement, fixing of support in position by welding / bolting as per Engineers instruction, erection and fixing of cable trays and racks by welding or by bolts and nuts. Jointing of trays can be carried out by bolting / welding as per direction of Engineer. Contractor shall carryout cutting of tray only by Hacksaw for obtaining proper routing from standard lengths supplied. Materials for support fabrication like flats, channels, angles etc. shall be supplied by BHEL free of cost. The cutting & welding joints on trays will be painted by primer & Aluminium paint by the contractor including supply of paint within the erection price and no extra cost to BHEL.

2.17.6.2. In many cases, trays are supplied with tray covers and fasteners. These covers have to be erected after completion of bottom cable tray and laying of cables, tubes etc. The covers are to be properly secured on the bottom trays and no separate payment will be made for putting these covers. If required, GI / Al strip clamps to be used. All consumables excepting Structural Steel have to be arranged by Contractor.

#### 2.17.7. METALLIC FLEXIBLE CONDUIT/ RIGID CONDUIT:

Conduits may be used for interconnecting cables from field instruments to local JBs and for UTP cables, as per the instruction of BHEL Engineer with suitable connectors / unions bends etc.

Suitable thread sealing compound shall be used to make the conduit system water proof. Aluminium painting, clamping and tagging in tray / angle forms part of erection job.

#### 2.17.8. COMPUTER BASED EQUIPMENTS

2.17.8.1. All computer related items / equipment like Operator work station, Engineering station LVS, etc. comprising of CRT/LCD/TFT monitors, printers, key boards, pre-fabricated connecting leads ,Mouse , UPS etc. shall be installed as per the direction of BHEL

Engineer. Some of the individual UPS for PCs shall be supplied with external batteries and stands which are to be assembled erected at site within the quoted rates.

- 2.17.8.2. The Software installation and commissioning of Personal computers are not included in the scope of this contract. However, any assistance required for testing / commissioning have to be provided by the contractor within the quoted price. Hardware found defective during testing / commissioning and till handing over to Customer, have to be removed for repair / replacement and reinstalled within the quoted rates.
  - 2.17.8.3. LVS Erection shall be carried out by the contractor under the supervision of the supplier's engineer. All care shall be taken while handling LVS packages as these items are fragile.
  - 2.17.8.4. For all the computer furniture like PC racks, Control desks, Computer tables and chairs etc. the contractor shall assemble and place at the installation location. The supervision for assembly shall be carried out by the furniture supplier.
- 2.17.9. CABLING:
- 2.17.9.1. The scope includes Laying, Glanding (using Type of glands as per instruction of BHEL Engineer), Termination and Dressing of Instrumentation and Power Cables as per the cable interconnection schedule provided by BHEL. **However it may be noted that termination in existing marshalling panels (to be retained) are maxitermi termination and the contractor shall arrange suitable technician for this work. The appropriate tools and associated consumables for this maxitermi work shall be arranged by BHEL.**
  - 2.17.9.2. Laying, Crimping, Termination and Dressing of Ethernet cables supplied by BHEL as per the network architecture design provided by BHEL.
  - 2.17.9.3. Printed pipe ferruling at all termination endings. Spare cables to be ferruled and dressed at both ends.
  - 2.17.9.4. While laying cables, existing cable tray covers, cable ducts and trenches may require to be removed/opened and re-fixed. The same has to be done at no extra cost to BHEL.
  - 2.17.9.5. The screen of signal cables shall be run in insulated sleeve ( of approved quality to be provided by the Contractor ) and shall be terminated as per the instruction of the BHEL Engineer .All special tools and tackles like cable drum jack, roller etc are to be arranged by the contractor. Power cables and instrumentation cables are to be segregated and laid separately.
  - 2.17.9.6. For Cables, the Cost of Cable Laying as per BOQ Cum Rate Schedule shall also include the cost of Termination with Suitable Crimping Type Lugs and Ferrules. Only Cable Glands Shall Be Issued By BHEL as Free Issue Item. Drilling of holes in gland plates of DCS panels, Marshalling Panels, relay panels and various panels in Control room, HT / LT switch gear, JBs etc. as per requirement shall also be part of cabling at no extra cost

to BHEL. The ferrules will of sleeve type and contractor will arrange for printing machine for printing of tags.

2.17.9.7. Sealing (to prevent ingress of dust entry and propagation of fire) shall be provided for all floor slots used for cable entrance.

2.17.9.8. All cables shall be identified by Tag numbers provided at both the ends as well as at an interval of 5 meters.

#### 2.17.10.WELDING and NDT

2.17.10.1. The method of manual welding (ARC welding) to be carried out shall be indicated in the detailed drawings /schedules/BHEL Engineers instruction. BHEL Engineer will have the option of changing the method of welding as per site requirements.

2.17.10.2. All welders including tack welder, structural and pipe welder shall be tested and approved by NTPC-FQA/BHEL-FQA before they are actually engaged on work. BHEL reserves the right to reject any welder if the welder's performance is not found to be satisfactory. All charges for testing of contractor's welders including destructive and nondestructive tests conducted by NTPC/BHEL at site or at laboratory shall have to be borne by the contractor.

2.17.10.3. Faulty welds shall be cut and re-welded at the contractor's expenses. The procedure for the repair of defective welds shall be approved by the Engineer prior to any repair being made. Records of such repairs and defects shall be maintained by the contractor as per BHEL Engineer's advice.

2.17.10.4. Only BHEL/NTPC approved make electrodes will be used. All electrodes shall be baked and dried in the electric electrode baking oven to the required temperature for the period specified by the Engineer before these are used in erection work. All welders shall have electrodes drying portable oven at the work spot. Electrodes from holding oven shall be transferred to portable ovens. The electrodes brought to the site will have valid manufacturing test certificate.

2.17.10.5. All welds shall be painted with anticorrosive red oxide paint. Necessary consumables and scaffolding etc. including paints shall be provided by contractor at his own cost and deemed to have been included in the rates quoted in the rate schedule.

#### 2.17.11.PAINTING:

2.17.11.1. All structural fabrication work, impulse lines are to be painted with primer & finish paint. For panels, touch up painting by spraying is to be arranged by contractor at his cost.

2.17.11.2. All surfaces are to be thoroughly cleaned and to be touch up painted with suitable approved primer and finish paint matching with approved final color. Besides above two coats of approved primer paint, two coats of approved finish painting is to be done by the contractor to get the desired dry film thickness.

- 2.17.11.3. All paints, tools and other consumables including scaffolding materials required for painting shall be arranged and provided by contractor within the quoted rates.
  - 2.17.11.4. Paint and other materials so purchased shall be ISI marked and painting should be as per colour scheme and quality approved / specified by Engineer in charge.
  - 2.17.11.5. The contractor shall provide legend on equipment in size specified by Engineer. Letter writing shall be done in Hindi / English or in both languages. The painters have to undergo test and only qualified painters will be allowed to work.
  - 2.17.11.6. On completion of work or as and when required by BHEL, all the temporary buildings, structures, pipe lines, cables, cable sleeves etc. shall be dismantled and leveled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event of his failure to do so, same will be got done by the Engineer and expenses incurred shall be recovered from the contractor along with prevailing overhead. The decision of BHEL Engineer in this regard shall be final.
- 2.17.12.GENERAL
- 2.17.12.1. Any cutting of masonry work, which is necessary shall be done by the contractor at his own cost and shall be restored to match the original work. The Contractor shall obtain prior approval before cutting any masonry / concrete work.
  - 2.17.12.2. Pipes sent in standard length shall be cut to suit the site conditions and the layouts. Tubes or pipes wherever deemed to be convenient will be sent in running lengths with sufficient bends.
  - 2.17.12.3. Contractor shall fabricate and erect stands / supports for Junction boxes, Instruments, push button stations, fixing of push button and plugging of holes in Junction boxes .
  - 2.17.12.4. Calibration log-sheets / history cards of all the instruments, panels, drives, relay testing etc. under the scope shall be recorded and submitted on BHEL approved formats. Proper logging will form part of calibration / erection activity.
  - 2.17.12.5. The contractor shall paint the name / put tag numbers on all the equipment /instruments / cables etc. erected by him. Materials for tagging shall be supplied by contractor at his cost. The adhesive etc. shall be arranged by contractor at his cost.
  - 2.17.12.6. Site testing shall be required for all equipment installed by the contractor to ensure proper installation, setting, connection and functioning in accordance with drawings, specifications and manufacturer's recommendations.
  - 2.17.12.7. Remote operation of all drives, valves, dampers, transducers, solenoids shall be checked from control room as per instruction of BHEL engineer.
  - 2.17.12.8. During erection of various equipment, prior to commissioning and after commissioning, protocols have to be made as per the instruction of BHEL Engineer jointly with NTPC.
  - 2.17.12.9. The pre-commissioning activities will start with various trials, commissioning operations shall continue till units are handed over to customer. Simultaneous commissioning

activities will be progress in various areas, checking of equipment erected, making ready for trial runs, etc., all these works need specialized groups including electricians / instrument technicians in each area to render assistance to BHEL commissioning staff. Contractor shall earmark separate manpower for various commissioning activities within the quoted rates. The manpower shall not be disturbed or diverted.

- 2.17.12.10. In case, any rework is required because of contractor's faulty erection which is noticed during commissioning, the same has to be rectified by the contractor at his own cost. If any equipment / part is required to be inspected during commissioning, the contractor will dismantle / open up the equipment / part and reassemble/redo the work without any extra claim.
  - 2.17.12.11. Providing manpower assistance along with testing instruments to BHEL commissioning Engineers for Testing & Commissioning activities also forms part of work scope. In case contractor fails to provide above mentioned manpower, BHEL shall have the right to hire such services from other agencies at the risk and cost of the contractor.  
  
Workmen provided as per the above provisions shall be fully trained and experienced in the nature of work for which they are deployed.
  - 2.17.12.12. Any mechanical modification needed to install and commissioning any devices shall have to be carried out by the bidder.
  - 2.17.12.13. Any specific work, which is not mentioned in the scope of work but required to be carried out for completion of subject work is in the bidder's scope.
  - 2.17.12.14. Contractor shall dismantle, erect, test, commission all the field equipment, cabinets, panels, instruments etc. as per sequence prescribed by BHEL Engineer at site. The sequence of dismantling/ erection / commissioning methodology will be decided by the BHEL Engineer depending upon the availability of materials / work fronts etc. No claim for extra payment from the contractor will be entertained on the grounds of deviation from the methods of erection / commissioning adopted in Dismantling/erection / commissioning of similar jobs elsewhere or for any reasons whatsoever. For some of the equipment, Erection supervision or Commissioning expertise will be arranged by BHEL. The rate schedule indicates such details against each item. However all assistance with sufficient manpower, required tools and facilities (like temporary power supply, Lighting, Scaffolding etc.) required shall be provided by the contractor.
- 2.18. As soon as the facilities or part thereof has been completed operationally and structurally and before start-up, each item of the equipment and systems forming part of facilities shall be thoroughly cleaned and the inspected jointly by BHEL and Contractor for correctness and completeness of facility or part thereof and acceptability for initial pre-commissioning tests, start-up and commissioning at site.

#### 2.19. PROGRESS REPORTING:

- 2.19.1. Contractor is required to draw mutually agreed daily dismantling/erection programs in consultation with BHEL well in advance. Contractor shall ensure achievement of agreed

program and shall also timely arrange additional resources considered necessary at no extra cost to BHEL.

2.19.2. Weekly progress review meetings will be held at site during which actual progress during the week vis-a-vis scheduled program shall be discussed for actions to be taken for achieving targets. The program for subsequent week shall also be presented by contractor for discussions. The contractor shall constantly update/revise his work program to meet the overall requirement. All quality problems shall also be discussed during above review meetings. Necessary preventive and corrective action shall be discussed and decided upon in such review meetings and shall be implemented by the contractor in time bound manner so as to eliminate the cause of non-conformities.

2.19.3. The contractor shall submit compulsorily daily and weekly progress reports, manpower reports, materials reports, consumables (gases / electrodes) report and other reports as per proforma considered necessary by the Engineer.

### 3. SCOPE OF SUPPLY:

3.1. Providing all types of labour, supervisors, Engineers, watch and ward as required, tools & tackles, calibrated measuring and test equipment as specified and otherwise required for the work and consumable for erection, testing and commissioning including material handling within the accepted contact value.

3.2. The contractor shall provide within the accepted contract value, all consumables and materials

- a) Ferrules, lugs, self-locking nylon cable ties, indelible metallic or plastic cable tags and markers, nuts & bolts etc. as required.
- b) Consumables such as welding rods including alloy steel & stainless steel welding electrodes and gas, oil and grease, cleaning fluids, anticorrosive and epoxy paints/ touch-up paints, jute, soldering material, Chemicals for dye penetrant Test, cotton waste, M-seal, Araldite, petrol, CTC / other cleaning agents, Rustolene, petroleum jelly, insulation tape, PVC sealing compound, sleeves of all sizes, anchor bolts and fasteners M 12 size and below, saddles, jumpers etc. as required for complete installation.

3.3. The quoted rates for the work are deemed to have considered all the consumables / materials / T & Ps/IMTEs etc.

3.4. It shall be the responsibility of the contractor to store sufficient quantity of erection materials & consumables. Non availability of any materials or equivalent suggested by BHEL cannot be considered as reason for not attaining the required progress or for additional claim.

3.5. It shall be the responsibility of the contractor to obtain prior approval of BHEL regarding suppliers, type of electrodes etc. before procurement of welding electrodes. On receipt of electrodes at site these shall be subjected to inspection and approval by BHEL/ NTPC.

3.6. BHEL reserves the right to reject the use of any consumable including electrodes, gases, and special consumables if it is not found to be of the required standard / make / purity or when shelf life has expired. Contractor shall ensure display of shelf life on consumable wherever required & records maintained.

- 3.7. Storage of all consumables including welding electrodes shall be done as per requirement / instruction of the Engineer by the contractor at his cost.
- 3.8. In case of improper arrangement for procurement of any consumable, BHEL reserves the right to procure the same from any source and recover the cost from the Contractor's first or subsequent bill at market value plus the departmental charges of BHEL from time to time (30% at present). Postponement of such recovery is normally not permitted. The decision of Engineer in this regard shall be final and binding on the contractor.

**ANNEXURE-1**

**PROVISIONAL LIST OF MATERIALS/EQUIPMENT/SYSTEMS**

The Information given below is **very tentative and not complete**. Only a few of the typical components are listed below to give a general idea to the bidder. The quantities shown are approximate and are liable to vary.

S.NO.	ITEM DESCRIPTION	UOM	TOTAL QUANTITY	REMARKS
				Panels will be in the form of suite of One or Two or Three or Four or Five.
1.00	<b>maxDNA DCS PANELS</b>	NOS.	209	
2.00	<b>HMI SYSTEM</b>			
2.01	NETWORK PANELS	NOS.	9	Panels will consist of Network switches and associated auxiliaries.
2.02	POWER DISTRIBUTION PANEL	NOS.	2	
2.03	LVS	NOS.	12	Supervisory services for installation will be provided by Supplier.
2.04	WORKSTATION-PCs	NOS.	70	Shall include Various types of PCs like OWS, Programmer PCs, Servers etc. consisting of CPU, Monitor, Keyboard, Mouse, Cables etc. Shall be installed at various locations as per the instruction of BHEL.
2.05	PRINTERS	NOS.	12	Shall include various types. Shall be installed at various locations as per the instruction of BHEL.
2.06	UTP Ethernet Cable	MTS.	25000	
2.07	OFC Cable	MTS.	2000	
3.00	<b>FURNITURES</b>			
3.01	CENTRAL CONTROL DESK IN CONTROL ROOM WITH DRAWOUT CONSOLES (7M)	NOS.	2	Will be installed in Main Control Room of respective unit under the supervision of supplier.
3.02	CONTROL DESK IN COMMON AHP CONTROL ROOM (3M)	NOS.	1	
3.03	CONTROL DESK IN CWPB AREA (2M)	NOS.	1	
3.04	PC RACK	SET	2	
3.05	PRINTER TABLE	SET	20	
3.06	COMPUTER TABLE	NOS.	20	
3.07	CHAIRS	NOS.	40	
4.00	<b>UPS and 24V DC POWER SUPPLY SYSTEM</b>			
4.01	<b>UPS FOR AHP SYSTEM (1X100% INVERTER, 1X100% CHARGER, 1X100% SCVS, 2X100% ACDB, 1X100% MANUAL BYPASS SWITCH, 1X100% NI CD+1 NO. CELL BOOSTER)</b>	NOS.	1	Shall be installed in common AHP Control Room.
4.02	<b>MINI UPS FOR WORKSTATIONS AT VARIOUS LOCATIONS</b>	NOS.	70	Shall be installed at various locations as per instruction of BHEL.
4.03	<b>24V DC POWER SUPPLY SYSTEM FOR SG &amp; TG CONTROLS CONSISTING OF 2X100% CHARGER, 2X100%Ni-Cd BATTERY BANK, 2X100% DCDB AND 1 NO. OF DISCHARGE RESISTANCE BANK.)</b>	SET	2	One set per Unit. Supervisory services for installation will be provided by Supplier.

S.NO.	ITEM DESCRIPTION	UOM	TOTAL QUANTITY	REMARKS
4.04	<b>24V DC POWER SUPPLY SYSTEM FOR MAIN PLANT BOP CONTROLS</b> CONSISTING OF 2X100% CHARGER, 2X100%Ni-Cd BATTERY BANK, 2X100% DCDB AND 1 NO. OF DISCHARGE RESISTANCE BANK.)	SET	2	One set per Unit. Supervisory services for installation will be provided by Supplier.
4.05	<b>24V DC POWER SUPPLY SYSTEM FOR STANDALONE SYSTEM AT CWPB CR</b> CONSISTING OF 2X100% CHARGER, 2X100%Ni-Cd BATTERY BANK, 2X100% INTEGRAL DCDB AND 1 NO. OF DISCHARGE RESISTANCE BANK.)	SET	1	Supervisory services for installation will be provided by Supplier.
4.06	<b>24V DC POWER SUPPLY SYSTEM FOR AHP SYSTEM AT COMMON AHP CR</b> CONSISTING OF 2X100% CHARGER, 2X100%Ni-Cd BATTERY BANK, 2X100% INTEGRAL DCDB AND 1 NO. OF DISCHARGE RESISTANCE BANK.)	SET	1	Supervisory services for installation will be provided by Supplier.
5.00	<b>MASTER AND SLAVE CLOCK SYSTEM</b>			Supervisory services for installation will be provided by Supplier.
5.01	MASTER CLOCK	SET	1	
5.02	SLAVE CLOCKS	NOS.	18	
5.03	INSTRUMENTATION CABLE G TYPE-4 PAIR	MTS.	4500	
5.04	CONTROL CABLE-3C UNARMoured 1.5 SQ. MM	MTS.	2500	
6.00	FURNACE FLAME CAMERA SYSTEM	SET	2	One set per Unit. For further details see note X below.
7.00	ONLINE COAL FLOW MEASUREMENT SYSTEM	SET	1	To be installed in Unit-1 only. For further details see note X below.
8.00	<b>PROCESS MEASURING INSTRUMENTS</b>			
8.01	DP TYPE TRANSMITTERS	NOS.	50	
8.02	ULTRASONIC LEVEL TRANSMITTERS	NOS.	16	
8.03	PRESSURE TRANSMITTERS	NOS.	120	
8.04	RADAR TYPE LEVEL TRANSMITTERS	NOS.	32	
8.05	RESISTANCE TEMPERATURE DETECTORS (RTDs)	NOS.	16	
9.00	SOLENOID VALVES	NOS.	44	
10.00	VALVE POSITION TRANSMITTERS FOR HPCV, IPCV & LPBPCV	NOS.	12	
11.00	<b>INSTRUMENTATION CABLES</b>			
	<b>G TYPE</b>			
11.01	4 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	35000	
11.02	8 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	17300	
11.03	12 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	1000	

S.NO.	ITEM DESCRIPTION	UOM	TOTAL QUANTITY	REMARKS
11.04	16 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	200	
	<b>F TYPE</b>			
11.05	4 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	28000	
11.06	8 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	17000	
11.07	12 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	3400	
11.08	16 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	7000	
12.00	<b>CONTROL CABLES</b>			
12.01	2C COPPER (UNARMoured) 2.5 SQ. MM	MTS.	7500	
12.02	4C COPPER (UNARMoured) 2.5 SQ. MM	MTS.	14000	
12.03	7C COPPER (UNARMoured) 2.5 SQ. MM	MTS.	300	
12.04	16C COPPER (UNARMoured) 2.5 SQ. MM	MTS.	3400	
13.00	<b>LT POWER CABLES</b>			
13.01	2C ALUMINIUM UNARMoured 10 SQ. MM	MTS.	1900	
13.02	3C ALUMINIUM UNARMoured 16 SQ. MM	MTS.	120	
13.03	3C ALUMINIUM UNARMoured 35 SQ. MM	MTS.	1800	
13.04	1C ALUMINIUM UNARMoured 120 SQ. MM	MTS.	5000	
13.05	2C ALUMINIUM UNARMoured 120 SQ. MM	MTS.	32000	
13.06	1C ALUMINIUM UNARMoured 35 SQ. MM (Earthing Cable)	MTS.	40000	
14.00	<b>JUNCTION BOXES</b>			
14.01	24 WAYS	NOS.	30	
14.02	48 WAYS	NOS.	12	
14.03	64 WAYS	NOS.	12	
14.04	96 WAYS	NOS.	24	
14.05	128 WAYS	NOS.	44	
15.00	<b>CABLE TRAYS</b>			
15.01	CABLE SUB-TRAYS 2" (50MM)	MTS.	2000	
15.02	CABLE SUB-TRAYS 4" (100MM)	MTS.	5700	
15.03	CABLE SUB-TRAYS 6" (150MM)	MTS.	2000	
16.00	<b>CONDUITS</b>			
16.01	RIGID CONDUITS 1" (25MM)	MTS.	6000	
16.02	RIGID CONDUITS 2" (50MM)	MTS.	3800	
16.03	FLEXIBLE CONDUITS 3/4" (18MM)	MTS.	6000	
16.04	FLEXIBLE CONDUITS 1" (25MM)	MTS.	2000	

S.NO.	ITEM DESCRIPTION	UOM	TOTAL QUANTITY	REMARKS
17.00	<b>IMPULSE PIPE</b>			
17.01	IMPULSE PIPES-ASTM A106 GR. C 3/4" SCH. 80 (AIR & FLUE GAS)	MTS.	700	
17.02	IMPULSE PIPES (OTHERS) CONSISTING OF: ASTM A106 GR. C 1/2" SCH. 80 ASTM A106 GR. C 1/2" SCH. 160 ASTM A335 P91 1/2" SCH. XXS	MTS.	1600	
18.00	<b>DISMANTLING WORK</b>			
18.01	Removal of old Panels & Shifting to Customer Stores.	NOS.	125	Panels to be dismantled can be of any dimension and of single suite or any other combination.
18.02	Removal of Old cables and neatly rerolling on drums, arranging identification Tags & Shifting to customer stores.	MTS	20000	
18.03	Removal of all old Field Instruments as suggested by BHEL/Customer and Shifting to Customer Stores	NOS	250	
18.04	Removal of all old Junction Boxes as suggested by BHEL/Customer and Shifting to Customer Stores	NOS	100	
18.05	Removal of all old Cable Trays as suggested by BHEL/Customer and Shifting to Customer Stores	MTS	2000	

## Notes:

1. UOM: Unit of Measurement
2. QTY.: Quantity
3. MTS.: Metres
4. NOS.: Numbers
5. The above listed items are for **Two Units + Common system.**



ANNEXURE-2

OFFER FORWARDING LETTER / TENDER SUBMISSION LETTER

(To be typed and submitted on the Letter Head of the Company/Firm of Bidder)

Offer Reference No.: .....

Date: .....

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

**Sub:** Submission of Offer against Tender Reference No.: .....Dated .....

I/We hereby offer to carry out the work detailed in the Tender Specification issued by Bharat Heavy Electricals Limited – Electronics Division, Bangalore, in accordance with the terms and conditions thereof.

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

1. Amendments/Clarifications/Corrigenda/Errata/etc. issued in respect of the Tender documents by BHEL
2. Notice Inviting Tender (NIT)
3. Instructions to Bidders (ITB)
4. General Conditions of Contract (GCC)
5. Special Conditions of Contract (SCC)
6. Erection Conditions of Contract (ECC)
7. Forms and Procedures
8. Price Bid

Should our Offer be accepted by BHEL for Award, I/we further agree to furnish 'Security Deposit' for the work as provided for in the Tender Conditions within the stipulated time as may be indicated by BHEL.

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

I/We have deposited/depositing herewith the requisite Earnest Money Deposit (EMD) as per details furnished in the Check List.

**Authorised Representative of Bidder**

Signature:

Name:

Address:

Place:

Date:



ANNEXURE-3

NO DEVIATION CERTIFICATE

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

-----  
To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub: **No Deviation Certificate**

Ref: 1) NIT/Tender Reference No.: ..... Dated .....

2) All other pertinent issues till date.

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred NIT/Tender Specification.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions and acceptance to Reverse Auctioning process.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of  
Authorised representative of the bidder)



ANNEXURE-4

DECLARATION CONFIRMING KNOWLEDGE ABOUT SITE CONDITIONS

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

---

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub: **Declaration confirming knowledge about Site conditions**

Ref: 1) NIT/Tender Reference No: .....,

2) All other pertinent issues till date

I/We, \_\_\_\_\_ hereby declare and confirm that we have visited the Project Site as referred in BHEL Tender Specifications and acquired full knowledge and information about the Site conditions including Wage structure, Industrial Climate, the Law & Order and other conditions prevalent at and around the Site. We further confirm that the above information is true and correct and we shall not raise any claim of any nature due to lack of knowledge of Site conditions.

I/We, hereby offer to carry out work as detailed in above mentioned Tender Specification, in accordance with Terms & Conditions thereof.

Yours faithfully,

(Signature, Date & Seal of  
Authorized Representative of the Bidder)

Date:

Place:



ANNEXURE-5

**DECLARATION FOR RELATION IN BHEL**

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder failing which the offer of Bidder is liable to be summarily rejected)

-----  
To,  
(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub: **Declaration for relation in BHEL**

Ref: 1) NIT/Tender Reference No.: ..... Dated .....

I/We hereby submit the following information pertaining to relation/relatives of Proprieter/Partner(s)/Director(s) employed in BHEL

**Tick (√) any one as applicable:**

1. The Proprieter, Partner(s), Director(s) of our Company/Firm DO NOT have any relation or relatives employed in BHEL

OR

2. The Proprieter, Partner(s), or Director(s) of our Company/Firm HAVE relation/relatives employed in BHEL and their particulars are as below:

(i)

(ii)

Signature of the Authorised Signatory

Note:

1. Attach separate sheet, if necessary.
2. If BHEL Management comes to know at a later date that the information furnished by the Bidder is false, BHEL reserves the right to take suitable against the Bidder/Contractor.



ANNEXURE-6

NON – DISCLOSURE AGREEMENT MEMORANDUM OF UNDERSTANDING

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

BHEL EDN is committed to Information Security Management System as per Information Security Policy.

M/s .....providing.....service to BHEL EDN Bangalore hereby undertake to comply with the following in line with Information Security Policy of BHEL EDN:

- Maintain Confidentiality of Documents & Information which shall be used during the execution of the contract.
- The Documents & Information shall not be revealed to or shared with third party who shall not be in the business interest of BHEL EDN.

*Bidder's Name and Address*

(Signature, Date & Seal of  
Authorized Representative of the Bidder)

Place:

Date:

ANNEXURE-7INDICATIVE LIST OF MAJOR T&P's TO BE PROVIDED BY CONTRACTOR FOR  
EXECUTION OF TENDERED WORKS

S. NO.	TOOLS AND PLANTS	QUANTITY
1	Pull Lifts & Ratchet hoist	Adequate nos.
2	5 / 10 T Chain Pulley blocks	2 Nos. each
3	Welding Transformers	2 Nos.
4	Welding generators	2 Nos.
5	Gas cutting set	Adequate nos.
6	Grinders	Adequate nos.
7	Hydraulic Pipe Bending machine & Tube bending unit	3 No.s each
8	Pedestal mounted Drill Machine ( up to 36 mm)	2 nos.
9	Hammer / Pistol Drill Machine	Adequate nos.
10	Portable Compressor.	1 No
11	Hydraulic Test Pump ( 1 no. up to 600kg/cm2)	2 No.
12	Blower	1 No
13	Vacuum Cleaner	1 No
14	Electrician's standard tool kit	05 Sets
15	Fitter's standard tool kit	3 Sets
16	Hand pulling trailer	1 No.
17	Torches	5 Nos.
18	Hot air blowers	1 No.
19	Tap set including M 33	1 Set
20	Fire extinguishers	4 Nos.
21	Power hack saw / Angle cutting machine	1 No.
22	Hand driven Trolley	1 No
23	HYDRA 8 MT (to be arranged on as required basis)	1 No.
24	Continuity tester	2 Nos.
25	Cable Tracer	2 Nos.
26	Ferrule Printing Machine	2 Nos.
27	Electrode Oven ( if needed )	Adequate nos.

**Notes:**

The above list specifies only major T&Ps (may not be complete) to be deployed by the contractor and is based on minimum requirement. All additional / other tools and plants which are required for satisfactory & timely completion of work shall also be deployed by the contractor within finally accepted rate / price.

**ANNEXURE-7A**

**Indicative list of IMTEs to be provided by the CONTRACTOR for execution of Tendered Works**

S. NO.	DESCRIPTION	RANGE	ACCURACY	QTY
1.0	Dead Weight Tester	600Kg/cm <sup>2</sup>	LC- 0.5Kg/cm <sup>2</sup>	1 Set
2.0	Comparator test set with sub standard pressure gauges	0-1 kg/cm <sup>2</sup> 0-4 kg/cm <sup>2</sup> 0-6 kg/cm <sup>2</sup> 0-10 kg/cm <sup>2</sup> 0-25 kg/cm <sup>2</sup> 0-60 kg/cm <sup>2</sup> 0-250 kg/cm <sup>2</sup> 0-400 kg/cm <sup>2</sup>	+/- 0.25%LC -0.2 kg/cm <sup>2</sup> -----do----- -----do----- -----do----- +/- 0.25% LC -0.2 kg/cm <sup>2</sup> +/- 0.25% LC -0.2 kg/cm <sup>2</sup> +/- 0.25% LC -0.2 kg/cm <sup>2</sup> +/- 0.25% LC -0.2 kg/cm <sup>2</sup>	1 Set
3.0	Variable DC regulated supply	0 – 30 V DC	+/- 0.2%	1 No.
4.0	Oil bath with thermostat ,stirrer and substandard glass Thermometers in multiple ranges	0- 600 deg C		1 Set
5.0	Glass U tube mercury manometer with standard steel scale having leveling arrangement	0-760 mm		1 No.
6.0	Glass U tube mercury manometer with standard steel scale having leveling arrangement	0-1000mm		1 No.
7.0	Inclined tube manometer	0-1000 mm		1 No.
8.0	mA /mV Source	0-200mA/ 0-200mV		2 Nos.
9.0	Rheostat	100 ohm ,10A		1 No.
10.0	Precision Digital multi-meter	4 1/2 Digits	0.2 % accuracy	2 Nos.
11.0	Precision Digital multi-meter	3 1/2 Digits	1.0 % accuracy	2 Nos.
12.0	500V/1000V Megger			1 No.
13.0	3 ½ Digits Digital Multi-meter			4 Nos.
14.0	4 ½ Digits Digital Multi-meter			2 Nos.
15.0	Decade resistance Box			1 No.

**Notes:** The above list specifies only major IMTEs (may not be complete) to be deployed by the contractor and is based on minimum requirement. All additional / other tools and plants which are required for satisfactory & timely completion of work shall also be deployed by the contractor within finally accepted rate / price

ANNEXURE-8

## FINANCIAL VIABILITY

Sl. No.	Description	Details / Comments
1	<i>Owner's Capital in the business (in case of partnership, please mention percentage shares and amounts.)</i>	
2	<i>Quantum of business done during last three financial years</i>	a. INR:
		b. INR:
		c. INR:
3	<i>Value of fixed Assets of the business in the last three financial years.</i>	a. INR:
		b. INR:
		c. INR:
4	<i>Guarantee Limits (If any) enjoyed by the firm</i>	
5	<i>Over draft limits (if any) enjoyed by the firm</i>	
6	<i>Please enclose audited profit and loss account and balance sheet for last 3 years (indicated no. of sheets).</i>	
7	<i>Certificate from Scheduled Bank to prove Contractor's financial capacity to undertake the work duly indicating the financial limits the bidder enjoys.</i>	

Bidder's Name and Address

(Signature, Date & Seal of  
Authorized Representative of the Bidder)

Place:

Date:

ANNEXURE-9

## ANALYSIS OF SIMILAR JOBS EXECUTED / IN PROGRESS

Sl. No.	Agency by whom Awarded	Location of Project	Capacity & Unit Nos.	Scope of Work	Date of Award	Contract Value
1	2	3	4	5	6	7

%age of work completed and due date for completion	Date of completion if job is already over	No of Skilled / Unskilled workers deployed at peak	No. of Engineers & Supervisors deployed at peak	Details of major T&P like Hydra, Hydraulic Jack and Hand Trolley supplied		Consumables supplied	
				By Contractor	By other Agency	By contractor	By other Agency
8	9	10	11	12	13	14	15

Note: All the above entries should be supported by Documentary evidences.

Attach separate sheet, if necessary.

*Bidder's Name and Address*

(Signature, Date & Seal of  
Authorized Representative of the Bidder)

Place:

Date:



ANNEXURE-10

STATUS OF TOOLS & PLANTS

Sl. No.	Name of Equipment	Quantity owned	Registration No. wherever applicable	Documents enclosed for proof of ownership	Present location	Quantity proposed to be deployed for this job
1	2	3	4	5	6	7

Note: Attach separate sheet, if necessary.

*Bidder's Name and Address*

(Signature, Date & Seal of  
Authorized Representative of the Bidder)

Place:

Date:

ANNEXURE-11

## MONTH WISE MANPOWER AND T&amp;P DEPLOYMENT PLAN

Sl. No.	Description of Workmen and T&P	Month (Indicate No. of Persons and T&Ps to be deployed in each month)				
		1st	2nd	3rd	4th	and so on
1						
2						
3						
.						
.						
.						
TOTAL						

## Notes:

1. Attach separate sheet, if necessary.
2. Shutdown of units are proposed tentatively from first week of August 2013 and April 2014 respectively. Bidder shall fill the above table as per this schedule however execution of work shall be carried out as per the actual shutdown plan of NTPC Ltd. Bidder shall not be eligible for any compensation on the grounds of preponing or postponing of shutdown dates.

*Bidder's Name and Address*

(Signature, Date & Seal of  
Authorized Representative of the Bidder)

Place:

Date:

ANNEXURE-12

ANALYSIS OF UNIT RATE QUOTED

Sl. No.	Description	Percentage of the Unit Rate Quoted	Remarks
1	Salary/Wages For Staff & Workers		
2	Consumables		
3	Depreciation & Maintenance for T&P		
4	Depreciation and Administration Expenses of site Over Heads		
5	Profit		

*Bidder's Name and Address*

(Signature, Date & Seal of  
Authorized Representative of the Bidder)

Place:

Date:



ANNEXURE-13

DECLARATION BY AUTHORISED SIGNATORY OF BIDDER  
(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

-----  
To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

**Sub:** Declaration by Authorised Signatory

**Ref:** 1) NIT/Tender Reference No.: .....,

2) All other pertinent issues till date

I/We, hereby certify that all the information and data furnished by me with regard to the above Tender Specification are true and complete to the best of my knowledge. I have gone through the specifications, conditions, stipulations and all other pertinent issues till date, and agree to comply with the requirements and Intent of the specification.

I further certify that I am authorised to represent on behalf of my Company/Firm for the above mentioned tender and a valid Power of Attorney to this effect is also enclosed.

Yours faithfully,

(Signature, Date & Seal of Authorized  
Signatory of the Bidder)

Place:

Date:

Enclosed: Power of Attorney (if Applicable)



**ANNEXURE-14**

**BANK GUARANTEE FOR SECURITY DEPOSIT**

B.G.NO.

Date:

THIS DEED OF GUARANTEE made and executed on the.....day of..... [Year], by the.....[bank name, address] registered under the Companies Act 1956/Nationalized Bank constituted under the Banking companies[acquisition and transfer of undertakings] Act constituted under the State Bank of India Act/Subsidiary Banks Act, having its registered/head office at..... represented herein by its Branch Manager/authorised representative Sri..... & Sri..... hereinafter called the 'Guarantor' [Which term shall mean and include its successors and assigns]:

**IN FAVOUR OF**

**BHARAT HEAVY ELECTRICALS LIMITED** [Buyers' name], a company registered under the companies Act, 1956 having its registered office at BHEL House Siri Fort, New Delhi-110 049. and its Electronics Division at Mysore Road, Bangalore-26 [hereinafter referred to as the 'Company' which term shall include its successors and assigns]:

Whereas the Company has placed an order on. . . . . [State the name of the Company/ firm and its address] hereinafter referred to as the 'Contractor' [Which term shall mean and include its liquidators, successors and assign] for the supply of service under order/Contract to be issued by the company.

AND WHEREAS the Contractor has agreed to carry out the Works as detailed and in accordance with the terms set out in the said order/contract.

AND WHEREAS the contract interalia provides that the Contractor shall furnish a Bank Guarantee in favor of the Company By a reputed Bank for a sum of Rs.....(Rupees.....) towards Security Deposit for Service rendered to him and for due and faithful performance of the contract in the manner and form specified therein.

AND WHEREAS the Contractor, M/s.....is a customer of the 'Guarantor' and has approached the 'Guarantor' to furnish on their behalf an irrevocable guarantee for a sum of Rs..... (Rupees.....) in favor of the Company for a period of.....year commencing from.....to..... as Security for the services to be issued by the Company to the Contractor during the currency of this guarantee.

AND WHEREAS the Guarantor has agreed to furnish a guarantee for the said sum of Rs..... (Rupees.....) for a period .....year commencing from.....to..... in favor of the Company subject to the terms and conditions stated below:

NOW THIS DEED WITNESSES THAT IN pursuance of the above said agreement, the Guarantor hereby agrees and covenants With company is as follows:-

- 1] That during the period this Contract of Guarantee remains effectual, the Guarantor shall be liable in respect of the amount due and owing to the Company in respect of the payments to the extent of Rs.....[in Words] ..... against any loss or damage caused to or suffered by the Company by reasons of any breach of the terms of the said order/contract/ Agreement by the contractor.
- 2] The Guarantor hereby undertakes to pay the amounts due and payable under this guarantee without any demur, merely on demand from the Company intimating that the amount claimed is due by way of loss



or damage caused to or suffered or would be caused or suffered by the contractor of any terms contained in the said order/contract. Any such demand made on the guarantor shall be conclusive as regards the amount due and payable by the Guarantor irrespective of the fact whether the Contractor/contractor admits or denies.

3] THE Guarantor further agrees that the Agreement herein contained shall remain in force and effect till all the supplies to be made/Works to be performed/services to be rendered under the said order/contract/agreement are completed to the entire satisfaction of the Company or till the company certified that the terms and conditions of the said order/contract/agreement have been fully and properly carried out by the said contractor and accordingly discharges the guarantee. Unless a demand or claim under this guarantee is made on the Guarantor in Writing on or before. . . . . [Date], the guarantor shall be discharged from all liability under this guarantee thereafter.

4] The guarantor further agrees with the Company that the company shall have the fullest liberty without the consent of the guarantor and without effecting in any manner the obligations of the guarantor hereunder to vary any of the terms of the said order/contract/agreement or extend the time of performance by the said contractor from time to time or refrain from exercising the power exercisable by the company against the said contractor or to forbear or omit to enforce any of the terms and conditions relating to the said order/contract agreement, and the guarantee not be relieved of its liability in whole or in part, by reason of any act, commission or forbearance on the part of the Company or by reason of any such variation, or extension being granted to the said contractor or by reason of any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving the guarantor.

5] The Guarantor undertakes not to revoke this guarantee during its currency except with the previous consent of the company in writing.

6] Notwithstanding anything herein above contained, the liability of the guarantor under these presents is restricted to Rs .....The guarantee shall be in force till its expiry on.....Unless a demand is made on the Guarantor within six months from the date of expiry i.e., on\_\_\_\_\_ (date), all the liability of the guarantor under this guarantee shall stand fully discharged. The decision of the claimant in regard to breach of contract is final and binding on the Bank.

IN WITNESS whereof, the Guarantor, acting through it authorised representative has executed this deed of Guarantee on the day, month and year first above written.

[Seal of the bank to be affixed]

WITNESS

1.

2.

NOTE: THESE ARE INSTRUCTIONS FOR EXECUTING THE BG.

1. BG/ANY AMENDMENT TO BG SHOULD BE EXECUTED ON RS.100/ STAMP PAPER.

2. 6 MONTHS CLAIM PERIOD FROM THE DATE OF VALIDITY SHOULD BE GIVEN.

## List of Member Banks

1.	<b>State Bank of India</b> CAG Branch, 10 <sup>th</sup> Floor, Vijaya Building, Barakhamba Road, New Delhi – 110001.	8.	<b>Deutsche Bank</b> Tolstoy Marg, New Delhi – 110001.
2.	<b>Canara Bank</b> 74 Janpath, New Delhi – 110001.	9.	<b>Citi Bank N A</b> Jeevan Vihar Building, Sansad Mrg, New Delhi – 110001.
3.	<b>Punjab National Bank</b> 74, Janpath, New Delhi – 110001.	10.	<b>Standard Chartered Bank</b> H2 Block, Connaught Place, New Delhi – 110001.
4.	<b>State Bank of Hyderabad</b> Surya Kiran Building, K.G. Marg, New Delhi – 110001.	11.	<b>ICICI Bank Ltd.</b> ICICI Tower, Bisham Pitamah Marg, Pragati Vihar, New Delhi – 110001.
5.	<b>State Bank of Mysore</b> Antriksh Bhawan, K.G. Marg, New Delhi – 110001.	12.	<b>IDBI Bank Ltd</b> 19, K.G. Marg, Surya Kiran Building, New Delhi – 110001.
6.	<b>State Bank of Mysore</b> Industrial Finance Branch, 18, Ramanashree Arcade, M.G. Road, Bangalore – 560001.	13.	<b>HSBC Ltd</b> ECE House, 28, K.G. Marg, New Delhi – 110001.
7.	<b>State Bank of Travancore</b> Travancore House, IF Branch, K.G. Marg, New Delhi – 110001.	14.	<b>Bank of Baroda</b> Corporate Banking Branch, 11 <sup>th</sup> Floor, BOB Building, Sansad Marg, New Delhi – 110001.
BGs From any other branches of above mentioned banks are acceptable.			



ANNEXURE-15

**POWER OF ATTORNEY for SUBMISSION OF TENDER/SIGNING CONTRACT  
AGREEMENT**

(To be typed on non-judicial Stamp Papers of appropriate value as applicable and Notarised)

KNOW ALL MEN BY THESE PRESENTS, that I/We do hereby make, nominate, constitute and appoint Mr. .... , whose signature given below herewith to be true and lawful Attorney of M/s..... hereinafter called 'Company', for submitting Tender/entering into Contract and inter alia, sign, execute all papers and to do necessary lawful acts on behalf of Company with M/s Bharat Heavy Electricals Ltd., Electronics Division, Mysore Road, Bangalore - 560026, in connection with

.....  
.....  
.....

..... vide Tender Reference No. : \_\_\_\_\_, dated \_\_\_\_\_.

And the Company do hereby agree to ratify and confirm all acts, deeds, things or proceedings as may be lawfully done by the said attorney and by or on behalf of the company and in the name of the company, by virtue of the powers conferred herein and the same shall be binding on the company and shall have full force and effect.

IN WITNESS WHEREOF the common seal of the company has been hereunto affixed in the manner hereinafter appearing on the document.

Dated at \_\_\_\_\_, this \_\_\_\_\_ day of \_\_\_\_\_

Director/CMD/Partner/Proprietor

Signature of Mr. .... (Attorney)

Attested by: Director/CMD/Partner/Proprietor

Witness

- 1.
- 2.

Notary Public

ANNEXURE-16

## FORMAT FOR CLAIM FOR REFUND OF SECURITY DEPOSIT

Ref:

Date:

Sl. No.	Description	Details / Comments
1	Name of Contract	
2	W.O. No & Date	
3	Contract Agreement & Date	
4	Name of the work undertaken	
5	Date of Commencement of Work	
6	Date of Completion of work	
7	Period of maintenance	
8	Date on which Final bill was paid	
9	Last date of making good the defect during maintenance period	
10	Expenditure incurred by BHEL during the maintenance period, if any recoverable	
11	Date on which security Deposit falls due as per contract	
12	Amount deposited or recovered	
13	Less Amount recoverable (with details)	
13.01	Amount Spent by BHEL on behalf of contractor	
13.02	Payment made on behalf of contractor	
13.03	Court dues / penalties / compensation	
13.04	Other recoveries for services	
13.05	Security Deposit released with final bills	
14	Net Amount recommended for release (12-13)	

## CERTIFICATE TO BE FURNISHED BY CONTRACTOR

I / We have no claim of demand outstanding against BHEL, Bangalore-560026 for the work done or materials supplied or on any account arising out or connected with the work order mentioned above and the payment of this bill shall in full & final settlement of all my/our claims and demands including the deposits in respect of the contract agreement referred to.

Seal and Signature with Date of  
Authorised representative of Contractor

Place:



Date:

### CERTIFICATE TO BE FURNISHED BY ENGINEER

Certified that

- The payment recommended for release is in order and that there are no demands other than those included in the claim outstanding from the contract.
- The maintenance period as per the contract agreement is over and the contractor has carried out the works required to be carried out by him during the period of maintenance to our satisfaction and all expenses incurred by the company on carrying out such works have been included for adjustment.
- All other objections raised so far have been settled.
- A note of refund of security deposit has been made in the measurement book and contract agreement / work order.

Date:

Signature of Engineer

### FOR USE OF ACCOUNTS DEPARTMENT

Passed for Rs...../- (Rupees \_\_\_\_\_ only).

Accountant

Accounts officer

### ACKNOWLEDGEMENT BY THE CONTRACTOR

Received Rs...../- (Rupees \_\_\_\_\_ only) in full and final settlement of my / our claim.

Date:

Signature of Contractor



ANNEXURE-17

**FORMAT OF DECLARATION TO BE GIVEN WITH FINAL BILL**  
(To be typed and submitted on the Letter Head of the Company/Firm of Bidder)

Ref:

Date:

To,

BHEL - Electronics Division,  
PB.No.2606, Mysore Road,  
Bangalore – 560026.

**Kind Attention:** .....

Dear Sir / Madam

Ref: Your W.O NO..... Date: .....

This is to certify that:

1. We have made full & final payment (Retrenchment Compensation, One month notice / notice pay in lieu thereof, payment for unavailed portion of EL etc. as applicable) to all our workers and as on today nothing is pending / payable to any worker on account of wage & other benefits.
2. We have complied with relevant provisions of employees provident fund and misc. provisions Act 1952 and rules made there under and we have deposited up to date PF contribution under PF code No:.....
3. No one was injured / died due to accident during the period of contract in the execution of the work and hence no compensation payment is applicable.
4. No labour payment is pending with us.
5. We hereby certify that the work was completed in accordance with terms and conditions of the said work order / award letter and all the particulars as declared above are true to the best of my knowledge & belief.
6. That in case principal employer ..... is held responsible / liable to pay any amount/penalty charge by an order of the court, arbitrator or authority due to acts or omissions of the contractor M/s .....hereby undertakes to indemnify the principal employer to deduct that amount from our bills payable by you in any other contract.
7. No other claims against this contract / work order will be made by..... on BHEL Bangalore.

Thanking You,

Yours Sincerely

Signature of the Contractor



### ANNEXURE-18: Electronic Funds Transfer (EFT) or Pay link Direct Credit Form

Please Fill up the form in **CAPITAL LETTERS** only.

TYPE OF REQUEST(Tick one):  CREATE  CHANGE

BHEL Vendor / Supplier Code:	
Company Name :	
Permanent Account Number(PAN):	
Address	

City: _____	PINCODE	_____	STATE	_____
-------------	---------	-------	-------	-------

Contact Person(s)			
Telephone No:			
Fax No:			
e-mail id:			

Bank Name:			
Bank Address:			
Bank Telephone No:			
Bank Account No:			
Account Type: Savings/Cash Credit			
9 Digit Code Number of Bank and branch appearing on MICR cheque issued by Bank			
Bank swift Code(applicable for EFT only)			
Bank IFSC code(applicable for RTGS)			
Bank IFSC code(applicable for NEFT)			

I hereby certify that the particulars given above are true, correct and complete and that I, as a representative for the above named Company, hereby authorise BHEL, EDN, Bangalore to electronically deposit payments to the designated bank account.

If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL / transferring Bank responsible.

This authority remains in full force until BHEL, EDN, Bangalore receives written notification requesting a change or cancellation.

I have read the contents of the covering letter and agree to discharge the responsibility expected of me as a participant under ECS /EFT.

Date:

Authorised Signatory:

Designation:

Telephone NO. with STD Code

Company Seal

**Bank Certificate**

We certify that \_\_\_\_\_ has an Account No \_\_\_\_\_ with us and we confirm that the bank details given above are correct as per our records.

Date:

(.....)

Place:

Signature

Please submit completed form along with a blank cancelled cheque or photocopy thereof with your offer.

## ANNEXURE-19

### Terms & Conditions of Reverse Auction

Against this enquiry, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit "online sealed bid" in the Reverse Auction. Non-submission of "online sealed bid" by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
3. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
4. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained for participation in the Reverse Auction.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax the Compliance form (That shall be furnished later) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
7. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" which is inclusive of all cost elements in line with terms & conditions of the tender for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, as provided on case-to-case basis to Service provider within two working days of Auction without fail.
11. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice without seeking anymore price Impacts on account of BHEL not going for Reverse Auction. Hence please quote your best lowest price in first instant itself.
12. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the "Business Rules of Reverse Auction", which will be communicated before the Reverse Auction.
13. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL guidelines, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
15. In case BHEL decides to go for reverse auction, the H1 bidder(s) (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

## CHECKLIST AND SCHEDULE OF GENERAL PARTICULARS

Note: Bidders are requested to fill in the following details and no column should be left blank.

1	Name and Address of the Bidder	
2	Phone No. (Office) & Fax No.	
3	Name & Designation of the official of the bidder to whom all the references shall be made.	
4	Bidder's Proposal No. & Date	
5	Offer Forwarding Letter (in the format as per Annexure-2).	Yes / No
6	No Deviation Certificate (in the format as per Annexure-3).	Yes / No
7	Declaration confirming knowledge about site conditions (in the format as per Annexure-4).	Yes / No
8	Whether EMD submitted (By cash / Pay order / Bank Draft)	Yes / No
9	Validity of offer / rates quoted for 90 days from the date of opening of Tender	Yes / No
10	Financial status as per Clause 31.1 of ITB (in the format as per Annexure-8)	Yes / No
11	Income tax Clearance Certificate as per Clause 31.2 of ITB	Yes / No
12	Details of Experience as per Clause 31.3 of ITB (in the format as per Annexure-9)	Yes / No
13	Month wise & Category wise manpower and T & P deployment plan as per Clause 31.4 of ITB (in the format as per Annexure-11)	Yes / No
14	Attested copy of Power of Attorney as per Clause 31.5 of ITB (in the format as per Annexure-15).	Yes / No



15	Details about type of the firm as per Clause 31.6 of ITB.	Yes / No
16	Status of T & P as per Clause 31.7 of ITB (in the format as per Annexure-10).	Yes / No
17	Analysis of unit rate quoted as per Clause 31.8 (in the format as per Annexure-12).	Yes / No
18	Declaration sheet as per Clause 31.9 (in the format as per Annexure-13).	Yes / No.
19	Latest Bankers Solvency Certificate	Yes / No.
20	Declaration for relation in BHEL (in the format as per Annexure-5).	Yes / No
21	Non-Disclosure Agreement MOU (in the format as per Annexure-6).	Yes / No
22	EFT Form (in the format as per Annexure-18).	Yes / No

(Signature, Date & Seal of  
Authorized Representative of the Bidder)

Place:

Date:



**BHARAT HEAVY ELECTRICAL LIMITED**  
(A GOVERNMENT OF INDIA UNDERTAKING)  
EXTERNAL SERVICES DEPARTMENT  
ELECTRONICS DIVISION  
**P.B. NO.: 2606, MYSORE ROAD, BANGALORE-560 026.**

TENDER REF. NO.: CE/ES/2014-15/03/DADRI-R&M/E&C/GS

Date: 11.06.2014

**PART-II**  
**PRICE BID**

**NOTE: Rates / Prices including discounts / rebates shall not be mentioned by bidder anywhere in the techno-commercial portion of offer, it shall be mentioned in the relevant price schedule only and submitted in separate sealed envelope.**

## PRICE SCHEDULE

<b>Name of Work</b>	Dismantling of existing control & instrumentation system and erection & commissioning of new control & instrumentation system for two units and common system.
<b>Project</b>	R&M of C&I System package at Stage-I (4X210MW), NCPS (Thermal), NTPC Dadri.

S. NO.	ITEM DESCRIPTION	UOM	TOTAL QTY	UNIT RATE Rs. (Figures)	UNIT RATE In Rupees (Words)	TOTAL AMOUNT Rs(FIGURES)	TOTAL AMOUNT In Rupees (Words)
1.00	<b>maxDNA DCS PANELS</b>	NOS.	209				
2.00	<b>HMI SYSTEM</b>						
2.01	NETWORK PANELS	NOS.	9				
2.02	POWER DISTRIBUTION PANEL	NOS.	2				
2.03	LVS	NOS.	12				
2.04	WORKSTATION-PCs	NOS.	70				
2.05	PRINTERS	NOS.	12				
2.06	UTP Ethernet Cable	MTS.	25000				
2.07	OFC Cable	MTS.	2000				
3.00	<b>FURNITURES</b>						
3.01	CENTRAL CONTROL DESK IN CONTROL ROOM WITH DRAWOUT CONSOLES (7M)	NOS.	2				
3.02	CONTROL DESK IN COMMON AHP CONTROL ROOM (3M)	NOS.	1				



S. NO.	ITEM DESCRIPTION	UOM	TOTAL QTY	UNIT RATE Rs. (Figures)	UNIT RATE In Rupees (Words)	TOTAL AMOUNT Rs(FIGURES)	TOTAL AMOUNT In Rupees (Words)
3.03	CONTROL DESK IN CWPH AREA (2M)	NOS.	1				
3.04	PC RACK	SET	2				
3.05	PRINTER TABLE	NOS	20				
3.06	COMPUTER TABLE	NOS.	20				
3.07	CHAIRS	NOS.	40				
4.00	<b>UPS and 24V DC POWER SUPPLY SYSTEM</b>						
4.01	<b>UPS FOR AHP SYSTEM</b> (1X100% INVERTER, 1X100% CHARGER, 1X100% SCVS, 2X100% ACDB, 1X100% MANUAL BYPASS SWITCH, 1X100% NI CD+1 NO. CELL BOOSTER)	NOS.	1				
4.02	<b>MINI UPS FOR</b> WORKSTATIONS AT VARIOUS LOCATIONS	NOS.	70				
4.03	<b>24V DC POWER SUPPLY SYSTEM FOR SG &amp; TG CONTROLS</b> CONSISTING OF 2X100% CHARGER, 2X100%Ni- Cd BATTERY BANK, 2X100% DCDB AND 1 NO. OF DISCHARGE RESISTANCE BANK.)	NOS	2				

S. NO.	ITEM DESCRIPTION	UOM	TOTAL QTY	UNIT RATE Rs. (Figures)	UNIT RATE In Rupees (Words)	TOTAL AMOUNT Rs(FIGURES)	TOTAL AMOUNT In Rupees (Words)
4.04	<b>24V DC POWER SUPPLY SYSTEM FOR MAIN PLANT BOP CONTROLS</b> CONSISTING OF 2X100% CHARGER, 2X100%Ni-Cd BATTERY BANK, 2X100% DCDB AND 1 NO. OF DISCHARGE RESISTANCE BANK.)	NOS	2				
4.05	<b>24V DC POWER SUPPLY SYSTEM FOR STANDALONE SYSTEM AT CWPH CR</b> CONSISTING OF 2X100% CHARGER, 2X100%Ni-Cd BATTERY BANK, 2X100% INTEGRAL DCDB AND 1 NO. OF DISCHARGE RESISTANCE BANK.)	NOS	1				
4.06	<b>24V DC POWER SUPPLY SYSTEM FOR AHP SYSTEM AT COMMON AHP CR</b> CONSISTING OF 2X100% CHARGER, 2X100%Ni-Cd BATTERY BANK, 2X100% INTEGRAL DCDB AND 1 NO. OF DISCHARGE RESISTANCE BANK.)	NOS	1				
5.00	<b>MASTER AND SLAVE CLOCK SYSTEM</b>						
5.01	MASTER CLOCK	SET	1				
5.02	SLAVE CLOCKS	NOS.	18				
5.03	INSTRUMENTATION CABLE G TYPE-4 PAIR	MTS.	4500				
5.04	CONTROL CABLE-3C UNARMoured 1.5 SQ. MM	MTS.	2500				

S. NO.	ITEM DESCRIPTION	UOM	TOTAL QTY	UNIT RATE Rs. (Figures)	UNIT RATE In Rupees (Words)	TOTAL AMOUNT Rs(FIGURES)	TOTAL AMOUNT In Rupees (Words)
6.00	FURNACE FLAME CAMERA SYSTEM	SET	2				
7.00	ONLINE COAL FLOW MEASUREMENT SYSTEM	SET	1				
8.00	<b>PROCESS MEASURING INSTRUMENTS</b>						
8.01	DP TYPE TRANSMITTERS	NOS.	50				
8.02	ULTRASONIC LEVEL TRANSMITTERS	NOS.	16				
8.03	PRESSURE TRANSMITTERS	NOS.	120				
8.04	RADAR TYPE LEVEL TRANSMITTERS	NOS.	32				
8.05	RESISTANCE TEMPERATURE DETECTORS (RTDs)	NOS.	16				
9.00	SOLENOID VALVES	NOS.	44				
10.00	VALVE POSITION TRANSMITTERS FOR HPCV, IPCV & LPBPCV	NOS.	12				
11.00	<b>INSTRUMENTATION CABLES</b>						
	<b>G TYPE</b>						
11.01	4 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	35000				
11.02	8 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	17300				
11.03	12 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	1000				
11.04	16 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	200				
	<b>F TYPE</b>						
11.05	4 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	28000				



S. NO.	ITEM DESCRIPTION	UOM	TOTAL QTY	UNIT RATE Rs. (Figures)	UNIT RATE In Rupees (Words)	TOTAL AMOUNT Rs(FIGURES)	TOTAL AMOUNT In Rupees (Words)
11.06	8 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	17000				
11.07	12 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	3400				
11.08	16 PAIR STRANDED COPPER (0.5 SQ. MM)	MTS.	7000				
12.00	<b>CONTROL CABLES</b>						
12.01	2C COPPER (UNARMOURED) 2.5 SQ. MM	MTS.	7500				
12.02	4C COPPER (UNARMOURED) 2.5 SQ. MM	MTS.	14000				
12.03	7C COPPER (UNARMOURED) 2.5 SQ. MM	MTS.	300				
12.04	16C COPPER (UNARMOURED) 2.5 SQ. MM	MTS.	3400				
13.00	<b>LT POWER CABLES</b>						
13.01	2C ALUMINIUM UNARMOURED 10 SQ. MM	MTS.	1900				
13.02	3C ALUMINIUM UNARMOURED 16 SQ. MM	MTS.	120				
13.03	3C ALUMINIUM UNARMOURED 35 SQ. MM	MTS.	1800				
13.04	1C ALUMINIUM UNARMOURED 120 SQ. MM	MTS.	5000				
13.05	2C ALUMINIUM UNARMOURED 120 SQ. MM	MTS.	32000				
13.06	1C ALUMINIUM UNARMOURED 35 SQ. MM (Earthing Cable)	MTS.	40000				
14.00	<b>JUNCTION BOXES</b>						
14.01	24 WAYS	NOS.	30				
14.02	48 WAYS	NOS.	12				



S. NO.	ITEM DESCRIPTION	UOM	TOTAL QTY	UNIT RATE Rs. (Figures)	UNIT RATE In Rupees (Words)	TOTAL AMOUNT Rs(FIGURES)	TOTAL AMOUNT In Rupees (Words)
14.03	64 WAYS	NOS.	12				
14.04	96 WAYS	NOS.	24				
14.05	128 WAYS	NOS.	44				
15.00	<b>CABLE TRAYS</b>						
15.01	CABLE SUB-TRAYS 2" (50MM)	MTS.	2000				
15.02	CABLE SUB-TRAYS 4" (100MM)	MTS.	5700				
15.03	CABLE SUB-TRAYS 6" (150MM)	MTS.	2000				
16.00	<b>CONDUITS</b>						
16.01	RIGID CONDUITS 1" (25MM)	MTS.	6000				
16.02	RIGID CONDUITS 2" (50MM)	MTS.	3800				
16.03	FLEXIBLE CONDUITS 3/4" (18MM)	MTS.	6000				
16.04	FLEXIBLE CONDUITS 1" (25MM)	MTS.	2000				
17.00	<b>IMPULSE PIPE</b>						
17.01	IMPULSE PIPES-ASTM A106 GR. C 3/4" SCH. 80 (AIR & FLUE GAS)	MTS.	700				
17.02	IMPULSE PIPES (OTHERS) CONSISTING OF: ASTM A106 GR. C 1/2" SCH. 80 ASTM A106 GR. C 1/2" SCH. 160 ASTM A335 P91 1/2" SCH. XXS	MTS.	1600				
18.00	<b>DISMANTLING WORK</b>						



S. NO.	ITEM DESCRIPTION	UOM	TOTAL QTY	UNIT RATE Rs. (Figures)	UNIT RATE In Rupees (Words)	TOTAL AMOUNT Rs(FIGURES)	TOTAL AMOUNT In Rupees (Words)
18.01	Removal of old Panels & Shifting to Customer Stores.	NOS.	125				
18.02	Removal of Old cables and neatly rerolling on drums, arranging identification Tags & Shifting to customer stores.	MTS	20000				
18.03	Removal of all old Field Instruments as suggested by BHEL/Customer and Shifting to Customer Stores	NOS	250				
18.04	Removal of all old Junction Boxes as suggested by BHEL/Customer and Shifting to Customer Stores	NOS	100				
18.05	Removal of all old Cable Trays as suggested by BHEL/Customer and Shifting to Customer Stores	MTS	2000				
			<b>TOTAL</b>				

Signature and stamp of the bidder with date

NOTES: (These notes forms part of tender document and rate schedule)

- 1 All the quoted rates should be inclusive of all taxes except Service Tax.
- 2 Bidders should quote for all the items in Rate Schedule noncompliance to this may lead to rejection of offer.

- 3 The Rates shall be entered in figures as well as in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English language. In case of difference in rates between words and figures THE LESSER OF THE TWO will be treated as valid rate.
- 4 Bidder's GRAND Total price shall be considered for evaluation unless stated otherwise.
- 5 Unless specifically mentioned otherwise in the tender document, the bidder shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, materials, levies, taxes(except service tax), transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the complete tender document and this schedule.
- 6 The quantities of the various items mentioned in this rate schedule are approximate, based on very preliminary information and may vary to any extent or be deleted altogether. The quoted rates of each item will remain firm throughout the period of execution including extension, if any.
- 7 OFC Cabling involves only cable laying through trenches or conduits as applicable. Terminations will be done by the supplier.
- 8 For all the equipment/systems mentioned at S. No. 2.03, 3.01, 3.02, 3.03, 3.04, 3.05, 3.06, 4.01, 4.03, 4.04, 4.05, 4.06, 5.01, 6.00, 7.00 of this Rate Schedule, supervisory services for assembly and installation will be provided by the respective suppliers.
- 9 Wherever quantities are mentioned as Set measurement of work will be done by BHEL Engineer and payments will be released as per the percentage of work completed (as certified by Engineer) on Pro-rata basis.