



Bharat Heavy Electricals Limited

(A Government of India Undertaking)

Electronics Division

P. B. No. 2606, Mysore Road, Bangalore - 560 026.

External Services Department

Notice Inviting Tender

for

Renovation and Modernization of Control and Instrumentation Equipment including Dismantling of Existing Control & Instrumentation Equipment and Shifting, Handing over the same to BHEL/NLC designated area. Receipt of materials from BHEL Stores/Open yard at NLC, Verification / Identification, Shifting to place of Installation, Erection, Fixing of Cable Trays and JBs, Laying of Cables, Termination of Cables and Commissioning of new equipments for Two Units and Common Systems.

at

4 x 210 MW Thermal Power Station – II, Stage - II Neyveli Lignite Corporation Limited

Neyveli, Cuddalore (Dist.) TAMILNADU

NIT No. : CE-ES/2015-16/09/Neyveli-R&M/E&C/RED

Date: 22 / 12 / 2015

Bid Due Date: 13 / 01 / 2016, 13:00 Hrs. (IST)

Date & Time of Bid Opening: 13 / 01 / 2016, 13:30 Hrs. (IST)

Total Number of Pages (Including Cover): 123

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**Bharat Heavy Electricals
Limited**

(A Government of India Undertaking)

P. B. No. 2606, Mysore Road, Bangalore - 560 026

IMPORTANT NOTE

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

THIS TENDER SPECIFICATION ISSUED TO:

M/S

TABLE OF CONTENTS

Sl. No.	CONTENTS	PAGE
1	COVER PAGE	1
2	IMPORTANT NOTICE	2
3	INDEX	3-4
4	SECTION – I TENDER NOTICE	5
5	SECTION – II PROCEDURE FOR SUBMISSION OF TENDER	6-7
6	TECHNICAL BID (PART – I)	8
7	PRE- QUALIFICATION REQUIREMENT	9
8	SECTION – III PROJECT SYNOPSIS	10-11
9	EXECUTION PHILOSOPHY	12
10	SECTION – IV GENERAL INSTRUCTIONS TO BIDDERS	13-19
11	SECTION – V GENERAL CONDITIONS OF THE CONTRACT	20-33
12	ANNEXURE – I (Section – V) AGREEMENT	34-37
13	ANNEXURE – II (Section – V) EFT FORMAT	38-39
14	ANNEXURE – III (Section – V) TERMS AND CONDITIONS OF REVERSE AUCTION	40-41
15	SECTION – VI SPECIAL CONDITIONS OF CONTRACT PART-‘A’	42-55
16	SECTION – VII SPECIAL CONDITIONS OF CONTRACT PART-‘B’ & Payment Terms	56-72
17	ANNEXURE – I (Section – VII) LIST OF T&P and ITEMS REQUIRED FOR WORK	73
18	ANNEXURE – II (Section – VII) INDICATIVE LIST OF ITEMS TO BE ARRANGED BY THE BIDDER FOR CONTINUITY CHECKING	74

19	ANNEXURE - III (Section – VII) CERTIFICATE OF DECLARATION FOR CONFIRMING KNOWLEDGE OF SITE CONDITIONS	75
20	ANNEXURE – IV (Section – VII) NON DISCLOSURE AGREEMENT (MOU)	76
21	ANNEXURE – V (Section – VII) NO DEVIATION CERTIFICATE FORMAT OF UNDERTAKING	77
22	ANNEXURE – VI (Section – VII) CHECK LIST TO BE SUBMITTED ALONG WITH RA BILL	78
23	ANNEXURE - A FINANCIAL VIABILITY	79
24	ANNEXURE - B MONTHWISE MANPOWER DEPLOYMENT PLAN	80
25	ANNEXURE - C MONTHWISE T&P DEPLOYMENT PLAN	81
26	ANNEXURE - D ANALYSIS OF UNIT RATE QUOTED	82
27	ANNEXURE - E DECLARATION SHEET	83
28	ANNEXURE - F CHECKLIST AND SCHEDULE OF GENERAL PARTICULARS	84-85
29	ANNEXURE - G BANK GUARANTEE FOR SECURITY DEPOSIT	86-89
30	ANNEXURE – H FORMAT FOR CLAIM FOR REFUND OF SECURITY DEPOSIT	90-91
31	ANNEXURE – J FORMAT OF DECLARATION TO BE GIVEN WITH FINAL BILL	92
32	SECTION - VIII SPECIFICATION FOR HEALTH, SAFETY AND ENVIRONMENT (HSE)	93-97
33	ANNEXURE – I (Section – VIII) RELEVANT IS CODES FOR PERSONAL PROTECTION	98
34	ANNEXURE - II (Section – VIII) HEALTH, SAFETY & ENVIRONMENT (HSE) PLAN	99-108
35	ANNEXURE – III (Section – VIII) SAFETY NORMS OF NEYVELI LIGNITE CORPORATION LIMITED	109-114
36	PRICE BID (PART – II)	115
37	TOTAL PRICE BID	116
38	BILL OF QUANTITY	117-123

SECTION – I

TENDER NOTICE

Tender Reference No.	CE/ES/2015-16/09/NEYVELI-R&M/E&C/RED
WORK	Renovation and Modernization of Control and Instrumentation Equipment including Dismantling of Existing Control & Instrumentation Equipment and Shifting Handing over the same to BHEL/NLC designated area. Receipt of materials from BHEL Stores/Open yard at NLC, Verification / Identification, Shifting to place of Installation, Erection, Fixing of Cable Trays and JBs, Laying of Cables, Termination of Cables and Commissioning of new equipments for Two Units and Common Systems. Also any other works instructed by BHEL Engineer, with in Stage – II, TPS – II are to be attended by the bidder at the same unit rates as quoted against each item in this tender.
PROJECT SITE	Two units of 4 x 210 MW, STAGE-II, TPS – II, NLC, Neyveli, Tamilnadu.
TENDER TYPE	TWO PART TENDER
EARNST MONEY DEPOSIT	Rs. 2,00,000/- (Rupees Two Lakh Only)
WEB SITE FOR TENDER DETAILS	www.bhel.com , www.bheledn.com and www.tenders.gov.in
DUE DATE & TIME FOR SUBMISSION	LATEST BY 13:00 Hrs. on 13/01/2016 OPENING AT 13:30 Hrs. on 13/01/2016
CONTACT PERSONS	Mr. Reddeppa Angajala, Deputy Manager / NLC R&M Site, Mobile: 09443729597, Mail ID: angajala@bheledn.co.in Mr. Ramesh BS, AGM / External Services, Mobile: 09945530203, Mail ID: rameshbs@bheledn.co.in
THE OFFICER INVITING TENDERS & ADDRESS FOR COMMUNICATION	Mr. RAMESH B S, AGM / External Services, 5 th Floor, New Engineering Building, Electronics Division, Bharat Heavy Electricals Limited, PB No.: 2606, Mysore Road, Bangalore - 560 026, Karnataka. Phone:+91 080 2698469, +91 080 26999080 Fax: +91 80 26989222

SECTION – II

PROCEDURE FOR SUBMISSION OF SEALED TENDERS

The Bidders must submit their offers as required in two parts in separate sealed covers prominently super scribed as Part - I **Technical bid along with EMD** and Part - II **Price bid**. On each of the cover, NIT number, due date and time should be mentioned.

COVER - I: TECHNICAL BID

Complete set of tender document included in Part - I of tender consisting of Pre - Qualifying Requirements, General Conditions of Contract, Technical specification & Special terms and condition issued by BHEL. All schedules, data sheets and details called for in the specification shall also be submitted along with technical bid. All details / Data / Schedules including offer letter duly signed and stamped are to be submitted.

Signed Unpriced Part – II (PRICE BID) is also to be submitted along with part - I. The EMD need to be submitted in this cover.

COVER-II: PRICE BID

Bidders may please note that price bid is to be submitted only in original copy of Tender Part - II (Price bid) issued by BHEL and no duplicate copy of same is required.

COVER –III:

The above Two separate covers i.e., cover I & II shall together be kept in a third envelope (Cover-III) and this sealed cover shall be super scribed with NIT Number, Due date, Time and submitted to Officer inviting tender as indicated in tender notice on or before due date as indicated.

Note: 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 RA. Those bidders who have given their acceptance to participate in RA will have to necessarily submit “online sealed bid” during RA. 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 – III (Section – V) of General Conditions of Contract (GCC). Before RA, BHEL will be provided Excel Sheet with BOQ with Factor for calculating unit rates, which should be adhered strictly, after Reverse Auction for price breakup.

Notes:

- I. The Tender Documents comprises of following :-
 - a. PART - I (TECHICAL BID):
 - i. Tender Notice,
 - ii. Procedure for submission of Sealed Tender
 - iii. Project Synopsis and Execution Philosophy
 - iv. General Instructions to Bidders
 - v. General Conditions of Contract
 - vi. Special Conditions of Contract
 - vii. Unpriced part –II bid.
 - b. PART – II (PRICE BID) :
 - i. Price bid in original.
- II. The tender documents with complete details are hosted on BHEL's websites www.bhel.com and www.bheledn.com and also in www.tenders.gov.in Bidders intending to participate may download the tender document from the web sites.
- III. Tenders must be submitted to the undersigned latest by 13:00 Hrs. on 13/01/2016. Technical bids (Part – I) shall be opened at 13:30 Hrs. on 13/01/2016 at the Tender opening room, next to Reception, at BHEL – EDN, Mysore office of the undersigned. Tenders not accompanied with full Earnest Money Deposit of Rs. 2, 00, 000/- (Rupees Two Lakh only) by Pay Order or Demand Draft will not be considered. Tenders received after the due date and time shall be liable to be summarily rejected.
- IV. All corrigenda, addenda, amendments and clarifications to this tender will be hosted in the web pages (www.bheledn.com and www.bhel.com) and not in the newspaper. Bidders shall keep themselves updated with all such amendments.
- V. BHEL reserves the right to accept or reject any or all tenders without assigning any reason whatsoever.
- VI. BHEL takes no responsibility for any loss / delay of documents or correspondences sent by courier / post.
- VII. Part -I Bids once submitted, shall not be returned.
- VIII. Unsolicited rebate / discount shall NOT be accepted after part – 1 bid opening.
- IX. **In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids & 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. After Reverse Auction Unit rates should be inline with the factor given in BOQ.**

AGM (CE - External Services)

PART – I

TECHNICAL BID

PRE-QUALIFYING REQUIREMENTS:

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

1. Bidders should have executed work of Renovation & Modernization of C& I in Power Plants Consisting of Boiler & Steam turbine controls of 110MW rating or higher, Balance of plant controls or related field instrumentation works in power projects.

OR

Bidders should have executed work of Control & Instrumentation in Power Plants Consisting of Boiler & Steam turbine controls of 110 MW rating or higher, Balance of plant controls or related field instrumentation works in power projects.

2. Average annual **financial turn over** during the last 3 years, ending 31st March, 2015, should be at least **Rupees 60 lakhs**.
3. Experience of having successfully completed similar works during **last 7 years** ending 30.11.2015 should be either of the following :

- Three works each costing not less than an amount equal to Rs. 80 lakhs.

OR

- Two works each costing not less than an amount equal to Rs. 100 lakhs.

OR

- One work costing not less than an amount equal to Rs.160 lakhs.

4. **Bidder selection is subject to approval of BHEL's Customer for this work i.e., Neyveli Lignite Corporation Limited, Neyveli.**

SECTION-III

PROJECT SYNOPSIS

Neyveli Lignite Corporation Limited at Neyveli, Tamilnadu intends to Renovate and Modernise, Control & Instrumentation Package of existing System at 4 x 210 MW NLC TPS - II, Stage - II.

BHEL EDN is awarded the Design, Engineering, Manufacturing, Supply, Installation, Testing and Commissioning of new DCS system for SG, TG and Station C & I for Unit-4, 5, 6 and 7 in NLC TS – II, Stage - II.

Last Year, E&C contract for two units were awarded, one unit (Unit – 5) is completed and other unit (Unit – 6) is in progress. Present tender is for sub-contracting the R&M work of balance two units (Unit 4 & 7). The order of execution will be based on shutdown sequence provided by Neyveli Lignite Corporation Limited, Neyveli.

Approach to Site:

The power stations are located in Stage – II, TPS - II in NLC Limited, Neyveli.

- Neyveli is in the State of Tamilnadu in India.
- Located at 200 km from Chennai.
- Nearest Railway Station is Neyveli, which is on Vridhachalam – Cuddalore broad gauge link of Southern Railway of India.
- Nearest Airport is Chennai.
- Nearest Sea port is Chennai.

Seismic Design Requirements:

The site is at seismic zone II as per IS: 1893 – 2002 and all construction shall conform to IS-1893.

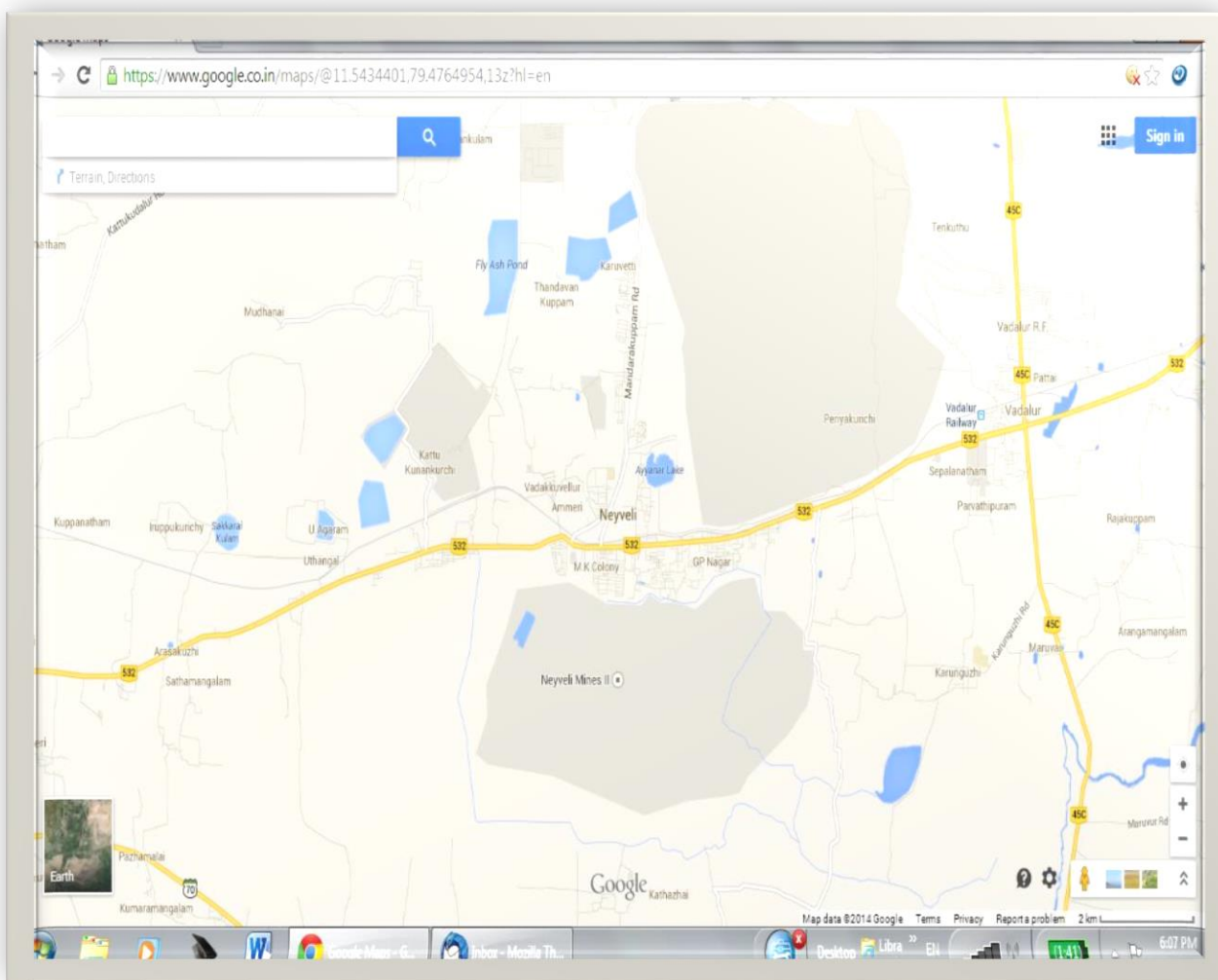
Location of Project Site:



Project Site is located at the point marked “**A**” in map.

Location Details:

- Neyveli is in the State of Tamil Nadu in India.
- Located at 200 km from Chennai.
- It is 5.0 km from Vridhachalam – Cuddalore road and 15 km from Chennai – Tanjore State Highway.
- Site Elevation is 34.0 to 42.0 m above Mean Sea Level.
- Latitude of site: 11 deg 32 minutes and 30 seconds north.
- Longitude of site: 79 deg 26 minutes and 30 seconds east.



Note: Bidders are advised to visit the project / site and collect adequate information regarding the local site conditions.

Accommodation: No accommodation will be available for the bidder inside Neyveli Township. Bidder has to arrange his own accommodation outside Neyveli Lignite Corporation Township, Arch Gate. TPS - II is located 25 km from the Township Arch Gate. Where ever bidder put up accommodation, to and fro transportation of men and material between TPS - II and bidders place of accommodation will be the sole responsibility of the bidder.

EXECUTION PHILOSOPHY OF R & M IN NLC TPS -II, STAGE -II

The Renovation and Modernization of C & I equipments of two units is planned to be executed in the following manner.

- For housing the new C & I panels, separate Control room will be built and also expansion of the existing control room will be carried out in unit running condition itself. The civil works are already in progress.
- Panels and the Engineering stations will be installed once the civil works are completed. All JB's erection, main cable tray and sub-tray work to be completed before shutdown.
- Cable Laying and termination work up to Group Junction Box from panels and laying cable up to Local JB's to be completed online with unit in operation before shutdown.
- For panel charging and commissioning separate rolling UPS is organized.
- All the erection (Cable tray, Panels) instrument mounting (if any), Junction Boxes, Cable laying, Fixing Glands, Ferruling and continuity test/Loop checking up to instrument J.B end shall be completed during pre-shutdown period with unit in running condition. The shutdown period will be utilized for removal of old C&I panels and control desks, termination to the existing marshalling panels, fixing new instruments, Calibration if required and new DCS system fine tuning. Electrical Panels are to be erected during shutdown.
- Bidder has to start work as per BHEL engineer instructions, one by one unit or both units parallel.

This is shutdown oriented job and completion of work within the shutdown schedule is the main essence of the contract.

The bidder shall ensure utmost precaution in execution of the E&C activity during pre-shutdown period and also ensure safety, proper planning of manpower and material (Tools and Plants) availability so that most of the installation activities are completed during pre-shutdown period.

SECTION - IV

GENERAL INSTRUCTIONS TO BIDDERS

1. This tender specification as a whole, furnishing all the details and other documents as required in the following pages, shall be duly signed and sent in a sealed cover super scribing the name of work, NIT number as given in the tender notice.
2. The tender shall be addressed to: OFFICER INVITING TENDER AS INDICATED IN THE TENDER NOTICE.
3. Tenders submitted by post shall be sent as "REGISTERED / SPEED / COURIER POST " and shall be posted with due allowance for any postal / Courier delay. The tenders received after the due dates are liable for rejection. Offers received by telex/ Fax/ E-mail/ Internet may be considered as per terms of NIT.
4. Tenders shall be opened at the time and date as specified in the tender notice in the presence of those bidders or their authorized representatives who may be present.
5. The bidders shall closely peruse all the clauses, specifications and drawings indicated in the Tender Documents before quoting. If the bidder have any doubt about the meaning of any portion of the Tender Specifications or find discrepancies / omission in the Drawings or the tender documents issued are incomplete or shall require clarification on any of the technical aspect, scope of work etc., they shall contact the authority inviting the tender for clarification before the submission of the tender.
6. Before tendering, the bidders are advised to inspect the site of work and the environments and be acquainted with the actual working and other prevalent conditions, facilities available, position of material and labour. No claim will be entertained later on grounds of lack of knowledge.
7. Bidder must fill up all the schedules and furnish all the required information as per the instructions given in various sections of the tender specification. Each and every page of the Tender Specification must be SIGNED, STAMPED AND SUBMITTED ALONG WITH SEAL OF THE OFFER by the Bidder in token of complete acceptance thereof. The information furnished shall be complete by itself.
8. The bidder shall quote the rates in English Language and international numericals. These rates shall be entered in figures as well as in words. All quotations shall be free from corrections /overwriting. Corrections if any should be authenticated with signature and seal. Any typographical error, totaling mistakes, currency mistake, multiplication mistake, summing mistakes etc. observed in the price bids will be evaluated as follows:

- a. If, in the price structure quoted for the required goods/services/works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the BHEL there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
 - b. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
 - c. If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
 - d. If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.
9. All entries in the tender shall either be typed or be written in ink. Erasure and over writings are not permitted and may render such tenders liable to summary rejection. All cancellations and insertions shall be duly attested by the bidder.
10. QUALIFICATIONS OF BIDDERS: Only bidders who have previous experience in the work of this nature and description detailed in this tender specification are expected to quote for this work. Offers from bidders who do not have proven and established experience in the field are not likely to be considered.
11. 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.
- 11.1 FINANCIAL STATUS: Financial viability as per pro-forma enclosed at ANNEXURE - A.
 - 11.2 INCOME TAX CLEARANCE CERTIFICATE: A certificate of Income tax clearance from the appropriate authority in the forms prescribed thereof 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. This is to be submitted on demand from BHEL.
 - 11.3 PREVIOUS EXPERIENCE: A certificate giving details, particulars (giving documentary evidence) of the various service rendered in progress for each similar works by the bidder indicating the Executing Agency, Scope of work, Date of award, value of each work, percentage of work completion and value, No. of T & Ps Supplied, the site location, the duration, date of completion, etc.,.
 - 11.4 ORGANISATION CHART: The organization pattern that are totally available with him and that will be employed by the bidder for this work in the form of month wise and category wise deployment plan duly indicating the number of Engineers, Supervisors, skilled and unskilled workers etc., as per pro forma enclosed at ANNEXURE-`C`.

- 11.5 An attested copy of the Power of Attorney, in case the tender is signed by an individual other than the sole Proprietor shall also be attached.
- 11.6 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 or 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.

- 11.7 A list of tools and tackles (including cranes, tractor-trailers, winches, Derricks, welding sets etc., wherever applicable) that the bidder is having and those that will be deployed on this job as per pro-forma enclosed at ANNEXURE -D.
- 11.8 Analysis of unit rate quoted as per pro-forma enclosed at ANNEXURE - E.
- 11.9 Declaration sheet as per Pro-forma enclosed at ANNEXURE - F.
- 11.10 In additions to the above, the particulars required elsewhere in tender documents are also to be enclosed.
- 11.11 Checklist and schedule of general particulars duly filled in, signed and stamped as per ANNEXURE - 'G'.

NOTE : In terms of clauses 11.1 to 11.11 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.

12. EARNEST MONEY DEPOSIT (EMD): Every tender must be accompanied by the prescribed amount of Earnest Money Deposit in any one of the following forms:

NOTE: Bank Guarantee, Cheques, Currency Notes, Money Orders or Postal Orders will not be accepted.

- 12.1 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.
- 12.2 Pay Order or Demand Draft in favor of Bharat Heavy Electricals Limited, Bangalore.

- 12.3 Tenders received without Earnest Money Deposit in full in the manner prescribed above will not be considered.
- 12.4 The Earnest Money Deposit of the successful bidder will be retained towards part of Security Deposit.
- 12.5 In case of unsuccessful bidders, the Earnest Money Deposit will be refunded normally within Thirty days of acceptance of award of work by the successful bidder. The bidders need to furnish EFT form in Annexure - II (Section – V) duly signed by the Bank and one original Cancelled cheque.
- 12.6 BHEL reserves the right of forfeiture of Earnest Money Deposit in case the bidder,
- a) After opening of Tender, revokes his tender within the validity period or increases his earlier quoted rates.
 - b) Does not commence the work by successful bidder 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.
- 12.7 EMD shall not carry any interest.
- 12.8 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, Bangalore. However they will be required to indicate the cash receipt No. and date of one time EMD in all their tenders.
13. AUTHORISATION AND ATTESTATION: Tenders shall be signed by persons duly authorized / empowered to do so. Certified copies of such authority and relevant documents shall be submitted along with the tenders.
14. VALIDITY OF OFFER: THE OFFER SHALL BE KEPT OPEN FOR ACCEPTANCE FOR A PERIOD OF THREE MONTHS FROM THE DATE OF OPENING OF TENDERS. In case Bharat Heavy Electricals Limited calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the original offer which shall be binding on the bidders.
15. EXECUTION OF CONTRACT: The successful bidder's responsibility under this Contract commences from the date of issue of the Letter of Intent by Bharat Heavy Electricals Limited. The successful bidder shall be required to execute an agreement in the prescribed form as per ANNEXURE – I (Section – V) with the BHEL within a reasonable time after the acceptance of his tender and in any case before submitting the first bill for payment.

16. SECURITY DEPOSIT: Upon acceptance of tender, the successful bidder must deposit the required amount of security deposit within the time specified in the Letter of Intent for satisfactory completion of work.

16.1 The total amount of Security Deposit shall be as follows:

- (a) In case of work costing up to 10 lakhs: 10% of the Contract value.
- (b) In case of work costing above Rs 10 lakhs and up to Rs. 50 lakhs: 1 Lakh + 7.5 % of contract value exceeding Rs. 10 Lakhs.
- (c) In case of work costing more than Rs. 50 lakhs: 4 Lakhs + 5 % of contract value exceeding Rs. 50 Lakhs.
- (d) Contract value including Service Tax.

16.2 The Security Deposit will be deposited within 15 days from the date of issue of Letter of Intent but before start of work in any one of the following forms :-

- (a) The total Security Deposit as indicated in the Letter of Intent in cash (As permissible under Income Tax Act).
- (b) Pay Order, Demand Draft in favor of BHEL.
- (c) Local cheques of scheduled banks, subject to realization.
- (d) Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc. (Certificates should be held in the name of Bidder furnishing the security and duly pledged in favor of BHEL and discharged on the back).
- (e) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.
- (f) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the Bidder, A/C BHEL, duly discharged on the back.
- (g) 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 collected before start of the work and the balance 50% may be recovered from the running bills.
- (h) EMD of the successful bidder can be converted and adjusted against the security deposit.

16.3 The security deposit shall not carry any interest.

NOTE: Acceptance of Security Deposit against Sl. No.16.2 (d) and 16.2 (f) above will be subject to hypothecation or endorsement on the documents in favor 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.

- 16.4 Security deposit shall not be refunded to the Bidder except in accordance with the terms of the Contract.
- 16.5 The validity of the Bank Guarantee furnished towards Security Deposit under (e) 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 will be kept valid by proper renewal till the satisfactory completion of the Guarantee Period.
- 16.6 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 Bidder or recovered from payments due to him.
- 16.7 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.
- 16.8 If any part of Security Deposit of the Bidder 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 Bidder. 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.
- 16.9 BHEL reserves the right of forfeiture of Security Deposit in addition to other claims and penalties in the event of the Bidder'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.
- 16.10 RETURN OF SECURITY DEPOSIT : If the Bidder 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 and returns properties belonging to BHEL taken, borrowed or hired by him for carrying out the said works, half the amount of Security Deposit (50 % of SD) will be released to the Bidder after deducting all costs, expenses and other amounts that are to be paid to BHEL under this or other Contracts entered into with the Bidder.

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 the guarantee period is over.

NOTE: All the BGs are to be submitted as per BHEL pro forma.

17. **No interest** shall be payable by BHEL on Earnest Money Deposit, Security Deposit or on any moneys due to the Bidder.

18. REJECTION OF TENDER AND OTHER CONDITIONS:

- 18.1 The acceptance of Tender will rest with BHEL which does not bind itself to accept the lowest tender or any tender and reserves to itself full rights for the following without assigning any reasons whatsoever.
- (a) To reject any or all of the tenders.
 - (b) To split up the work amongst two or more Bidders.
 - (c) To award the work in part.
 - (d) In either of the contingencies stated in (b) and (c) above to modify the time for completion suitably.
- 18.2 Conditional and un-witnessed tenders, tenders containing absurd or unworkable rates and amounts, tenders which are incomplete or otherwise considered defective and tenders not in accordance with the tender conditions, specifications, etc., are liable to be rejected.
- 18.3 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.
- 18.4 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, recognize such Power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Bidder concerned.
- 18.5 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 forfeit the Earnest Money/ Security Deposit/ any other moneys due.
- 18.6 Canvassing in any form in connection with the tender is strictly prohibited and the tenders submitted by the Bidder who resorts to canvassing are liable to be rejected.
- 18.7 Should a bidder or Bidder or in the case of a firm or Company of Bidders/ one or more of its Partners/ shareholders / Directors have a relation or relations employed in BHEL, the authority inviting tender shall be informed to the fact along with the offer, failing this BHEL may, at its sole discretion reject the tender or cancel the Contract and forfeit the Earnest Money/ Security Deposit.
- 18.8 The **successful bidder shall 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.
- 18.9 **NO DEVIATIONS** to the tender conditions will normally be accepted. However, if the bidder insists for certain deviations to the conditions, financial implication thereof shall be loaded to the quoted price for evaluating the bidder's offer.

SECTION –V

GENERAL CONDITIONS OF THE CONTRACT (GCC)

- I. The following terms and expressions shall have the meaning hereby assigned to them except where the context otherwise requires.
1. **'BHEL (or B. H. E. 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 authorized officers or its Engineer or other employees authorized to deal with any matters with which these persons are concerned, on its behalf.
 2. **'GENERAL MANAGER'** shall mean the Officer in Administrative charge of the Contracting Unit of BHEL.
 3. **'ENGINEER' or 'ENGINEER-IN-CHARGE'** shall mean Engineer deputed by BHEL. The terms include 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 BHEL Electronics Division, Bangalore.
 4. **'SITE'** shall mean the place or places at which the plants/ equipment are to be erected and services are to be performed as per the specifications of this Tender.
 5. **'CLIENTS OF BHEL' or 'CUSTOMER'** shall mean the project authorities to whom BHEL is supplying the equipment – i.e., NEYVELI LIGNITE CORPORATION LIMITED, NEYVELI, TAMILNADU.
 6. **'BIDDER'** shall mean the individual, firm or company who enters into Contract with BHEL and shall include their executors, administrators, successors and permitted assigns.
 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.
 8. **Acceptance letter issued by BHEL:** Any conditions or 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.

9. **'GENERAL CONDITIONS OF CONTRACT (GCC)'** shall mean the 'Instructions to Bidders' and 'General Conditions of Contract' pertaining to the work detailed.
10. **'TENDER SPECIFICATIONS'** shall mean the Special Conditions, Technical Specifications, appendices, Site information and drawings pertaining to the work for which the bidders are required to submit their offer. Individual Specifications Number will be assigned to each tender specifications.
11. **'TENDER DOCUMENTS'** shall mean the General Conditions of Contract (19.9) and Tender Specifications (19.10).
12. **'LETTER OF INTENT'** shall mean the intimation by a letter / telegram / telex / fax to the bidder that the tender has been accepted in accordance with provisions contained in the letter. The responsibility of the Bidder commences from the date of issue of this letter and all the terms and conditions of Contract are applicable from this date.
13. **'COMPLETION TIME'** shall mean the period by date specified in the Letter of Intent or date mutually agreed upon for handing over the erected equipment/ plant which are found acceptable by the Engineer being of required standard and conforming to the specifications of the Contract.
14. **'PLANT'** shall mean and connote the entire assembly of the plant and equipment covered by the Contract.
15. **'EQUIPMENT'** shall mean all equipment, machineries, materials, structural, electrical and other components of the plant covered by the Contract.
16. **'TESTS'** shall mean and include such test or tests to be carried out by the Bidder as are 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.
17. **'APPROVED', 'DIRECTED' or 'INSTRUCTED'** shall mean approved, directed or instructed by BHEL.
18. **'WORK' or 'CONTRACT WORK'** shall mean and include supply of all categories of labor, specified consumables, tools and tackles required for complete and satisfactory site transportation, handling, stacking, storing, erecting, testing and commissioning of the equipment to the entire satisfaction of BHEL.
19. **'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.

20. **'HEADINGS'** The headings in these General Conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or the Contract.

21. **'MONTH'** shall mean calendar month.

22. **'WRITING'** shall include any manuscript, type written or printed statement under the signature or seal as the case may be.

II. 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 at Bangalore, having ordinary Original Civil Jurisdiction shall alone have exclusive jurisdiction in regard to all claims in respect of this Contract.

III. ISSUE OF NOTICE : The Bidder shall furnish to the Engineer, the name, designation and address of his authorized agent and all complaints, notices, communications and references shall be deemed to have been duly given to the Bidder, if delivered to the Bidder or his authorized agent or left at or posted to the address either of the Bidder or his authorized agent and shall be deemed to have been so given in the case of posting on the day on which they would have reached such address in the ordinary course of post or at which they were so delivered or left.

IV. USE OF LAND: No land belonging to BHEL or its Customer under temporary possession of BHEL shall be occupied by the Bidder without the written permission of BHEL.

V. COMMENCEMENT AND COMPLETION OF WORK:

i. The Bidder shall commence the work within the time indicated in the Letter of Intent and shall proceed with the same with due expedition without delay.

ii. 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.

iii. All the works shall be carried out under the direction and to the satisfaction of BHEL.

iv. The transported equipment erected /constructed plant or work performed under the Contract, as the case may be, shall be taken over when it has been completed in all respects and/or satisfactorily put into operation at site.

v. Bidder has to submit plan/completion schedule and same to be approved by BHEL /NLC before commencement of the work.

vi. Planned work schedule is to be followed strictly by the bidder.

VI. MEASUREMENT OF WORK AND MODE OF PAYMENT:

- i. All payments due to the Bidder shall be made through Electronic Fund Transfer (EFT). For this the Bidder has to submit the EFT form duly signed by their banker (EFT Format is enclosed).
- ii. For progress/ running bill payments, the Bidder shall present detailed measurement sheets in **TRIPLICATE** duly indicating all relevant details based on technical 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/ weights shall be the relevant documents and drawings released by BHEL. These measurement sheets shall be prepared jointly with Engineer and signed by both the parties.
- iii. 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 at based on the terms of payment shall be entered in the **Measurement Book and signed by both the parties.**
- iv. Based on the above quantities, Bidder shall prepare the bills in the prescribed pro- forma 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 Bidder.
- v. All recoveries due from the Bidder for the month / period shall be effected in full from corresponding running bills unless specific approval from competent authority is obtained to the contrary.
- vi. Measurement shall be restricted to that quantity for which it is required to ascertain the financial liability of BHEL under this Contract.
- vii. Measurement shall be taken jointly by persons duly authorized by BHEL and the Bidder.
- viii. The Bidder shall bear the expenditure involved, if any, in making the measurements and testing of materials to be used/ used in the work. The Bidder shall, without extra cost to BHEL, provide all the assistance with appliances and other things necessary for measurement.
- ix. 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 Bidder.
- x. **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 Bidder, as directed.**

- xi. Final measurement bill shall be prepared in the pro-forma 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 Bidder 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.

VII. RIGHTS OF BHEL: BHEL reserves to itself the following rights in respect of this Contract without entitling the Bidder to any compensation.

- i. To get the work done through another agency at the risk and cost of the Bidder, in the event of poor progress or the Bidder's inability to progress the work for completion as stipulated in the Contract, poor quality of work, persistent disregard of instructions of BHEL, assignment, transfer, subletting of the Contracted work without written permission of BHEL, non-fulfillment of any Contractual obligations etc. and to claim / recover compensation for such losses from the Bidder including BHEL's supervision charges and overheads from Security Deposit/ other dues.
- ii. 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 labor 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.
- iii. To terminate the Contract after due notice and forfeit the Security Deposit and recover the loss sustained in getting the balance work done through other agencies in addition to liquidated damages in the event of:
 - a. Bidder's continued poor progress.
 - b. Withdrawal from or abandonment of the work before completion of the work.
 - c. Corrupt act of the Bidder.
 - d. Insolvency of the Bidder.
 - e. Persistent disregard of the instructions of BHEL.
 - f. Assignment, transfer, subletting of the Contract work without BHEL's written permission.
 - g. Non-fulfillment of any Contractual obligations.
- iv. To recover any moneys due from the Bidder from out of any moneys due to the Bidder under this or any other Contract or from the Security Deposit.

- v. To claim compensation for losses sustained including BHEL's supervision charges and overheads in case of termination of Contract and to levy liquidated damages for delay in completion of work, at the rate of 1/2% of the Contract value per week of delay or part thereof subject to a ceiling of 10% of the Contract value.
- vi. To determine the Bidder to restrict the quantum of work and pay for the portion of work done in case BHEL's Contract with its Customer is terminated for any reason.
- vii. To effect recoveries from any amounts due to the Bidder under this or any other Contract or in any other form the moneys which BHEL is forced to pay to anybody due to Bidder's failure to fulfill any of his obligations.
- viii. 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 rates quoted shall not be subject to revision.
- ix. To deploy BHEL's skilled and semiskilled workmen in case of emergency / poor progress/ deficiency in skill on the part of the employees of the Bidder and to recover the expenditure on account of the same from the moneys due to the Bidder.
- x. While every endeavor will be made by BHEL to this end, BHEL cannot guarantee uninterrupted work due to conditions beyond its control. The Bidder will not be entitled to any compensation/ extra payment on this account.
- xi. In the event of any dispute of technical nature, the decision of BHEL shall be final and binding on the Bidder.

VIII. RESPONSIBILITIES OF BIDDER IN RESPECT OF LOCAL LAWS, EMPLOYMENT OF WORKERS, ETC.

The following are the responsibilities of the Bidder in respect of observance of local laws, employment of personnel, payment of taxes etc.:

- (i) As far as possible, unskilled workers shall be engaged from the local areas in which the work is being executed.
- (ii) The Bidder at all times during the continuance of this Contract, shall in all his dealings with the local labor for the time being employed on or in connection with the work, have 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 labors to be paid strictly and document like payment voucher to be produced every month.**

- (iii) The Bidder 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 Labor (Regulations and Abolition Act, 1970) and other Acts, Rules and Regulations for labor as may be enacted by the Government during the tenure of the Contract and having force or jurisdiction at site. The Bidder shall give to the local Governing Body, Police and other concerned Authorities all such notice as may be required under law.
- (iv) The Bidder, in the event of his engaging 20 or more workmen, will obtain independent license under the Contract Labor (Regulations and Abolition Act, 1970) from the concerned authorities based on the certificate (Form-V) issued by the principal employer/ Customer.
- (v) The Bidder 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 Bidder either from moneys due to him or otherwise as deemed fit.
- (vi) The Bidder will also meet all expenses in connection with his welder's qualification/ requalification tests etc., if required.
- (vii) The Bidder shall be responsible for the provision of health and sanitary arrangements more particularly described in the Contract Labor (Regulations and Abolition Act, 1970) and safety precautions as may be required for safe and satisfactory execution of the Contract.
- (viii) The Bidder shall be responsible for proper accommodation including adequate medical facilities for the personnel employed by him.
- (ix) The Bidder shall be responsible for the proper behavior and observance of all regulations by the staff employed by him.
- (x) The Bidder 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 Bidder to make good the losses and compensate them.
- (xi) All the properties/ equipment/ components of BHEL/ its Customer loaned with or without deposit, to the Bidder shall remain the properties of BHEL/ its Customer. The Bidder 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 Bidder within 48 hours. The Bidder 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 Bidder.

- (xii) 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 Bidder 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 Bidder or security deposit in one installment.
- (xiii) The Bidder shall fully indemnify and keep indemnified BHEL/ its Customer against all claims of whatever nature arising during the course of execution of this Contract.
- (xiv) In case the Bidder is required to undertake any work outside the scope of this Contract, the amount payable shall be as may be mutually agreed upon.
- (xv) Any delay in completion of works or non-achievement of periodical targets, due to reasons attributable to the Bidder, will have to be compensated by the Bidder either by increased manpower and resources or by working extra hours or more than one shift at no extra cost to BHEL.
- (xvi) The Bidder shall execute the work under the conditions usual to such power plant construction and in conjunction with numerous other operations at site. The Bidder 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.
- (xvii) The Bidder 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 Bidder's representative should be furnished to BHEL.
- (xviii) 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.
- (xix) 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.
- (xx) No idle labor charges will be admissible in the event of any stoppage of work resulting in the Bidder's workmen being rendered idle due to any reason at any time.
- (xxi) The Bidder 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.

- (xxii) Bidder 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.
- (xxiii) The Bidder shall keep the area of work clean and shall remove the debris etc. while executing day-to-day work. Upon completion of work, the Bidder 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 Bidder will also demolish all the hutments, sheds, offices, etc. constructed and used by him and 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 Bidder.
- (xxiv) The Bidder shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and timely execution shall be the essence of this Contract. The Bidder 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.
- (xxv) The Bidder shall furnish **daily labor deployment report** indicating the classification and number of workmen engaged, date wise and category wise. Besides, the Bidder shall also furnish daily progress reports on work as required by the Engineer.

IX. RESPONSIBILITIES OF BIDDER IN RESPECT OF SAFETY OF MEN, EQUIPMENT, MATERIAL AND ENVIRONMENT.

- (i) All safety rules and codes applied by BHEL and its Customer at site shall be observed by the Bidder and his workmen without exception. The Bidder shall be responsible for the safety of the equipment / material and work to be performed by him and shall maintain all lights, fencing, guards, signs etc. or other protections necessary for the purpose. Bidder 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. Suitable number of clerical staff, watch and ward, store keepers to take care of equipment, materials, construction tools and tackles shall be posted at site by the Bidder till the completion of the work under this Contract.

The Bidder shall arrange for such safety devices as are necessary for this type of work and carry out the requisite site tests of handling equipment, lifting tools, tackles etc. as per usual standards and practices.

- (ii) The Bidder shall provide to their work force and ensure the use of the following personal protective equipment as found necessary and as directed by the authorized BHEL officials.
- a. Safety Helmets conforming to IS-2925
 - b. Safety Belts conforming to IS-3521
 - c. Safety shoes conforming to IS-1989
 - d. Eye & Face Protection devices conforming to IS-8520 and IS-8940
 - e. Hand & body protection devices conforming to IS-2573, IS-6994, IS-8807 & IS-8519.
- (iii) All tools, tackles, lifting appliances, material handling equipment, scaffolds, cradles, safety nets, ladders, equipment etc. used by the Bidder shall be of safe design and construction. These shall be tested and certificate of fitness obtained (if required) 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.
- (iv) 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 Bidder to carry out all types of electrical works. All electrical appliances including portable electric tools used by Bidder shall have safe plugging system to source of power and be appropriately earthed.
- (v) 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 Bidder 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, Explosives Act, petroleum and Carbides of Calcium Manual of the Chief Controller of Explosives, Government of India etc. The Bidder in all such matters shall also take prior approval of the authorized BHEL official at the site.
- (vi) The Bidder 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.
- (vii) In case of a fatal or disabling injury / accident to any person at construction sites due to lapses by the Bidder, the victim and / or his / her dependents shall be compensated by the Bidder as per statutory requirements. However, if considered necessary, BHEL shall have the right to impose appropriate financial penalty on the Bidder and recover the same from payments due to the Bidder 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 Bidder to present his case.
- (viii) In case of any damage to property due to lapses by the Bidder, BHEL shall have the right to recover the cost of such damages from the payments due to the Bidder after holding an appropriate enquiry.

- (ix) In case of any delay in the completion of a job due to mishaps attributable to lapses by the Bidder, BHEL shall have the right to recover cost of such delay from the payments due to the Bidder, after notifying the Bidder suitably and giving him opportunity to present his case.
- (x) If the Bidder 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 Bidder 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 Bidder after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.
- (xi) The Bidder shall submit report of all accidents, fires, property damage and dangerous occurrences to the authorized BHEL official immediately after such 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 Bidder to the authorized BHEL official from time to time as prescribed.
- (xii) During the course of construction, alteration or repairs scrap lumbars with protruding nails, sharp edges etc., and all other debris including combustible scrap shall be kept cleared from working areas, passage ways and stairs in and around site.
- (xiii) 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.
- (xiv) All the Bidder'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.
- (xv) Bidder shall provide enough fire protecting equipment of the types and numbers at his office, stores, erection site, other temporary structures, labor 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 Bidder 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 Bidder's bills and / or impose penalty as deemed fit by the Engineer.
- (xvi) Before commencing the work, the Bidder shall appoint /nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.

- (xvii) If safety record of the Bidder 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 Bidder may be considered by BHEL after completion of the job.
- (xviii) Work permit is to be obtained from BHEL/NLC before start of work during unit running condition.

X. CONSEQUENCES OF CANCELLATION:

- (i) Whenever BHEL exercises its authority to terminate the Contract / withdraw a portion of work under clause VII of Section V (GCC), the work may be got completed by any other means at the Bidder'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 Bidder) being less than the Contract value, the advantage shall accrue to BHEL. If the cost of completion exceeds the moneys due to the Bidder under the Contract, the Bidder shall either pay the excess amount demanded by BHEL or the same shall be recovered from the Bidder. This will be in addition to the forfeiture of Security Deposit and recovery of liquidated damages as per relevant clauses.
- (ii) 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 Bidder shall consist of cost of materials purchased and / or labor provided by BHEL with an addition of such percentage to cover supervision and establishment charges as may be decided by BHEL.

XI. INSURANCE :

- (i) BHEL / its Customer shall arrange for insuring the materials / property of BHEL / its Customer covering the risks during transit, storage, erection and commissioning.
- (ii) **It shall be the sole responsibility of the Bidder 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 Bidder 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 are in force from time to time will be followed by the Bidder.
- (iii) If due to negligence and/or non-observance of safety and other precautions, any accident / injury occur to any other persons/ public, the Bidder shall pay necessary compensation and other expenses, if so decided by the appropriate authority.

- (iv) The Bidder 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 Bidder will submit necessary documents. BHEL will reserve the right to recover the loss from the Bidder, in case the damage / loss is due to carelessness / negligence on the part of the Bidder. In case of any theft of material under Bidder's custody, matter shall be reported to police by the Bidder immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL for taking up with insurance.
- (v) If due to negligence/ carelessness on the part of the Bidder, any material/ equipment gets damaged, the Bidder shall submit necessary documents for lodging insurance claims as required by BHEL Engineer. However, BHEL shall reserves the right to recover deductible franchise and also unsettled portion of insurance claim amount from the Bidder.
- (vi) If due to negligence/ carelessness on the part of the Bidder, any surrounding properties also get damaged, the Bidder shall submit necessary documents for lodging insurance claims as required by BHEL Engineer. BHEL shall however reserves the right to recover deductible franchise and to unsettled portion of insurance claim amount from the Bidder.
- (vii) The Bidder may note that BHEL T&Ps / IMTEs are not insured. The Bidder 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 Bidder, the Bidder 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 Bidder.

XII. STRIKES AND LOCKOUTS :

- b. The Bidder will be solely responsible for all disputes and other issues connected with his workmen. In the event of Bidder's workmen resorting to strike or the Bidder resorting to lockout and if the strike or lockout so declared is not settled within a period of one month, BHEL shall have the right to get the erection 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 Bidder.
- c. For any purpose whatsoever, the employees of the Bidder shall not be deemed to be in the employment of BHEL

XIII. FORCE MAJEURE :

- a. 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 Bidder has no control.

- b. If the Bidder 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 Bidder immediately reports to BHEL in writing the causes for the delay but the Bidder shall not be eligible for any compensation on this account.

XIV. GUARANTEE :

Even though the work will be carried out under the supervision of the Engineer, the Bidder will be responsible for the quality of the workmanship and shall guarantee the work done for a period of One year from the date of completion of work as certified by the Engineer, and shall rectify, free of cost to BHEL, all defects arising out of faulty erection during the guarantee period starting from the date of completion of rectification. In the event of the Bidder 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 Bidder's risk and cost, without prejudice to any other rights and recover the same from out of any moneys payable to the Bidder or by other legal means.

XV. 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 by 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. 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 the matters to which the Contract relates or that in the 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 the 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.

ANNEXURE – I (Section – V)

AGREEMENT

Agreement No. and Date _____

Name of the Work _____

Name of the Bidder with full address

Value of work awarded _____ Letter
 of Intent No. _____ and Date _____
 Scheduled Commencement Date _____
 Scheduled Completion Date _____

THIS AGREEMENT MADE THIS _____ DAY OF _____ 2000 between BHARAT HEAVY ELECTRICALS LIMITED (A Government of India Enterprise) a Company incorporated under the Companies Act, 1956, having its Registered Office at BHEL House, Siri Fort New Delhi- 110049 (herein after called BHEL) of the ONE PART.

AND

M/s _____

_____ (hereinafter called the 'Bidder') of the
 SECOND PART.

WHEREAS M/s _____ state that they have acquired and possess extensive experience in the field of _____
 And whereas in response to an Invitation to Tender No. _____ issued by BHEL for execution of _____ the Bidder submitted their offer No. _____ dated _____. And whereas BHEL has accepted the offer of the Bidder on terms and conditions specified in the Letter of Intent No. _____ dated _____ read with the references cited therein.

THIS AGREEMENT WITNESSES AND it is hereby agreed by and between the parties as follows:

1. That the Bidder shall execute the work of -----and more particularly described in Tender Specification No -----including Drawings and Specifications (hereinafter called the said works) in accordance with and subject to terms and conditions contained in these presents, instructions to Bidders, General Conditions of Contract, Special Conditions, Annexures, Letter of Intent dated ----- and such other instructions, Drawings, Specifications given to him from time to time by BHEL.

2. The Bidder is required to furnish to BHEL Security deposit in the form of cash/ approved securities/ Bank Guarantee valid up to ----- for a sum of Rs.----- --
-- towards satisfactory performance and completion of the Contract.
3. The Bidder has furnished a Bank Guarantee bearing no.-----dated -----
-----for a sum of Rs.-----executed by -----
-- in favor of BHEL towards Security Deposit valid up to -----

OR

The Bidder has furnished to BHEL an initial Security Deposit of Rs.----- ---in the form of cash / approved Securities/ B.G No.----- dated ----- - for Rs.-----
-----executed by ----- in favour of BHEL valid upto -----
and has agreed for recovery of the balance security deposit by BHEL @ 10% of the value of work done from each running bill till the entire Security Deposit is recovered.

OR

The Bidder has furnished to BHEL an initial Security Deposit of Rs.----- (Rs.-----
vide Bank draft No.-----dated -----and by adjusting EMD of Rs.-----
submitted vide Bank draft No.----- dated.-----) and has agreed for recovery
of balance Security Deposit by BHEL @ 10% of the value of work done from each
running bill till the entire security deposit is recovered.

4. The Bidder hereby agrees to extend the validity of the Bank Guarantee for such further period or periods as may be required by BHEL and if the Bidder fails to obtain such extension(s) from the Bank, the Bidder, shall pay forthwith or accept recovery of Rs.----- from the bills in one installment and the Bidder further agrees that failure to extend the validity of the Bank Guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of Contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum of Rs.-----.

OR

In case the Bidder furnishes the bank guarantee at a later date the Bidder hereby agrees to extend the validity of bank guarantee for such further period or periods as may be required by BHEL and if the Bidder fails to obtain such extension(s) from the bank, the Bidder shall pay forthwith or accept recovery of the amount of bank guarantee given in lieu of security deposit from the bills in one installment and the Bidder further agrees that failure to extend the validity of bank guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of Contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum.

5. That in consideration of the payments to be made to the Bidder by BHEL in accordance with this Agreement the Bidder hereby covenants and undertakes with BHEL that they shall execute, construct, complete the works in conformity, in all respects, with the terms and conditions specified in this Agreement and the documents governing the same.

6. That the Bidder shall be deemed to have carefully examined this Agreement and the
CE-ES/2015-16/09/Neyveli-R&M/E&C/RED Signature & Seal of the Bidder

documents governing the same and also to have satisfied himself as to the nature and character of the Works to be executed by him.

7. That the Bidder shall carry out and complete the execution of the said works to the entire satisfaction of the Engineer or such other officer authorized by BHEL, within the agreed time schedule, the time of completion being the essence of the Contract.

8. That BHEL shall, after proper scrutiny of the bills submitted by the Bidder, pay to him during the progress of the said works such sum as determined by BHEL in accordance with this Agreement.

9. That this Agreement shall be deemed to have come into force from ----- the date on which the letter of intent has been issued to the Bidder.

10. That whenever under this Contract or otherwise, any sum of money shall be recoverable from or payable by the Bidder, the same may be deducted in the manner as set out in the General Conditions of Contract or other conditions governing this Agreement.

11. That all charges on account of Octroi, Terminal and other taxes including sales tax or other duties on material obtained for execution of the said works shall be borne and paid by the Bidder.

12. That BHEL shall be entitled to deduct from the Bidder's running bills or otherwise Income Tax under Section 194 (C) of the Income Tax Act, 1961.

13. That BHEL shall be further entitled to recover from the running bills of the Bidder or otherwise such sum as may be determined by BHEL from time to time in respect of consumables supplied by BHEL, hire charges for tools and plants issued (Where applicable) and any other dues owed by the Bidder.

14. That it is hereby agreed by and between the parties that non- exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents and the liability of the Bidder with respect to compensation payable to BHEL or Bidder's obligations shall remain unaffected.

15. It is clearly understood by and between the parties that in the event of any conflict between the Letter of Intent and other documents governing this Agreement, the provisions in the Letter of Intent shall prevail.

16. The following documents

1. Invitation to Tender No----- and the documents specified therein.

2. Bidder's Offer No----- dated-----.

3. _____

4. _____

5. _____

6. Letter of Intent No. _____ date _____

7. _____

Shall also form part of and govern this Agreement

IN WITNESS HEREOF, the parties hereto have respectively set their signatures in the presence of

WITNESS

(to be signed by a person holding
a valid Power of Attorney)
(BIDDER)

1.

2.

WITNESS

1.

2.

(For and on behalf of BHEL)

Note: Bank Guarantee period shall be for the period of Contract plus claim period of SIX months.

ANNEXURE - II (Section – V)

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:	

1 Bank Name:	
2 Bank Address:	
3 Bank Telephone No:	
4 Bank Account No:	
5 Account Type: Savings/Cash Credit	
6 9 Digit Code Number of Bank and branch appearing on MICR cheque issued by Bank	
7 Bank swift Code(applicable for EFT only)	
8 Bank IFSC code(applicable for RTGS)	
9 Bank IFSC code(applicable for NEFT)	

- A 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 authorize BHEL, EDN, Bangalore to electronically deposit payments to the designated bank account.
- B 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.
- C This authority remains in full force until BHEL, EDN, Bangalore receives written notification requesting a change or cancellation.
- D 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:

Authorized Signatory:

Designation:

Telephone No. with STD Code

Company Seal

CE-ES/2015-16/09/Neyveli-R&M/E&C/RED

Signature & Seal of the Bidder

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 return completed form along with a blank cancelled cheque or photocopy thereof to:

Bharat Heavy Electricals Ltd,

Attn:

Electronics Division, Mysore Road,

BANGALORE - 560 026

In case of any Query, please call : 080-26998469

Annexure – III (Section – V)

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.
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” like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, as provided on case-to-case basis to Service provider within two working days of Auction without fail.

11. **In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice 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 (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

SECTION –VI

SPECIAL CONDITIONS OF CONTRACT (SCC)

PART-A

INDEX

Clause	Description
1.0	General
2.0	Consumables
3.0	Tools & Plants/ IMTE's
4.0	Supervisory staff & workmen
5.0.	Material handling and storage
6.0	Progress reporting
7.0	Cable Schedule& documents
8.0.	Income tax, Service Tax & sales tax etc.
9.0	Extra work
10.0	Price variation
11.0	Rate schedule
12.0	Instructions to Bidder
13.0	Liquidated Damages (LD)
14.0	Security Deposit
15.0	Others

1. GENERAL

- 1.1. The intent of this specification is to provide services for execution of project according to most modern and proven techniques and codes. 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 Bidder 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.
- 1.2. The Bidder shall carry out the work in accordance with standard practices/ Codes/ instructions/cable schedules/ documents/ specification/ supplied by BHEL from time to time or BHEL Site Engineers' Instructions.
- 1.3. 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 Bidder 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/ departmentally and recoveries will be effected from Bidder's bills towards expenditure incurred including BHEL's usual overhead charges.
- 1.4. Following shall be the responsibility of Bidder and have to be provided within finally accepted rates/ prices:
 - a) Provision of all types of labor, supervisors, Engineers, watch and ward as required, tools & tackles, calibrated inspection, measuring and test equipment as specified and otherwise required for the work and consumable for erection, testing and commissioning including material handling.
 - b) The watch and ward as required for safe guarding materials after withdrawal from BHEL stores.
 - c) Proper out-turn as per BHEL plan and commitment.
 - d) Completion of work as per BHEL Schedule.
 - e) Good quality and accurate workmanship for proper performances of equipment.
 - f) Repair, rectification and modification in electrical circuits/wiring involving removal of connections & redoing as per modification.
 - g) Preservation / Conservation of all components during storage at Bidder's place / erection.

h) Housekeeping: The Bidder is supposed to carry out housekeeping of work area on regular basis to keep the work place neat and tidy. The scrap generated during execution activities is to be dumped at designated area as decided by BHEL / its Customer. Compliance report on above shall be submitted by the Bidder to BHEL. In case Bidder fails to do so, BHEL shall get the same done at the risk and cost of the Bidder.

1.5 BHEL- is ISO 9001-2000, ISO 14001-1996, OHSAS 18001-1999 certified Company. Quality of work to Customer's satisfaction and system requirements is the essence of these certifications.

The Bidder in all respects will organize his work, systems, environment, process control documentation, tools, plant, inspection, measuring and testing equipment's etc. as per instructions of BHEL engineer.

The Bidder shall also comply with applicable legislation and regulations (State / Central) with regards to Health, safety and environmental aspects for minimizing risk arising from occupational health, safety hazards, controlling pollution and wastage and he will be responsible for Health, Safety & Environment management at site for the construction activities to be carried out by them.

1.6. Bidder shall ensure availability of the following

- a) Medicines for normal ailments
- b) First Aid Kit
- c) Sufficient no. of firefighting equipment's in the area of working, i.e. Calibration Lab, and pre fabrication area.

1.7. The Bidder shall comply with following towards Social Accountability

- a) The Bidder shall not employ any employee less than 15 years of age in pursuant to ILO convention. If any child labor were found to have been engaged, the Bidder 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.
- b) The Bidder shall not engage Forced/Bonded Labor and shall abide by abolition of Bonded Labor System (Abolition) Act, 1976.
- c) The Bidder shall maintain Health & safety requirement as stipulated in the Contract and Contract Labor (Regulation & Abolition) Act, 1970.
- d) The Bidder shall abide by UN convention w.r.t Human Rights and shall be liable for Discrimination/Corporal punishment for failure in meeting with relevant requirements.

- e) The Bidder shall abide by the requirement of Contract Labor (Regulation & Abolition) Act, 1970 for working hours.
- f) The Bidder shall abide by the statutory requirement of Minimum Wages Act 1948, payment of Wages Act 1936.
- g) The Bidder shall arrange potable drinking water to its employees & workers.
- h) Bidders to ascertain the prevailing rates. The benefits to be considered for Contract labor is indicative only and given as guidance to bidders. The format for wage slip & employment card is for information of bidders.

2. CONSUMABLES:

- 2.1. The Bidder shall provide within finally accepted rates, all consumables and materials like, insulation tape, PVC sealing compound, sleeves of all sizes, **Cable ties of all required sizes**, gaskets, cable lugs (up to 2.5 sq.mm cable size) Cable tags, cable sleeves, ferrules , anchor bolts and fasteners M 12 size and below, saddles, jumpers etc. **Please note 0.5 /1.0 sq.mm cable may be required to be lugged if insisted by Neyveli Lignite Corporation at Neyveli TPS-II Stage-II Power Plant. The quoted rate for the work is deemed to have considered for all the above consumables / materials.**
- 2.2. It shall be the responsibility of the Bidder to plan the activities and 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.
- 2.3. BHEL reserves the right to reject the use of any consumable if it is not found to be of the required standard / make / purity or when shelf life has expired. Bidder shall ensure display of shelf life on consumable wherever required & records maintained.
- 2.4. Storage of all consumables shall be done as per requirement / instruction of the Engineer by the Bidder at his cost.
- 2.5. 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 Bidder'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 Bidder.
- 2.6. Fasteners for LIRs, Marshalling Box, GJBs, for Cable Tray supports, position transmitter linking bolts, etc., are to be arranged by bidder.
- 2.7. Cable Gland plate of suitable size to accommodate the marshalling panel's cable is under Bidder scope.

3. TOOLS AND PLANTS / INSPECTION, MEASURING AND TEST EQUIPMENTS

- 3.1. T&Ps & IMTEs are to be arranged by the Bidder and the rates quoted are deemed to be inclusive of these charges. List of such T&P and IMTE is indicated separately.
- 3.2. 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 Bidder at his own cost in working condition (As per Annexure-I, II of section - VII). In the event of the failure of Bidder to bring necessary and sufficient T&Ps and IMTEs, BHEL will be at liberty to arrange the same at the risk and cost of Bidder and hire charges as applicable shall be deducted from Bidder's bill. Decision of BHEL in this regard shall be final and binding on Bidder.
- 3.3. All distribution boards, connecting cables, wire ropes, hoses etc. Including temporary air/water / electrical connections etc. shall have to be arranged by the Bidder at his own cost. Power cables including supply of **the main incomer cable of size 3 ½ core x 35 sq.mm Aluminum and associated MCCB etc.** of sufficient capacity shall be arranged for the construction power supply requirement by Bidder.
- 3.4. Bidder 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 Bidder at site with its calibration status is to be submitted to BHEL Engineer for control.
- 3.5. Retesting/ re-calibration (calibration equipment's) shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the Contract price.
- 3.6. The Bidder will also 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 Bidder 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 Bidder's cost.
- 3.7. BHEL shall have lien on all T&PS, IMTEs & other equipment of the Bidder brought to the site for the purpose of erection, testing and commissioning. BHEL shall continue to hold the lien on all such items throughout the period of Contract. No material brought to the site shall be removed from the site by the Bidder and/or his Sub-Bidders without the prior written approval of the Engineer.
- 3.8. It shall be the Bidder's responsibility to deploy the required T&P, for timely and successful completion of the job.

4. SUPERVISORY STAFF AND WORKMEN:

- 4.1. The Bidder shall deploy all the skilled workmen like riggers, electricians, instrument technicians, etc., in addition to other skilled, and unskilled workmen required for all the works of unloading, handling and transporting from site storage to erection site, cable laying, testing and commissioning as contemplated under these specification.
- 4.2. 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 Bidder. BHEL reserves the right to ask for removal of any employee workman of the Bidder at any time, if they find him unsuitable and the Bidder shall forthwith remove him.
- 4.3. The adequate supervisory staff, including qualified Engineers, shall be deployed by the Bidder to ensure proper out-turn of work and discipline on the part of the labor put on the job by the Bidder and in general see that the works are carried out in a safe and proper manner and in coordination with other labor and staff deployed directly by BHEL or other Bidders of BHEL or BHEL's client / other agency.
- 4.4. The work shall be executed under the usual conditions without affecting major power plant construction and in conjunction with numerous other operations at site. The Bidder and his personnel shall cooperate with other personnel / Bidder, coordinating his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.
- 4.5. The Bidder'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. The Bidder shall be responsible to ensure that assembly and workmanship conform to the dimensions and tolerances given in the drawings /documents/ instructions given by BHEL Engineer from time to time.
- 4.6. The Bidder shall deploy the necessary number of qualified and approved full time electricians at his cost to maintain his temporary electrical installation till the completion of work.
- 4.7. 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 Electricians , technicians etc. deployed are not sufficient, BHEL after giving reasonable opportunity to the Bidder, will induct on the work the required workmen in addition to Bidder's workmen to improve the progress and recover from the Bidder's bills any charges incurred for engaging the additional workmen with overheads. Decision of BHEL Engineer will be final and binding on the Bidder

- 4.8. It is the responsibility of the Bidder 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 Bidder's finally accepted rates / prices shall include all these contingencies.
- 4.9. If the Bidder 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 Bidder 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 Bidder.
- 4.10. The month wise manpower deployment plan to be submitted as per format (at Annexure-C to General Conditions of Contract) is only to assess the capability as well as understanding of the Bidder to execute the work. It shall be the Bidder's responsibility to deploy the required man power, 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 Bidder.

5. MATERIAL HANDLING AND STORAGE (Bidder's Place):

- 5.1. All the equipment and material furnished under this Contract shall be received from the project stores, sheds/storage yards (any place within site) and transported to erection site and stored (at Bidder's stores) in the storage spaces in a manner so that they are easily retrievable till they are erected by the Bidder. While drawing / cable schedules from BHEL / Customer stores, Bidder shall ensure that the balance / other materials are stacked back immediately.
- 5.2. While BHEL will endeavor to store/ stack/ identify materials properly in their open / close / semi closed / tarpaulins covered storage yard/ shed (for this separate manpower is sought exclusively for BHEL use), it shall be Bidders responsibility to assist (while withdrawing materials only) BHEL in identifying materials well in time for cable laying, taking delivery of the same, following the procedure indicated by BHEL and transport the material safely to erection site in time, according to program.
- 5.3. The Bidder shall take delivery of components, equipment from storage area after getting the approval of BHEL Engineer on standard indent forms.
- 5.4. The Bidder shall identify and deploy necessary Engineers/ supervisors / workmen for the above work in sufficient number as may be needed by BHEL, for areas covering their scope.

- 5.5. 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 Bidder before use.
- 5.6. Bidder shall ensure that while lifting, slings shall be put over the points indicated on the equipment or as indicated in the manufacturer's drawings. Slings/ shackles of proper size shall be used for all lifting and rigging purposes. All care shall be taken to safe guard the equipment against any damage. In no case piping should be dragged. In case of any damage the cost shall be covered from the Bidder.
- 5.7. Approach road conditions from the stores / yards to the erection site may not be equipped and ideal for smooth transportation of the equipment. Bidder may have to be adequately prepared to transport the materials under the above circumstances without any extra cost to BHEL.
- 5.8. Bidder 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 out of the stores / storage area. The Bidder shall submit to the Engineer every week, a report detailing all the receipts during the week. However, the Bidder shall be solely responsible for any shortages or damages in transit, handling, storage and erection of the equipment once received by him. As the erection work will be spread in different areas / locations of the project, Bidder has to arrange sufficient no. of watch/ward personal to avoid any pilferage of material. In case any equipment / material is lost / damaged while in the custody of the Bidder, the cost of repair / replacement if any to bring back the equipment in original order shall be deducted from the Bidder's bill.

BHEL's decision in this regard shall be final and binding on the Bidder.

- 5.9. The Bidder shall maintain an accurate and exhaustive record detailing out the list of all equipment received by him for the purpose of erection and keep such record open for the inspection of the engineer at any time.
- 5.10. All the material in the custody of Bidder and stored in the open or dusty locations must be covered with suitable weather proof / fire retardant covering material wherever applicable and shall be blocked up on raised level above ground. All covering materials including blocks and sleeper shall be arranged by the Bidder at his cost.
- 5.11. If the material belonging to the Bidder are stored in area other than those earmarked for his operation the engineer will have the right to get it moved to the area earmarked for the Bidder at the Bidders risk and cost.

- 5.12. The Bidder shall ensure that all the packing materials and protective devices used for various equipment during transit and storage are removed before the equipment are installed.
- 5.13. The Bidder shall be responsible for making suitable indoor storage facilities to store all equipment (drawn by the Bidder from BHEL / Customer stores) which require indoor storage till the time of their installation. The Engineer will direct the Bidder in this regard, which item in his opinion will require indoor storage and the Bidder shall comply with Engineer's decision.
- 5.14. The Bidder shall ensure that all surplus / damaged / scrap / unused material, packing wood / containers/ special transporting frames etc. are returned to BHEL / Neyveli Lignite Corporation at a place in project area identified by the Engineer. An account will be maintained by the Bidder for all such items received and returned to BHEL and duly reconciled before closing of the Contract.
- 5.15. The Bidder shall hand over all parts / materials remaining extra over the normal requirement with proper identification tags to the concerned BHEL / Customer or at a place in project area as directed by BHEL Engineer.

Note: Any failure on the part of Bidder to carry out works according to above clauses will entail BHEL to carry out the job from any other party and recover the cost from Bidder.

6. PROGRESS REPORTING :

- 6.1. Bidder is required to draw mutually agreed monthly cable laying programs in consultation with BHEL well in advance. Bidder shall ensure achievement of agreed program and shall also timely arrange additional resources considered necessary at no extra cost to BHEL
- 6.2. 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 Bidder for discussions. The Bidder 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 Bidder in time bound manner so as to eliminate the cause of non-conformities.
- 6.3. The Bidder shall submit compulsorily daily, weekly and monthly progress reports, man power reports, materials reports, and other reports as per pro-forma considered necessary by the Engineer.

6.4. The progress report shall indicate the progress achieved against planned, with reasons indicating delays, if any, and shall give the remedial actions which the Bidder intends to take to make good the slippage or lost time, so that further works again proceed as per the original program and the slippages do not accumulate and effect the overall program.

6.5. The daily manpower reports shall clearly indicate the manpower deployed, category wise specifying also the activities in which they are engaged.

7. CABLE SCHEDULE AND OTHER DOCUMENTS:

7.1. The detailed cable schedule available with BHEL engineers will form part of this tender specification. These documents will be made available to the Bidder during execution of work at site. The Bidder will also ensure availability of all necessary drawings / cable schedule/documents at work place.

7.2. The Bidder shall maintain a record of all drawings, cable schedules and documents available with him in a register as per format given by BHEL Engineer. Bidder shall ensure use of pertinent drawings / data / documents and removal of obsolete ones from work place and returning to BHEL.

7.3. The data furnished in various Annexure enclosed with this tender specification are only approximate and for guidance. However, the change in the design and in the quantity may occur as is usual in any such large scale of work.

7.4. Should any error or ambiguity be discovered in the specification or information the Bidder shall forthwith bring the same to the notice of BHEL before commencement of the work. BHEL's interpretation in such cases shall be final and binding on the Bidder.

7.5. Deviation from design dimensions should not exceed permissible limit. The Bidder shall not correct or alter any dimension / details, without specific approval of BHEL.

8. INCOME TAX, SERVICE TAX, SALES TAX, WORK CONTRACT TAX ETC.:

8.1. Income tax & surcharge, if any at prevailing rates shall be deducted on gross invoice value from the running bills unless Exemption Certificate from appropriate Income Tax Authority is furnished.

8.2. Unit Rate quoted shall be exclusive of service tax. Present rate of Service tax should be indicated and calculated on total price. The service tax, as legally levied & payable by the Bidder under the provisions of applicable law/act, shall be paid by BHEL as per Bidder's bill. However, Bidder shall have to submit proof of service tax deposited by them immediately after the deposit but not later than the next bill submitted after the due date of deposit. The Bidder shall furnish proof of Service Tax registration with Central Excise Division covering the services covered under this Contract.

- 8.3. Bidder 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 Bidder's account and no extension of time shall be allowed on this account. The Sales Tax/VAT registration for this Bidder shall be forwarded to BHEL within 30 days from the date of LOI. In case the Bidder is already registered for Sales Tax/VAT with Govt. Authorities he must quote his registration no, while submitting their tender.
- 8.4. Bidder 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.
- 8.5. **Works Contract Tax (WCT):** Bidder to specifically indicate whether any works Contract tax is applicable in the state of Tamil Nadu. If any WCT is applicable, the same shall be included in the quoted price. No extra amount will be paid on account of W.C.T.

9. **EXTRA WORK:**

BHEL may consider for payment of extra works on man hour basis @ Rs. 60/- (Rupees Sixty Only) for such of those works which:

- a) Require major revamping or rework and which are totally unusual to normal erection work.
- b) Require rectification / modification for improvement in the design during commissioning,
- c) Requiring fresh fabrication of components in place of rejected / replaced components.

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

- 9.2. The rates indicated as above, shall include over time, if any, consumables, supervision, use of tools and tackles and other site expenses and incidentals.
- 9.3. 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 Bidder'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 BHEL Engineer-in-charge may only be considered for payment. The decision of BHEL in this regard shall be final and binding on the Bidder.

10. PRICE VARIATION:

The finally accepted rates for scope of work as defined in this tender shall be FIRM for the entire Contract period. No price variation on accepted unit rates is allowed.

11. RATE SCHEDULE :

11.1. Bidder shall fully understand equipment description and scope of work before quoting. The scope of work and responsibility of the Bidder as mentioned under these specifications shall be covered within the quoted rates / price.

11.2. The Bidder shall quote the rates / Price as per the rate 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 / erasing / over writing shall be done.

11.3. Bidder's total quoted price as per rate schedule will be taken as tentative only.

11.4. The quantities indicated in the rate schedule against each item may vary as per the actual engineering / requirement to complete the work. The upward / Down ward revision in quantity is without any limit.

Some of the items may be added or deleted which shall have to be executed by the Bidder within his scope of work and shall be paid as per the rates awarded in the Contract. The Bidder 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.

12. INSTRUCTIONS TO BIDDER:

12.1. Offers received without data / information required to be submitted under tender clauses 11.1 to 11.11 of GIB are to be furnished by the bidder. All these data / information should be duly supported by documentary evidences.

12.2. No deviations to the tender conditions will normally be accepted.

12.3. The bidders are advised to actually visit the site and fully acquaint themselves with site conditions, location of stores, transportation routes, 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 bidder has quoted for the work, it is implied that he has ascertained various site condition and NO CLAIM whatsoever will be entertained by BHEL on any such account.

12.4. The Bidder in the event of this work awarded to him, shall establish a site office at site and keep posted an authorized responsible officer who should hold a valid power of attorney for the purpose of the Contract. Any order or instruction of the Engineer or his duly authorized representative shall be communicated to the Bidder's representative at site office and the same will be deemed to have been communicated to the Bidder at his legal address.

13. LIQUIDATED DAMAGES:

13.1. For delay in completion of work attributable to the Bidder, the LD shall be applicable at the rate of 0.5% of the Contract value per week of delay or part thereof limited to a ceiling of 5% of the Contract value (excluding the safety penalty if any levied) as mentioned under the clauses of GCC of the tender.

13.2. **PENALTIES:** If the Bidder does not take all safety precautions or fails to comply with the safety rules as prescribed by the owner or under the applicable law for the safety of the plant and equipment OR If any worker of the Bidder is found working without safety equipment like safety helmet, safety shoes, safety belts etc The safety officer of Neyveli Lignite Corporation / BHEL shall have the right to penalize the Bidder as per the existing Rules and Regulations of NLC.

The bidder is required to take workmen compensation Insurance for this project work to protect him against all claims against WC Act,1948 Including claims for injury, disability, disease or death of his/her employees.

14. SECURITY DEPOSIT:

The Bidder shall submit Security Deposit within 15 days from the date of issue of LOI as per the General Conditions of Contract (GCC). In case the Bidder opts to furnish Bank Guarantee as a part Security Deposit, the BG shall be issued as per the Pro forma enclosed as per Annexure - G of the GCC and also that the BG should be issued preferably through any of the Member Banks listed in the GCC.

For BG through any other Nationalized Bank (Not covered in the list of Member Banks of GCC), the discretion of its acceptance shall lie solely with BHEL.

The security deposit BG value will be calculated based on the Contract value including the taxes like service tax, WCT etc.

The Security deposit BG will be valid for the time schedule period indicated in the GCC / SCC plus additional **claim period of Six months**. The BG format will be as per format to be approved by BHEL.

15. OTHERS:

- 15.1 In case of any contradiction between General Conditions of Contract (GCC) and Special Conditions of Contract (SCC), the latter shall prevail.
- 15.2 The bidder shall specifically confirm he has inspected the site of work and is fully conversant with the prevailing conditions under which work is to be executed and will not raise claim of any nature due to lack of knowledge of site condition. He will also confirm that local taxation laws at the site have been clearly understood by him.
- 15.3 Tender will be finalised and awarded either through Price bid opening or Reverse Auction procedure, who's quote is lowest price. For price bid opening / Conducting Reverse Auction, only those bidders will be considered who will be qualified for the subject job on the basis of pre-qualification evaluation / techno commercial bids and subject to approval of Neyveli Lignite Corporation. BHEL reserves the right to reject the bidders with unsatisfactory past performance in the execution of the Contract. BHEL's decision in this regard shall be final & binding.

SECTION – VII**SPECIAL CONDITIONS OF CONTRACT (SCC)
PART-B****INDEX**

Sl. No.	Description
1.	Scope of Work
2.	Time Schedule
3.	Cable / cable tray laying
4.	Cable Termination
5.	Laying of optical fiber cables
6.	Erection / Dismantling
7.	Over Run Charges (ORC)
8.	Payment Terms
9.	BOQ for the scope of work

1. SCOPE OF WORK:

Scope of the specifications cover complete work of Dismantling existing C&I equipment's and Erection and Commissioning of metso DNA C&I equipments including receipt of materials from BHEL stores (Closed shed / Open yard / Container etc), shifting to place of Erection, installation, alignment, welding, signal conditioning, pre-commissioning and commissioning assistance to BHEL EDN. For SOME of the bought out items (Indicated in the Rate Schedule) the erection to be carried out will be under the supervision of respective vendor. Only manpower assistance to be provided by the bidder during commissioning & up to trial operation completion of C & I system. Scope of work also includes Cable Reconciliation, Handing over of left out Cables to BHEL designated/NLC Stores for Station C&I equipment for Two units of 4 x 210 MW (Unit – 4 & 7) Neyveli Lignite Corporation Limited, Neyveli TPS-II, Stage-II at Neyveli, Dist. Cuddalore, Tamil Nadu. Also any other works instructed by BHEL with in stage –II, TPS – II are to be attended by the bidder at the same unit rates as quoted in this tender.

Bidder to ensure services of qualified and experienced Degree / Diploma Electronics / Instrumentation Engineer having experience in respective field, entirely for Erection and commissioning activities from the First day of mobilization till contract completion of a UNIT and so on. This shall be indicated separately in man power deployment plan to be submitted by Bidder. The rate quoted in the rate schedule applies to the present requirement. These Engineers shall be reporting directly for Technical matters to the BHEL Engineer and will carry out works in areas as per the work schedule. Engineers shall be supported by other workmen like Electrician, Technicians, helpers etc. Sufficient manpower along with supervisory staff for carrying out work will be ensured at all costs.

Bidder to ensure minimum qualified man power availability during the entire contract period as deemed fit by BHEL after demobilizing the majority manpower after Trial run of a UNIT for warranty as defined in the contract between BHEL and BHEL Customer.

Bidder 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 Bidder will be entertained on the grounds of deviation from the methods of erection / commissioning adopted in Dismantling / erection / commissioning of jobs elsewhere or for any reasons whatsoever. For some of the equipment, Erection supervision or Commissioning expertise will be arranged by BHEL. The details against such item are indicated in the BOQ. However all assistance with sufficient manpower, required tools and facilities (like temporary power supply, Lighting, Scaffolding etc.) required shall be provided by the Bidder. The Bidder under this contract shall also provide services of Semi-skilled/ Unskilled manpower exclusively for use by BHEL where ever necessary. No separate payment shall be made for providing the services as per this clause. This Manpower requirement may vary depending on the activities at site.

BHEL customer may depute their representative for checking and supervision of important stages of work. The Bidder shall be required to provide all facilities for inspection of works, without any cost implications to BHEL.

Any defect in quality of work or deviations from drawings / specifications pointed out during such inspection shall be made good by the Bidder in the same way as pointed out by BHEL Engineer, without any cost implication to BHEL.

The purpose of this manpower is for meeting the pre-commissioning, Commissioning, post commissioning and trial operation activities as required by BHEL i.e. up to the 30th day of achievement of full load of Unit.

In case the manpower is needed by BHEL beyond the contractual schedule, Bidder shall provide the same and the rates will be mutually decided for the respective category. Payment will be made by BHEL only for the extended period. Decision of BHEL in this regard is final & binding on the Bidder. It is preferred that the Bidder maintains the same set of manpower as long as the requirement is needed by BHEL.

In case Bidder 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 Bidder.

2. TIME SCHEDULE:

- a. The Bidder is required to commence the work within 10 days from the date of issue of letter of intent unless BHEL decides to fix any other later date. However, the actual date of start of work, to fix up zero date of the Contract, will be certified by BHEL Engineer after adequate mobilization of manpower and T&Ps by the Bidder.
- b. Entire work as detailed in the tender specifications shall be completed within 18 months from the date of start of erection (Zero date) to achieve various milestones.
- c. This is a Shut-Down oriented Job and completion of work within the shutdown schedule is the main essence of this contract.
- d. **Note: Please refer to Page 12 for Execution Philosophy of R&M in NLC TPS-II, Stage-II.**

Depending upon front and material availability above milestones may be required to be pre-poned. Bidder is required to mobilize additional resources to meet above requirement within their quoted price. Bidder has to mobilize additional resources including manpower to achieve above schedule for which no compensation will be payable. The work under the scope of this Contract is deemed to be completed in all respects, only when the Bidder has discharged all the responsibilities laid down in the Contract. The decision of BHEL on completion date shall be final and binding on the Bidder.

In case due to reasons not attributable to the Bidder, the work gets delayed and additional manpower / resources scheduled have to be mobilized so as to meet various mile stones, same shall be done within the quoted rates, at no extra cost to BHEL. In the event the Bidder fails to respond to these requirements, BHEL shall take appropriate actions to meet Customer's commitments in line with provisions of general Conditions of Contract.

3. CABLE / CABLE TRAY LAYING:

- a) Laying, dressing & clamping (by Nylon / PVC ties or Aluminum strips or any other method specified by BHEL Engineer) of the cables in the cable trays / angles. The cables shall be terminated in the enclosure through cable glands of appropriate size. The final dressing of all cables laid by the Bidder and in all cable trays erected by the Bidder shall also be done with Nylon Cord / Aluminum strip. Cost of cable laying as per Bill of Quantities Cum Rate Schedule shall include the cost of Nylon / PVC ties & Aluminum strip required for dressing / clamping. Necessary erection hardware for cable tray including Structural steel, fasteners, coupling plate etc will be provided to the bidder. Cable dressing inside the tray shall be neat and no crossing of cables is permitted.

The cables shall be laid in the cable trays or G.I Conduits (wherever necessary) and the route as given in the cable schedule and routing drawing certified by BHEL Engineer shall be strictly followed. The Bidder shall intimate the engineer in charge whenever the cable tray is filled. Extra cables if laid by the Bidder due to mistake, the same shall be removed at no extra cost to BHEL. Welding between two cable trays shall be generally avoided.

Laying of Cable tray and grouping of cables in certain areas (EL 0 TO 32 metre in FD/ID Fan area) and (EL 44 to 84 metre) identified as Fire Prone Zone and Safe zone respectively shall to be done below the ground (inside protective conduit G.I Pipes) / inside enclosed boiler structure and Parallel to Main column. The routing drawing will be furnished to the bidder before cable tray Erection. All cables at EL 0.0 metre for six mills are to be laid through 4' G.I conduits, below the ground and brought to safe zone and terminated in new GJB in left and right side of the boiler, as directed by BHEL engineer.

- b) After cable laying trays shall be restored by the Bidder. Supply of all required materials shall be arranged by the Bidder within the quoted rate.
- c) The cable run number shall be provided by punching Aluminum Tag plates and tying suitably with nylon ties (at both ends and **at regular intervals of 5 meters or** as advised by BHEL Engineer) which shall be arranged by Bidder at his cost.
- d) While laying cables, existing cable tray covers and false flooring may require removing and re-fixing. The same has to be done within the quoted rates & at no extra cost to BHEL. After completion of cable laying below panels, the bidder has to ensure and close the entry gap with appropriate material for thermal insulation.
- e) Connecting the earth cables from different equipments to the respective earth pits including cabinet earth, as directed by BHEL engineer.

(While laying the cable, minimum 500 mm separation shall be provided between parallel runs of LT power and signal wiring and minimum of 900 mm separation shall be provided between parallel runs of HT power and signal wiring. Cable identification tags shall be provided at regular intervals of 5 m) Cable will be clamped at every 1.5 metre of distance.

- f) The screen of signal cables shall be run in insulated sleeve (of approved quality to be provided by the Bidder) and shall be terminated as per the instruction of the BHEL Engineer.
- g) UTP Cabling: UTP cables are to be laid through separate trays or metallic conduits (Flexible / rigid as the case may be) with complete sealing against exposure to rat bite. Ferrule sleeve of suitable size to be supplied by the Bidder for Printed ferruling of both ends of the UTP. Metallic tags shall not be permitted for UTP cables inside the panels.

MEASUREMENT OF INSTRUMENTATION CABLES:

The methodology for measurement of instrumentation cables laid by the Bidder shall be as under.

1. The lengths shall be measured from terminal to terminal plus height plus depth of the panels. Only one left over cut length of cable from each cable drum shall be acceptable.
2. The Bidder shall hand over cut length of cable from each cable drum and cut pieces / scraps to the employer's stores or any place identified by the employer.
3. The bidder shall keep a proper record drum wise and submit to engineer in charge periodically (Daily basis) the details of cables laid. Separate records shall be kept for and BHEL supplied cables.

The scope of work shall also include but not limited to the following within the quoted item rates:

- a. Re-rolling of cables on drums as required by site engineer.
 - b. Return of cut pieces & scrap cables to the scrap yard /BHEL EDN stores as directed by engineer in charge.
- Before erection, all instruments shall be subjected to calibration and other functional checks as per manufacturer's standard at bidder's site laboratory in presence of BHEL's authorized representative. BHEL and bidder shall jointly decide the details and modalities of such checks and calibration.
 - Providing supports for impulse lines, instruments, air lines, cable trays wherever required by fabricating at site. Required material for these will be provided by BHEL & all consumables including gas, welding electrodes, fasteners, etc. are to be arranged by the Bidder.
 - Obtaining provisional and final approvals from Electricity Authorities & Obtaining all clearances and permits from statutory authorities for the installation.
 - Pre-commissioning check to ensure correctness of erection, Testing and Commissioning including preparation of test reports, Rectifying defects, if any, and making adjustments as necessary and Obtaining BHEL Engineer's approval and written acceptance of satisfactory performance and operation.

- All the field items/ devices, panels, Junction Boxes that are supplied by BHEL are to be installed and commissioned as per attached Bill Of Quantity. Providing manpower assistance along with testing instruments to BHEL commissioning Engineers for Testing & Commissioning activities also forms part of work scope.
- Printed pipe ferruling to be done at all termination endings. The wire ends to be lugged with suitable sized lugs as per terminal strip. Spare cables to be ferruled and dressed at both ends, as directed by BHEL engineer.
- Any mechanical modification needed to install and commission any field instrument / devices shall have to be carried out by the bidder.
- Bidder shall perform minor repairs, adjustments of the instruments under the supervision of the BHEL's authorized representative. Once the defective instrument has been successfully repaired it shall be subjected to calibration and functional checks, as indicated above.
- The scope of work also covers all performance tests related to pre commissioning and commissioning of the system by BHEL necessary to ensure that workmanship conforms to relevant standards and that such tests are adequate to demonstrate that the installations complies with the requirements of the customer specification.
- All arrangement for conducting these tests are to be made by Bidder within their quoted rates and tests may have to be repeated to satisfy BHEL / BHEL's customer.
- Some instruments may need repeated calibration / replacement. The same will be carried out by the Bidder at no extra cost to BHEL including calibration of instruments needed for replacement, which will be supplied by BHEL. Erection of thermo elements like RTDs & Thermocouples includes erection of thermo wells, wherever required, at no extra cost to BHEL. Tags on all the instruments will be provided by the Bidder as directed by BHEL Engineer at no extra cost to BHEL.
- For Electronic transmitters canopy is to be provided by bidder.
- The existing field instruments (except speed, load measurement unit), control valves, solenoid valves provided for the turbine unit will be retained. Present temperature measurements in turbine area are having Isothermal boxes which will be discarded and new temperature transmitters will be provided.
- The existing field sensors and final control elements are to be retained. While commissioning, if calibration for any of these field instruments is required, then the same shall be carried out by the bidder free of cost as part of scope of work.

- The existing EH converter for the followings shall be interfaced with the newly erected metso DCS:
 - a) Turbine System - 1 no
 - b) HP bypass control System - 5 No
 - c) LP Bypass control System - 2 No
 - d) Steam to seal actuator (MAW 10 & MAW 50) – 2 Nos.

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.

IMPULSE LINE (AS / CS / SS):

- The impulse line work comprises of Identifying the proper type (refer specification) of Impulse pipe, cleaning with wire brush and compressed air, edge preparation, cold bending, cutting with tube cutter, 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 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 colour as per BHEL'S CUSTOMER standards including supply of paint is in Bidder'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.
- For steam and liquid measurement, the impulse pipe should be preferably slope downward from source connection to instrument and instrument shall be installed below the source point and for impulse piping for air and flue gas shall slope upwards and instrument shall be installed above source point.
- All impulse piping shall be installed to permit free movement due to thermal expansion, whenever wherever required expansion loops should be provided
- Hydro testing of the Impulse pipes to be certified by BHEL Engineer and NLC followed by complete drying by blowing air.

4. CABLE TERMINATION:

- a) For Cables, the Cost of Cable Laying as Per Bill of Quantities 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. Drilling of holes in gland plates of HT / LT switchgear, control panels, JBs etc. as per the requirement shall also be part of cabling at no extra cost to BHEL.
- b) The Bidder shall carryout insulation testing, simulation testing etc. as per the instructions of Engineer at site.

- c) Screen of signal cables shall run in insulated sleeve (to be arranged by Bidder at no extra cost) and shall be terminated as per the instructions of the BHEL Engineer.
- d) All cables shall be plainly and durably labeled at both ends with non-conducting material for identification and must conform to wire labeling scheme shown on interconnection / terminal wiring drawings
- e) Marshalling cabinets along with terminal blocks are provided to terminate cable from the field as well as from MCC. Separate terminal blocks are provided for the field side and system side in the marshalling cabinet. The marshalling cabinets shall be segregated from DCS cabinets. System cabinet shall house all electronic modules and shall be totally separate from marshalling cabinets. These cabinets shall have front access to system modules and rear access to wiring. The interconnection between marshalling cabinet and DCS cabinet shall be through wires.

Cost of cable tray erection as per BOQ Cum Rate Schedule(Part-II, Price Bid) 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 BHEL Engineer. Bidder 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 & Aluminum paint by the Bidder including supply of paint within the erection price and no extra cost to BHEL. These cable trays may also be required for laying copper tubing, PLICKA type / GI flexible conduits, local cabling and metal temperature thermocouples.

5. LAYING OF OPTICAL FIBER CABLES:

- a) Laying and dressing of OFC for interconnection of various systems within the power plant area shall be the scope of the Bidder. Cable termination will be carried out by other agencies / cable supplier. However man power assistance for termination, Fiber testing and cable jointing shall be provided by the Bidder The cables shall be laid though cable trays, flexible / rigid conduits or directly buried in trenches as required by the locations / Site conditions and as instructed by the BHEL Engineer at site Or NLC.
- b) After cable laying on cable trays / conduit pipes done by the Bidder. Supply of all required materials for carrying out this work is to be arranged by the Bidder within the quoted rate.
- c) The approval of customer's field quality department /engineer may be required. The same shall be carried out by the Bidder at no extra cost to BHEL.

MOUNTING OF JUNCTION BOX:

- d) 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. For fabrication of steel items Hacksaw cutting or shearing by machine only is permitted. Channels, angles, supports as and when required will be supplied to the bidder.
- e) Bidder may note that fabrication / fixing / painting of structure including paint and other consumables will be included the scope of work.

6. ERECTION / DISMANTLING:

- All works such as cleaning, checking, levelling, aligning, assembling, temporary erection for alignment, dismantling of certain equipment for checking, cleaning, surface preparation, fabrication at site, cutting, grinding, straightening, blue matching, chamfering, filing, chipping, drilling, machining, surface grinding, shaping, fitting up, tightening of loose instruments and wires, retouching of damaged surface painting of panels taken place during transportation from store to place of installation 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 bidder as part of the scope of work.
- 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 the bidder at his cost.
- The work involved is Erection of metso DNA Control Panels at site in DCS control room /RIO Halls including chipping of floor, necessary civil work including opening and insertion, fabrication and fixing of base channel frame if required levelling & alignment with spirit level, wherever required termination of loose wires, bus wires is to be done. Canopy for panels will be supplied loose & shall be installed by the Bidder after erection of panels. The cleaning of panels has to be done with electrical vacuum cleaner, besides conventional cleaning with brush etc. welding the base channel to the embedded plates / channels, grouting , fixing of anti-vibration pads, termination of inter panel connections, mounting / connections of loose instruments, inter panel bus bar connections, commissioning up to Power supply integrity. Power supply connections from DCDB/ACDB to Control panels, including cabling involved for inter connection to master clock. HART panel, slave clocks, Network panel etc.)
- The work is to be carried out in accordance with the recommendations of the equipment manufacturer drawings, documents furnished to the Bidder by BHEL or as directed by BHEL Engineer.
- For charging the panels, two no.s of Rolling UPS along with battery will be provided by BHEL. Shifting, installing, cable laying, removing and shifting to next unit and finally handing over the same to BHEL is in bidder scope, without any extra cost.

COMPUTER BASED EQUIPMENTS:

- All computer related items / equipment like Operator work station, Engineering station ,LVS controller, HART, etc comprising of CPU, CRT monitors, printers, key boards, pre-fabricated connecting leads ,Mouse ,Key board, UPS etc shall be installed in control room on CRT desk as per direction of BHEL Engineer. The cost of installing a PC set including printer, monitor, UPS, interconnecting leads etc installation as per BOQ Cum Rate Schedule shall also include the cost of installation / placement of furniture (to be issued by BHEL as free issue item) as per requirement / instruction of BHEL Engineer. The Software installation and commissioning is not included in the scope of this contract. However, any assistance required for testing / commissioning have to be provided by the Bidder within the quoted price.

Removal of Existing Panels:

- Some of the existing panels are to be removed from each of the units. The panels may be single suit or any other combination. The numbers is approximately 100 with various sizes varying from 2300(h) x 1200(w)x1000(d) mm to 1400(h)x180(w)x100(d). However, all the panels identified by BHEL engineer are to be removed. The panels removed are to be handed over to BHEL'S Customer NLC including items mounted on the door/Inside panel to the Location indicated by BHEL/NLC without any damage. All existing DI/DO in Turbine RIO to be grouped in GJB (Group Junction Box) and laid up to existing (Not to be removed) marshalling panels (CVA).
- A few cables are to be re-terminated from old existing panels and to be terminated in new marshalling boxes.

Removal of Existing cables and JB:

- Cables and JB for removal have to be identified, Tagged for removal/re use and removed from both ends of terminal points by the Bidder. Cables of assorted sizes are involved. Cables will be armoured and Un-armoured type.
- Damaging of cable to be avoided as far as possible. Only cables identified for removal will be removed. The removed cables will be measured, segregated, rolled, tagged and identified and finally handed over to BHEL'S CUSTOMER to the place indicated by them.

- **Testing and Commissioning:**

The bidder shall assist BHEL Engineers with manpower and material during and not limited to Field inspection, complete loop checking instrument calibration, Signal simulation, Online debugging, Functional and System checking.

Removal of Existing Field Instrumentation and Mounting new Instruments:

- The bidder shall be required to dismantle the existing two (2) nos. of FD fan PCD actuators & transport the materials to stores as identified by BHEL/NLC and install two (2) Nos. new actuators listed in the BOQ.
- The existing field instruments (except speed, load measurement unit), control valves, solenoid valves provided for the turbine unit need to be retained. Present temperature measurements in turbine area are having Isothermal boxes which are to be discarded and new temperature transmitters need to be installed by the bidder.

- Transmitters shall be positioned (250 mm from the floor level) as close as possible from the tapping/measurement point including installation of Impulse pipe line and connection to the transmitter via sealed pots. The transmitters will be grouped and enclosed within the LIE and installed nearest to the tapping point.
- RTD or Thermocouple compensation cable supplied to be connected to the newly installed Temp. Transmitters and the cable should not be exposed to excessive heat, moisture and mechanical damage and polarities should be marked at TC connection head with ferrules.

7. OVER RUN CHARGES (ORC):

In case due to reasons not attributable to the Bidder, the work gets delayed and scheduled completion gets extended, the Bidder shall not be entitled for any overrun compensation for a period of first 2 (TWO) months after the Contractual completion date. In case the scheduled completion time gets extended beyond 2 (TWO) months as stated above, the Bidder shall be considered for payment of **fixed Over Run Charges from the third month onwards @ Rs 40,000/- (Rupees Forty Thousand only) per month for Four months with 8 people** on receipt of advance notice intending to claim over run & on fulfillment of following conditions:-

- (a) The reasons for delay in completion of work are not attributable to Bidder but however subject to the provisions of clause – XIII of Section – V General Conditions of Contract.
- (b) The targets fixed during the overrun period are achieved by Bidder.
 - a. Once the claim of overrun charges is admitted, no other compensation whatsoever (like for delays in receipt of materials, availability of fronts etc.) will be entertained.
 - b. The Bidder shall maintain sufficient workforce and other resources required for completion of the job expeditiously for the entire Contractual period including total extended period.

8. PAYMENT TERMS:

- a. The Prices mentioned in the order shall remain firm (Without escalation) during the entire execution of the order and shall remain valid for ordering of any change in quantity for this project. The prices mentioned are exclusive of Taxes.
- b. The prices are inclusive of charges towards manufacturing at site, supervision, Erection and Commissioning as per standard quality procedures, testing and submission of necessary test certificate of the bidders bought out items.
- c. The **Engineer in charge** will certify the actual work executed in the measurement books and bills, which shall be accepted by the Bidder in measurement book.
- d. Bidder 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 BHEL SITE ENGINEER before raising invoices.

All payments shall be released from BHEL EDN Bangalore. The process of certification at site and forwarding the bill to Bangalore and dispatch of payment to Bidder is expected to take 4 to 6 weeks. Bidder is advised to take note of this and ensure labor 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 Bidder to delay in making payment of wages to workers.**

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

- e. Subject to any deduction which BHEL may be authorized to make under the Contract, the Bidder on the certificate of the BHEL Engineer at site be entitled for payment as explained here under:

The invoice with all enclosures in quadruplicate shall be submitted in quadruplicate and made separately for each Unit. The checklist is to be submitted as per Annexure - VI (Section – VII).

- ❖ The payment for the First running bill will be released only after furnishing copies of following certificates:
 - PF Registration / membership certificate
 - Labor License(Form V till license is obtained)
 - Workmen Compensation Insurance
 - Employee State Insurance policy
 - ❖ The following shall be furnished along with the bill.
 - Protocols for Erection and Commissioning duly signed by BHEL Site Engineer.
 - Muster Roll (Attendance Sheet) for the period of Work.
 - Wage sheet for the period of Work.
 - Proof of remittance of Provident fund deposit for all the laborers engaged.
 - Proof of remittance of E.S.I for all the laborer's engaged.
- f. Progressive Payment on pro-rata will be made based on the following order:

E&C Work:

- i. **80% on completion of Erection and Pre-commissioning of new C&I equipment**
 - a. **10% on completion of Commissioning of new C&I equipment.**
 - b. **10% on receipt & processing of Final Bill**

Dismantling Work:

- i. **80% on Removal of Old C&I equipment/Panels/Instruments/Cables Etc.**
- ii. **10%on Handing over of dismantled C&I equipment / Panels / Instruments / Cables Etc. at BHEL/NLC designated place.**
- iii. **10%on Receipt of Final Bill.**

9. Bill Of Quantity for the scope of work

Sl. No.	ITEM DESCRIPTION	U O M	Quantity			Remarks
			Phase - 3	Phase - 4	Total Quantity	
1	DDCMIS PANELS	Nos.	73	85	158	PANELS (Sl. No. 1 - 6) are in single / two / three or Four suite (Dimensions - L X B X H: 750 X 800 X 2200 mm and Approximate weight = 400 kg per Suite). Erection Work includes making necessary opening and insertion on the floor as required and certified by BHEL Engineer, Shifting of panels from stores to Respective Rooms, Erection of panel, packing plate, alignment, tack welding, fixing canopy as per drawing / documents provided by BHEL. Quantity in numbers is single suite, panels consists of single, double, triple & four suites. Panels will be BRIO (26), TRIO (75) and DCS(56) nos.
2	Emergency Backup Panel	Nos.	1	1	2	Cubicle Dimensions (L X B X H) 2000 X 1000 X 2200 mm Approximate Weight: 500 kg
3	Generator Metering Panel	Nos.	1	1	2	Cubicle Dimensions (L X B X H) 2000 X 1000 X 2200 mm Approximate Weight: 500 kg per Suite
4	Generator Control Panel	Nos.	1	1	2	Cubicle Dimensions (L X B X H) 3000 X 1000 X 2200 mm Approximate Weight: 700 kg
5	Common Auxiliary Control Panel	Nos.	--	1	1	Cubicle Dimensions (L X B X H) 4000 X 1000 X 2200 mm Approximate Weight: 900 kg
6	Common Metering Panel	Nos.	--	1	1	Cubicle Dimensions (L X B X H) 1600 X 1000 X 2200 mm Approximate Weight: 700 kg
7	HMI (PERSONAL COMPUTER ITEMS)	Set	16	16	32	Shifting of materials from stores to place of Erection/ Installation and providing manpower assistance during commissioning. Including Power Up, Software / Driver installation, Communication establishment with Switches etc.
8	PRINTERS	Set	11	11	22	Work includes Shifting of Printer from Stores to place of Installation and assistance during Driver Installation/network establishment, etc.
9	Large Video Screens (LVS)	Set	1	1	2	67" with other related accessories - Man power assistance for shifting of materials from stores to place of Erection identified by BHEL/NLC & also during commissioning.
10	Unit Control Desk	Set	1	1	2	UNIT CONTROL DESK & Furniture (Sl. No. 10 - 13) - Shifting of material from stores to the place of installation in Control Room in TG Hall and providing necessary manpower and T&P assistance to BHEL's Vendor during installation/mounting on the floor.
11	Chairs	Nos.	16	15	31	
12	Table For Mounting PCs	Nos.	9	9	18	
13	Table For Printers	Nos.	9	8	17	
14	Pneumatic cylinder actuators for PCD with positioner, position transmitter, mechanical linkage, etc for FD fans	Nos.	2	2	4	FIELD INSTRUMENTS (Sl. No. 14 - 27): Work includes Field mounting, Piping/Tubing work, Providing assistance during assembly work, Calibration, Testing and Assistance to BHEL Engineers in Loop checking, Functional testing and commissioning / Troubleshooting of the Field Instrumentation and Sensors included in this specification. The Tenderer shall arrange all tools and tackles, special testing equipment's and consumables
15	Remote Valve position for hot air damper	Nos.	7	7	14	
16	Position Transmitter-pneumatic control valves (Linear/	Nos.	29	29	58	

Sl. No.	ITEM DESCRIPTION	U O M	Quantity			Remarks
			Phase - 3	Phase - 4	Total Quantity	
	vertical stroke)					required for erection and commissioning activities. Any other special instruments (e.g. portable hand held unit with liquid crystal display) required for commissioning of Instrument shall be provided by the Tenderer. Transmitters shall be positioned as close as possible to the measuring point as instructed by BHEL Site Engineers.
17	Position Transmitter for Dampers	Nos.	16	16	32	
18	Position Transmitter for HP Bypass valves	Nos.	4	4	8	
19	Position Transmitter for Gland steam valves	Nos.	2	2	4	
20	Position Transmitter for Boiler feed pump Scoop Tube	Nos.	3	3	6	
21	Position transmitter for LP Bypass, HP control valves and IP control valves	Nos.	6	6	12	
22	Turbine Speed Measurement for EHC, TSI & EBP	Nos.	6	6	12	
23	Solenoid valve for Turbine trip and its associated piping fabrication	Nos.	1	1	2	
24	Fixing hardware for speed probes on turbine MOP shaft	Nos.	1	1	2	
25	E/P converters	Nos.	3	3	6	
26	Air Filter Regulator	Nos.	3	3	6	
27	Solenoid Valves	Nos.	9	9	18	
28	TURBO SUPERVISORY SYSTEM	Set	1	1	2	
29	VIBRATION MONITORING SYSTEM (VMS) FOR FD & ID Fans	Set	1	1	2	Work includes Erection of Panel at Common DCS Room (Dim 1600 mm (W) x 800 mm (D) x 2415 mm (H), Approx. weight = 600 Kg and assistance to vendor in Mounting of sensors cable laying through SS conduit from JB to Panel and during Commissioning.
30	Temperature Elements	Nos.	16	16	32	The work involves Interconnections to / from thermocouples (K type) to temperature transmitters and shall be made via ext. cables having thermo electric characteristics compatible with thermocouple to which they connect. Compensating cables connected to transmitters shall not be through terminal blocks but shall be directly connected. Proper marking for Polarities for thermocouple ends to be done during ferruling.
31	LIR - Type B -1450 mm (W) X 650 mm (D) X 1600 mm (H) Weight 670 Kg	Nos.	6	6	12	Local Instrument Racks (LIR) (Sl. No. 31 - 32): Installation at various locations / elevations in Boiler/TG as per drawing / instructions of BHEL Engineer. Dimensions in W X D X H. Installation work includes fabrication of base frame using ISMC/ISA and welding on to the boiler structure /
32	LIR - Type C - 950 mm (W) X 650 mm (D) X	Nos.	11	11	22	

Sl. No.	ITEM DESCRIPTION	U O M	Quantity			Remarks	
			Phase - 3	Phase - 4	Total Quantity		
	1600 mm (H) Weight 550 Kg					anchoring on concrete floor with anchor bolts (Supply of LIR, Angle / Channel only in BHEL Scope).	
33	A106 GR C 1/2' NB SCH 160 Pipe	Mtr	80	80	160	IMPULSE PIPES (Sl. No. 33 - 36): Identification, marking, cleaning, shifting to erection location, Erection, socket welding, Hydraulic testing, leak checking, drying with Air Blowing etc primer & final painting (including supply of paints as per colour code of customer) up to BHEL/Customer Satisfaction. All consumables like welding electrodes, testing materials, tags, etc., needed for the work to be supplied by vendor within the quoted price. Installation of all impulse line fittings including CONDENSATE POTS are considered as part of impulse line work. Welding allowed only by qualified welders accepted by BHEL/Customer and strictly as per approved welding procedure of BHEL/Customer. Only BHEL / NLC approved welding electrodes to be used. Installation work also includes fabrication of supports using ISMC/ISA and welding (Supply of Impulse Pipe, socket fittings, Angles, Channels only in BHEL Scope).	
34	A106 GR C 3/4' NB SCH 80 Pipe	Mtr	15	15	30		
35	A106 GR C 1/2" NB SCH 80 Pipe	Mtr	270	270	540		
36	GI Pipe of 1/2" NB	Mtr	110	110	220	GI PIPES	
37	2 PAIR X 1.0 Sq.mm	Mtr	1800	1800	3600	INSTRUMENTATION CABLES (Sl. No. 37 - 42): All cables are armoured FRLS type	
38	4 PAIR X 1.0 Sq.mm	Mtr	2900	2900	5800		
39	8 PAIR X 1.0 Sq.mm	Mtr	1100	1100	2200		
40	10 PAIR X 1.0 Sq.mm	Mtr	1500	2100	3600		
41	12 PAIR X 0.75 Sq. mm	Mtr	30000	30000	60000		
42	12 PAIR X 1.0 Sq.mm	Mtr	7300	7300	14600		
43	1C X 35 sq.mm	Mtr	2100	2100	4200		POWER / CONTROL CABLES(FRLS) (Sl. No. 43 - 63) : All cables are armoured FRLS type
44	1C X 70 sq.mm	Mtr	2100	2100	4200		
45	1C X 120 sq.mm	Mtr	1600	1600	3200		
46	2C X 2.5 sq.mm	Mtr	800	1100	1900		
47	2C X 4.0 sq.mm	Mtr	8200	10400	18600		
48	2C X 6.0 sq.mm	Mtr	3200	3200	6400		
49	3C X 1.5 sq.mm	Mtr	3400	3400	6800		
50	3C X 2.5 sq.mm	Mtr	4800	7300	12100		
51	4C X 4.0 sq.mm	Mtr	5300	8500	13800		
52	5C X 1.5 sq.mm	Mtr	6400	6400	12800		
53	5C X 2.5 sq.mm	Mtr	7900	11400	19300		
54	7C X 1.5 sq.mm	Mtr	4300	4300	8600		
55	7C x 2.5 sq.mm	Mtr	1300	2000	3300		
56	9C X 2.5 sq.mm	Mtr	1400	2100	3500		
57	10C X 1.5 sq.mm	Mtr	6100	6100	12200		
58	12C X 2.5 sq.mm	Mtr	1100	1800	2900		
59	14C X 1.5 sq.mm	Mtr	300	300	600		
60	15C X 2.5 sq.mm	Mtr	1100	1800	2900		
61	20C X 1.5 sq.mm	Mtr	600	1000	1600		
62	24C X 1.5 sq.mm	Mtr	50000	50000	100000		
63	37C X 1.5 sq.mm	Mtr	1800	1800	3600		
64	KX - 1 pair	Mtr	700	700	1400	Thermo couple extension cable	
65	OPTICAL FIBER	Mtr	3000	3000	6000	SIX FIBER GEL-FILLED Multi-tube construction SMOFC: Optic fiber cables have	

Sl. No.	ITEM DESCRIPTION	U O M	Quantity			Remarks
			Phase - 3	Phase - 4	Total Quantity	
	CABLE					to be laid on Cable trays, Conduits. fiber Optic Cable shall be used to interconnect the RIO / IO rack module with the Control processor and for interconnecting between DCS of other units. All system / Control bus and information bus cables shall be fiber-optic. Work includes laying in Cable tray and conduits with proper dressing, assisting BHEL vendor during interconnection, Testing and Commissioning.
66	UTP CABLE	Mtr	2000	2000	4000	UTP CAT 5e / 6e CABLE Laying, dressing using ties and crimping on both ends. RJ45 Connectors & Ties will be provided by BHEL
67	Cable Tray of Size: W X H X T - 50 X 25 X 2.5 mm	Mtr	650	650	1300	G. I. PERFORATED CABLE TRAYS (Sl. No. 67 - 74) (Each Tray length is 2.5 m): Installation work includes supports using welding on to structure/ on concrete floor with anchor bolts and Fixing suitable coupler plates with fasteners for Joining more than one Tray. (Supply of Angle / Channel in BHEL Scope and Anchoring fasteners in bidder's scope)
68	Cable Tray of Size: W X H X T - 100 X 25 X 2.5 mm	Mtr	900	900	1800	
69	Cable Tray of Size: W X H X T - 150 X 40 X 2.5 mm	Mtr	750	750	1500	
70	Cable Tray of Size: W X H X T-300X 50 X 2.5 mm	Mtr	1100	1100	2200	
71	Cable Tray of Size: W X H X T - 600 X 100 X 3.0 mm	Mtr	1100	1100	2200	
72	Cable Tray of Size: W X H X T - 750 X 100 X 3.0 mm	Mtr	100	100	200	
73	Cable Tray cover of Size: W X H X T - 50 X 25 X 2.5 mm	Mtr	500	500	1000	
74	Cable Tray cover of Size: W X H X T - 100 X 25 X 2.5 mm	Mtr	500	500	1000	
75	G.I Rigid Conduit 1" (25 mm)	Mtr	300	300	600	G I CONDUITS (Sl. No. 75 – 77): Installation in trenches, cable trays, along the walls , dressing using saddles, Ties, tag plates etc .Fittings like bends ,inspection bends etc will be supplied by BHEL. All consumables like saddles, mounting hardware, jumpers etc. for conduit / flexible to be arranged by contractor within the quoted rates.
76	G. I Flexible Conduit 1" (25 mm)	Mtr	200	200	400	
77	G.I Rigid Conduit 4" (100 mm)	Mtr	150	150	300	
78	400 mm (H) X 450 mm (W) X 350 mm (D) 24 WAY	Nos.	20	20	40	GROUP JUNCTION BOXES (Sl. No. 78 - 82) (Di cast Aluminum): Installation work includes fabrication of mounting frame using ISMC/ISA and welding on to structure / on concrete floor with fasteners, (Supply of Angle/Channel in BHEL Scope and Anchoring fasteners in bidder's scope)
79	400 mm (H) X 450 mm (W) X 350 mm (D) 48 WAY	Nos.	16	16	32	
80	650 mm (H) X 450 mm (W) X 360 mm (D) 96 WAY	Nos.	16	16	32	
81	650 mm (H) X 450 mm (W) X 360 mm (D) 128 WAY	Nos.	22	22	44	
82	Marshalling Box in Cable Gallery for Cabinets 2000 mm (H) x 2000 mm (W) x 800 mm (D)	Nos.	14	14	28	

Sl. No.	ITEM DESCRIPTION	U O M	Quantity			Remarks
			Phase - 3	Phase - 4	Total Quantity	
83	12 WAY	Nos.	3	3	6	JUNCTION BOXES (Sl. No. 83 - 86) OF SIZE 375 mm (H) X 400 mm (W) X 350 mm (D) for Temperature Transmitters (Di cast Aluminum): Installation work includes fabrication of mounting frame using ISMC/ISA and welding on LIR with fasteners (Supply of Angle/Channel in BHEL Scope and Anchoring fasteners in bidder's scope)
84	24 WAY	Nos.	3	3	6	
85	36 WAY	Nos.	9	9	18	
86	48 WAY	Nos.	2	2	4	
87	SMART Pressure Transmitters, 2 Wire	Nos.	22	22	44	TRANSMITTERS (Sl. No. 87 - 89): Wherever standalone transmitters mounting is envisaged, fabrication of support in bidder's scope and required structural steel will be supplied by BHEL.
88	SMART Level Transmitters, DP Type 2 Wire	Nos.	12	12	24	
89	Temperature transmitters, SMART 2 Wire	Nos.	87	87	174	
90	DISMANTLING WORK	Lot	1	1	2	Dismantling of approximately 100 number of various size panels and Associated Cables, Cable Trays, Field Instrumentations, TSI sensors, PCD actuators, Position Transmitters, Temperature sensors, Speed sensors. The removed cables shall be Measured, Rolled and Tagged. After dismantling, these all materials are to be shifted to the BHEL/NLC designated area, which is around 2 km from each unit, with in TPS - II premises. (Sl. No. 90 - 92)
91	Removing Cable Termination from old panels	Lot	1	1	2	
92	Re-termination of Cables	Lot	1	1	2	

ANNEXURE – I (Section – VII)

LIST OF T&Ps AND ITEMS REQUIRED FOR WORK

SL No.	EQUIPMENT	QTY	Remarks
1.	Roller	01 No.s	
2.	Continuity and LAN tester	06 No.s	
3.	Electrical tool kit with ISI quality Digital multi-meter (Of reputed make such as Fluke etc.)	06 No.s	
4.	Ferruling machine	02 No.s	
5.	Megger kit	01 No.s	
6.	Hand lamp with necessary cable	06 No.s	
7.	Welding Machine	05 No.s	
8.	Gas Cutter	02 No.s	
9.	Grinding Machine	05 No.s	
10.	Impulse Pipe Bending Machine	02 No.s	
11.	G.I Pipe Threading Machine	02 No.s	
12.	Blower(For cleaning purpose)	01 No.s	
13.	Current source	02 No.s	
14.	Cable Tracers	02 No.s	

Any other T&P required as instructed by the Engineer In charge at Site during execution of work is to be arranged by the bidder.

ANNEXURE – II (Section – VII)
Indicative list of IMTEs to be arranged by the BIDDER for
CONTINUITY CHECKING

SI. No.	EQUIPMENT	QTY
1	500V/1000V Megger	1
2	3 ½ Digits Digital Multi-meter	6
3	4 ½ Digits Digital Multi-meter	2
4	Decade resistance Box	1
5	Continuity tester	2
6	LINE Tester (UTP Cable Testing)	2

Notes:

1. The above list of testing instruments/equipment required for testing / commissioning is only for guidance to Bidder and not complete. Any other / additional testing instruments / equipment required for timely and satisfactory completion of job will also be arranged by Bidder at his own cost.
2. Bidder must re-ascertain /recheck range and accuracy of each IMTE from BHEL Engineer well in advance before arranging calibration / deployment of IMTE's.
3. Other terms and conditions regarding above items shall be as per clause no. 3 of GCC (Tools & plants / testing & measuring instruments)

ANNEXURE – III (Section – VII)
(To be submitted in Bidder’s Letter head)

**CERTIFICATE OF DECLARATION FOR CONFIRMING THE
KNOWLEDGE OF SITE CONDITIONS**

We,.....

Here by declare and confirm that we have visited the project site under the
subject namely,

.....
.....and acquired full knowledge about the site
conditions, wage structure, Industrial climate and total work involved.

We further confirm that the above information is true and correct and we will not raise
any claim of any nature due to lack of knowledge of site condition.

Bidder’s Name and Address.

Place: (Signature of the Bidder With stamp)

Date:

ANNEXURE – IV (Section – VII)

NON DISCLOSURE AGREEMENT

(To be submitted on Bidders Letter Head)

Memorandum of Understanding

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 Bangalore

To 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 which shall not be in the business interest of BHEL EDN Bangalore.

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

ANNEXURE –V (Section – VII)

NO DEVIATION CERTIFICATE

(To be submitted on Bidders Letter Head)

FORMAT OF UNDERTAKING

REF:

Date:

To
Bharat Heavy Electricals Limited
Electronics Division
P.B NO.26, Mysore Road
Bangalore 560 026

NIT Ref. No: CE/ES/2015-16/09/Neyveli-R&M/E&C/RED dated 22/12/2015

Dear Sir,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content and site conditions etc. We also confirm that we have not changed / modified the tender documents as appeared in the website and in case of observance at any stage, it shall be treated as null & void. We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT and we hereby confirm our unqualified acceptance to all terms and conditions as stipulated in the tender and NIT. In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void. We confirm to have submitted our offer in accordance with tender instructions.

Thanking you

Yours Faithfully

(Signature, date & seal of Authorized
Representative of the bidder)

ANNEXURE –VI (Section – VII)

CHECK LIST TO BE SUBMITTED ALONG WITH EVERY RA BILL

NAME OF THE BIDDER

RAB NO:

RAB DATE:

LOI /WO No. & DATE

DESCRIPTION OF WORK

Sl. No.	PARTICULARS	YES	NO	REMARKS
1	ALL T&PS AND OTHER INSTRUMENTS REQUIRED AS PER CONTRACT HAVE BEEN DEPLOYED AT SITE AND ARE AVAILABLE IN GOOD WORKING CONDITION & UTILISATION REPORT HAS BEEN			
2	LABOUR LICENSE FOR THE WORKMEN ENGAGED AND IS VALID UPTO			
3	WCP POLICY FOR THE WORKMEN ENGAGED ARE AVAILABLE & VALID UPTO			
4	COPIES OF THE ABOVE HAVE BEEN SUBMITTED TO BHEL			
5	WORKERS WAGES FOR THE PREVIOUS MONTH HAVE BEEN DISBURSED AND PAID ACQUITTANCE ROLL SUBMITTED TO BHEL			
6	PF HAS BEEN DEDUCTED AS PER RULES AND PAID CHALLAN SUBMITTED TO BHEL			
7	PLEASE QUOTE YOUR PAN NO.			
8	PLEASE QUOTE YOUR SERVICE TAX REGN. NO.			
9	SERVICE TAX FOR THE PREVIOUS MONTH HAS BEEN REMITTED AND PROOF OF PAYMENT HAS BEEN ATTACHED WITH THE CURRENT			
10	BANK GUARANTEE FOR SECURITY DEPOSIT/ADVANCE PAID ARE VALID UPTO			
11	PROTOCOLS & OTHER DOCUMENTS AS REQUIRED HAS BEEN SUBMITTED AND NECESSARY APPROVAL OBTAINED.			
12	LOG SHEETS FOR EXTRA / ADDITIONAL WORK CARRIED OUT AS PER CONTRACT HAS BEEN SUBMITTED TO BHEL			

BIDDER

BHEL

DATE:

PLACE:

ANNEXURE – A

FINANCIAL VIABILITY

1. Owner's capital in the business (in case of Partnership, please mention percentage shares and amounts).

2. Quantum of business done during last three financial years
 - i) Rs.

 - ii) Rs.

 - iii) Rs.

3. Value of fixed Assets of the business in last three YEARS
 - i) Rs.

 - ii) Rs.

 - iii) Rs.

4. Guarantee limits (if any) enjoyed by the firm.

5. Over draft limits (if any enjoyed by the firm.

6. Please enclose audited profit and loss account and balance sheet for last 3 years (indicate no. of sheets).

7. Certificate from Scheduled Bank to prove Bidder's financial capacity to undertake the work duly indicating the financial limits the bidder enjoys.

ANNEXURE – B

MONTHWISE MANPOWER DEPLOYMENT PLAN

(Bidder to indicate No. of People deployed each month for the entire contract period of 18 Months)

Manpower	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Resident Engineer																		
Engineer																		
Supervisor																		
Fitter																		
Welder																		
Electrician																		
Instrument Technician																		
Helpers																		
Store Keeper																		
Office Assistant																		

(SIGNATURE OF BIDDER)

ANNEXURE – C

MONTHWISE TOOLS AND PLANTS DEPLOYMENT PLAN

(Bidder to indicate No. of Tools deployed each month for the entire contract period of 18 Months)

T&Ps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Roller																		
Continuity and LAN tester																		
Electrical tool kit with ISI quality Digital multi-meter																		
Ferruling machine																		
Megger kit																		
Hand lamp with necessary cable																		
Welding Machine																		
Pipe Bending Machine																		
Grinding Machine																		
Gas Cutter																		
Calibration Gauge																		
Welding Rod																		
Hydraulic Pump																		
Extension Board																		
Blower																		
Cable Tracer																		
Current Source																		

(SIGNATURE OF BIDDER)

Signature & Seal of the Bidder

ANNEXURE –D
ANALYSIS OF UNIT RATE QUOTED

S.NO.	DESCRIPTION	PERCENTAGE OF THE UNIT RATE QUOTED	REMARKS

1.	Salary & wages for staff & workers		
2.	Consumables		
	(a) Gases (NA)		
	(b) Welding Electrodes (NA)		
	(c) Ferrules		
	(d) Transportation of Men and Material		
3.	Depreciation & maintenance for T&P		
4.	Depreciation & Maintenance for other		
5.	ESI and Insurance of Men Employed		
6.	Establishment and Administration expenses of site		
7.	Over Heads		
8.	Profits		

(SIGNATURE OF BIDDER)
WITH STAMP

ANNEXURE –E
DECLARATION SHEET

I, -----hereby certify that, all the information and data furnished by me with regard to this Tender Specification No. ----- are true and complete to the best of my knowledge. I have gone through the specification, conditions and stipulations in detail and agree to comply with the requirements and intent of specification.

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

Bidder's Name & Address

Authorized representative's signature with name and address.

ANNEXURE –F

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.

4. Name & designation of the official of the bidder to whom all the references shall be made.

3. Bidder's proposal No. & date

5. Whether EMD submitted (By cash/Pay order / bank draft) Yes/No

6. Validity of offer/ rates quoted for THREE months from the date of opening of tender Yes/No

7. Financial Status as per Clause 11.1 (in the format as per Annexure-A) Yes /No

8. Income tax Clearance certificate as per Clause 11.2 Yes/No

9. Details of experience as per clause 11.3 (in the format as per Annexure-B) Yes /No

11. Month wise & Category wise manpower deployment plan as per Clause 11.4 (in the format as per Annexure-B) Yes/No

12. Attested copy of power of attorney as per clause 11.5 Yes/No

13. Details about type of the firm as per clause 11.6 Yes /No

14. Status of T&P and month wise deployment plan as per clause 11.7 (in the format as per Annexure-C) Yes /No

15. Analysis of unit rate quoted as per Clause 11.8 (in the format as per Annexure-D) Yes /No

16. Declaration sheet as per clause 11. 09
(in the format as per Annexure-E)

Yes /No

Date _____

(SIGNATURE OF BIDDER WITH STAMP)

WITNESS

(SIGNATURES WITH FULL PARTICULARS)

1.

2.

ANNEXURE –G
BANK GUARANTEE FOR SECURITY DEPOSIT

B.G. NO.

Date

This deed of Guarantee made and executed on this ----- day of -----two thousand by ----- (Bank Name & Address) registered under the Companies Act 1956/Nationalized Bank constituted under the banking companies (acquisition and transfer of undertakings) Act -----having its registered/ head office at -----represented herein by its branch manager or authorized representative Sri. ----- And Sri. ----- (Here in after called the "The Guarantor" which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns):

IN FAVOUR OF M/s Bharat Heavy Electrical Limited (A Govt. of India Undertaking) a company incorporated under the Companies Act, 1956, having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its unit at Electronics Division, No. 2606, Mysore Road, Bangalore 560 026 hereinafter called "The Company" (which expression shall unless repugnant to the context or meaning thereof by deemed to include its successors and assigns)

WHEREAS -----(hereinafter referred to as the Bidder which term shall mean and include its liquidators, successors and assigns) have entered into a Contract arising out of Letter of Intent no.----- dated.----- (hereinafter referred to as "the Contract") for the work of ----- with the company.

And the Bidder has agreed to carry out the works as detailed and in accordance with the terms set out in the said Letter of Intent.

AND WHEREAS the Contract inter-alia provides that the Bidder shall furnish the Bank Guarantee in favour of the company for a sum of Rs. ----- (Rupees----- - -----) towards security deposit for service rendered to them and for due and faithful performance of the Contract in the manner and form specified therein.

AND WHEREAS the Bidder 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 -----only) in favour of the Company for a period of -----years commencing from ----- to ----- as security for the services to be issued by the Company to the Bidder during the currency of this guarantee.

AND Whereas the Guarantor has agreed to furnish a guarantee for the said sum of Rs. (Rupeesonly) for a period of years commencing from to In favour 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 the Company is as follows:

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.(Rupees only) against any claim by the company on them for any loss, damage, costs, charges and expenses caused to or suffered by the company by reasons of the Bidder making any default in the performance, observance or discharge of the terms, conditions, stipulations or undertakings or any of them as contained in the Contract.

The decision of the company whether any default has occurred or has been committed by the Bidder in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them as contained in the Contract and / or as to the extent of loss, damage, costs, charges and expenses caused to or suffered by the company by reason of the Bidder making any default in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them shall be conclusive and binding on the Guarantor irrespective of the fact whether the Bidder admits or denies the default or questions the correctness of any demand made by the company in any Court, Tribunal or Arbitration proceedings or before any other Authority.

The company shall have the fullest liberty without affecting in any way the liability of the Guarantor under this Guarantee, from time to time to vary any of the terms and conditions of the Contract or extend time of performance by the Bidder or to postpone for any time and from time to time any of the powers exercisable by it against the Bidder and either enforce or forebear from enforcing any of the terms and conditions governing the Contract or securities available to the company and the Guarantor shall not be released from its liability under these presents by any exercise by the company of the liberty with reference to the matters aforesaid or by reasons of time being given to the Bidder or any other forbearance, act or commission on the part of the company or any indulgence by the company to the Bidder or any other matter or thing whatsoever which under the law relating to sureties would, but for this provision have the effect of so releasing the Guarantor from its liability under this guarantee.

The Guarantor further agrees that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the Contract and its claim satisfied or discharged and till the company certifies that the terms and conditions of the Contract have been fully and properly carried out by the Bidder and accordingly discharges this Guarantee, subject however, that the company shall have no claim under this Guarantee after ----- i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time, as the case may be) unless a notice of the claim under this Guarantee has been served on the Guarantor before the expiry of the said period in

which case the same shall be enforceable against the Guarantor notwithstanding the fact that the same is enforced after the expiry of the said period.

The Guarantor undertakes not to revoke this Guarantee during the period it is in force except with the previous consent of the Company in writing and agrees that any liquidation or winding up or insolvency or dissolution or any change in the constitution of the Bidder or the Guarantor shall not discharge the Guarantor's liability hereunder.

It shall not be necessary for the company to proceed against the Bidder before proceeding against the Guarantor and the Guarantee herein contained shall be enforceable against them notwithstanding any security which the Company may have obtained or obtain from the Bidder shall at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealized.

Notwithstanding anything contained herein before, our liability under the Guarantee is restricted to Rs.----- (Rupees-----) Our guarantee shall remain in force until -----, i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time) unless a claim or demand under this guarantee is made against us on or before ----- we shall be discharged from our liabilities under this Guarantee thereafter.

Any claim or dispute arising under the terms of this documents shall only be enforced or settled in the courts of Bangalore only.

The Guarantor hereby declares that it has power to execute this guarantee and the executant has full powers to do so on behalf of the Guarantor.

IN WITNESS whereof the ----- (Bank) has hereunto set and subscribed its hand the day, month and year first, above written.

Signed for and on behalf of the Bank

Signatory No. -----)

WITNESS:

1. Name & Address
2. Name & Address

Notes :

1. The above BG shall be executed on the non-judicial stamp papers of adequate value procured in the name of the bank in the state where the bank is located.
2. The above BG is required to be sent by the executing bank directly to BHEL at the address where tender is submitted / accepted under seal cover.
3. Six months Claim period from the date of expiry of validity should be given.

LIST OF MEMBER BANKS

1. State Bank of India CAG Branch, 10th Floor, Vijaya Building, Barakhamba Road, New Delhi – 110001	8. Deutsche Bank, Tolstoy Marg, New Delhi – 110001
2. Canara Bank 74, Janpath, New Delhi – 110001	9. Citi Bank N A Jeevan Vihar Building, Sansad Marg, New Delhi – 110001.
3. Punjab National Bank, 74, Janpath, New Delhi – 110001.	10. Standard Chartered Bank, H2 Block, Connaught Place, New Delhi – 110001.
4 State Bank of Hyderabad, Surya Kiran Building, K.G. Marg, New Delhi – 110001.	11. ICICI Bank Ltd., ICICI Tower, Bisham Pitamah Marg, Pragati Vihar, New Delhi – 110003.
5. State Bank of Mysore, Antriksh Bhawan, K.G. Marg, New Delhi – 110001.	12. IDBI Bank Ltd., 19, K.G. Marg, Surya Kiran Building, New Delhi.
6. State Bank of Mysore, Industrial Finance Branch, 18, Ramanashree Arcade, M.G. Road, Bangalore – 560001.	13. HSBC Ltd., ECE House, 28 KG Marg, New Delhi – 110001.
7. State Bank of Travancore, Travancore House, IF Branch, K.G. Marg, New Delhi – 110001.	14. Bank of Baroda, Corporate Banking Branch, 11th Floor, BOB Building, Sansad Marg, New Delhi – 110001.
BGs from any other branches of above mentioned banks are acceptable.	

ANNEXURE – H

FORMAT FOR CLAIM FOR REFUND OF SECURITY DEPOSIT

- | | | |
|--|---|-------|
| Ref: | | Date: |
| 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 of 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) | : | |
| 13.1 Amount Spent by BHEL on | : | |
| 13.2 Payment made on behalf of Bidder | : | |
| 13.3 Court dues / penalties / compensation | : | |
| 13.4 Other recoveries for services | : | |
| 13.5 Security Deposit released with final bills | : | |
| 14. Net Amount recommended for release (12-13): | | |
| 15. | | |

CERTIFICATE TO BE FURNISHED BY BIDDER

Ref. Work Order No. dated

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.

Date:

Signature of Bidder

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 Bidder 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 BIDDER

Received Rs...../-

(Rupees _____ only) in full and final settlement of my / our claim.

Date:

Signature of Engineer

ANNEXURE – J

FORMAT OF DECLARATION (ON BIDDER'S LETTER HEAD) TO BE GIVEN WITH FINAL BILL

Ref:

Date:

To:

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

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 un availed 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 Bidder M/shereby 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 Bidder

SECTION – VIII

SPECIFICATION FOR HEALTH, SAFETY AND ENVIRONMENT (HSE)

1. SCOPE

This specification establishes the Health, Safety and Environment (HSE) management requirement to be complied with by the Bidders during construction. Requirements stipulated in this specification shall supplement the requirements of HSE Management given in relevant Act (s) /legislations, General Condition Contract (GCC). Special Conditions of Contract (SCC) and job specification where different documents stipulates different requirements, the most stringent be adopted.

2. REFERENCES

This document should be read in conjunction with following:

- General Conditions of Contract (GCC)
- Special Conditions of Contract (SCC)
- Scope of work
- Relevant IS Codes (refer Annexure-I)
- Reporting Formats (refer Annexure-II)

3. REQUIREMENTS OF HEALTH, SAFETY & ENVIRONMENT (HSE) MANAGEMENT SYSTEM TO BE COMPLIED BY BIDDERS.

a. MANAGEMENT RESPONSIBILITY

- i. The Bidder to comply with HSE requirement at Construction sites as enclosed to cover commitment of their organization to ensure health, safety and environment aspects in their line of operations.
- ii. The HSE management system shall cover the HSE requirements including but not limited to what is specified under Para 1.0 and para 2.0 above.
- iii. Bidder shall be fully responsible for planning and implementing HSE requirements. Bidder as a minimum requirement shall designate/deploy the following to co-ordinate the above

No. of workers deployed up to 250 - Designate one safety Supervisor

Above 250 & up to 500 - Deploy one qualified and experienced safety Engineer/ Officer

Above 500 - One additional safety engineer / for every 500 or less officer, as above.

Bidder shall indemnify & hold harmless Owner/BHEL & their representatives free from any and all liabilities arising out of non-fulfillment of HSE requirement.

- iv. The Bidder shall ensure that the Health, Safety and Environment (HSE) requirements are clearly understood & faithfully implemented at all levels at site.
- v. BHEL shall promote and develop consciousness for Health, Safety and Environment among all personnel working for the Bidder. Regular awareness programs and work site meetings shall be arranged on HSE activities to cover hazards involved in various operations during construction.
- vi. The Bidder shall arrange suitable first aid measures such as First Aid Box, trained personnel to give First Aid and install fire protection measures such as adequate number of steel buckets with sand and water to the satisfaction of BHEL/Owner.
- vii. Non-Conformance on HSE by Bidder (including his Sub-Bidders) as brought out during review / audit by BHEL/Owner representative shall be resolved forthwith by Bidder. Compliance report shall be provided to BHEL.
- viii. The Bidder shall ensure participation of his Resident Engineer / Site-In- Charge in the Safety Committee / HSE Committees meetings arranged by BHEL / Owner. The compliance of any observations shall be arranged urgently. He shall assist BHEL / Owner to achieve the targets set by them on HSE during the project implementation.
- ix. The Bidder shall adhere consistently to all provisions of HSE requirements. In case of non-compliance or continuous failure in implementation of any of HSE provisions, BHEL / Owner may impose stoppage of work without any Cost & Time implication to BHEL / Owner and / or impose a suitable penalty for noncompliance with a notice of suitable period, up to a cumulative limit of 1.0% (one percent) of Contract value. This penalty shall be in addition to all other penalties specified elsewhere in the Contract. The decision of imposing stoppage of work, its extent & minority penalty shall rest with BHEL / Owner & binding on the Bidder.
- x. All fatal accidents and other personnel accidents shall be investigated by a team of Bidder's senior personnel for root cause & recommended corrective and preventive actions. Findings shall be documented and suitable actions taken to avoid recurrences shall be communicated to BHEL / Owner. BHEL / Owner shall have the liberty to independently investigate such occurrences and Bidder shall extend all necessary help and co-operation in this regard.

4. HOUSE KEEPING:

Bidder shall ensure that a high degree of housekeeping is maintained and shall ensure interlay; the following whichever is applicable to his nature of work:

- i. All surplus earth and debris are removed / disposed off from the working areas to identified locations (s).
- ii. Unused/Surplus Cables, Steel items and steel scrap lying scattered at different places within the working areas are removed to identified location (s).

- iii. All wooden scrap, empty wooden cable drums and other combustible packing materials, shall be removed from work place to identified location(s).
- iv. Roads shall be kept clear and materials like: pipes, steel, sand boulders, concrete, chips and brick etc., shall not be allowed on the roads to obstruct free movement of men & machineries.
- v. Fabricated steel structural, pipes & piping materials shall be stacked properly for erection.
- vi. Water logging on roads shall not be allowed.
- vii. No parking of trucks/trolleys, cranes and trailers etc., shall be allowed on roads which may obstruct the traffic movement.
- viii. Utmost care shall be taken to ensure over all cleanliness and proper upkeep of the working areas.
- ix. Trucks carrying sand, earth and pulverized materials etc., shall be covered while moving within the plant area.

In case of non-compliance of any of above, BHEL/Owner shall have the liberty to get it done from some other agency at this risk and cost.

5. HEALTH, SAFETY AND ENVIRONMENT

- i. The Bidder shall provide safe means of access to any working place including provisions of suitable and sufficient scaffolding at various stages during all operations of the work for the safety of his workmen, and BHEL / Owner.

Bidder shall ensure deployment of appropriate equipment and appliances for adequate safety and health of the workmen and protection of surrounding areas.

- ii. The Bidder shall ensure that all their staff and workers wear Safety Helmet and Safety shoes. Bidder shall also ensure use of safety belt, protective goggles, gloves etc., by the personnel as per job requirements. All these gadgets shall conform to relevant IS specifications or equivalent.
- iii. The Bidder shall assign to his workmen, tasks commensurate with their qualification, experience and state of health for driving of vehicles, handling and erection of material and equipment's. All lifting equipment's shall be tested certified for its capacity before use. Adequate and suitable lighting at every work place and approach there to, shall be provided by the Bidder before starting the actual operations at night. It is mandatory for Bidder to get his workmen medically examined / checked for fitness of work assigned once a year and furnish the certificate to that effect from RMP / Govt. Hospital.

- iv. Hazardous and / or toxic materials such as solvent, coating or thinners shall be stored in appropriate containers.
- v. All hazardous materials shall be labeled with the name of the materials, the hazards associated with its use and necessary precautions to be taken.
- vi. Bidder shall ensure that during the performance of the work, all hazards of the health of personnel have been identified, assessed and eliminated.
- vii. Chemical spills shall be contained and cleaned up immediately to prevent further contamination.
- viii. All personnel exposed to physical agents such as ionizing or non-ionizing radiation, ultraviolet rays or similar other physical agents shall be provided with adequate shielding or protection commensurate with the type of exposure involved.
- ix. Where contact or exposure of hazardous materials could exceed limits or could otherwise have harmful effects, appropriate personnel protective equipment such as gloves, goggles, aprons, chemicals resistant clothing and respirator shall be used.
- x. All persons deployed at site shall be knowledgeable of and comply with the environmental laws, rules & regulations relating to the hazardous materials substances and wastes. Bidder shall not dump, release or otherwise discharge or disposes off any such materials without the express authorization of BHEL / Owner.

6. DURING JOB EXECUTION :

Implement Health, Safety and Environment requirements including but not limited to as brought out under para 3.0. Bidder shall ensure to :

- Arrange workmen compensation insurance, registration under ESI Act, third party liability insurance etc., as applicable.
- Arrange all HSE permits before start of activities (as applicable) like hot work, confined space, work at heights, storage of chemical / explosive materials and its use and implement all precautions mentioned therein.
- Submit timely the completed checklist on HSE activities, Monthly HSE report, accident reports, investigation reports etc., as per BHEL / Owner requirements. Compliance of instructions on HSE shall be done by Bidder and informed urgently to BHEL / Owner.

- Ensure the Resident Engineer / Site-In charge of the Bidder shall attend all the Safety Committee / HSE meetings arranged by BHEL/Owner. In case of his absence from site that a second senior most person shall be nominated by him in advance and communicated to BHEL/Owner.
- Display at site office and work locations caution boards, list of hospitals, emergency services available.
- Display posters, banners made available by BHEL for safe working to promote safety consciousness.
- Assist in HSE audits by BHEL / Owner and submit compliance report.
- Generate and submit HSE records / report as per HSE plan.
- Appraise BHEL / Owner on HSE activities at site.

The Bidder shall also adhere to the Safety Norms of BHEL's Customer NLC-Neyveli that is provided in Annexure – III (Section – VIII)

ANNEXURE – I (Section – VIII)

**RELEVENT INDIAN STANDRDS (IS) – CODES FOR
PERSONAL PROTECTION**

IS: 2925-1984	Industrial Safety Helmets
IS: 4770-1968	Rubber gloves for electrical purposes
IS: 6994, 1973 (Part-I)	Industrial Safety Gloves (Leather & Cotton Gloves)
IS: 1989-1986 (Part I & III)	Leather safety boots and shoes
IS: 3738-1975	Rubber knee boots
IS: 5557-1969	Industrial and Safety rubber knee boots
IS: 6519-1971	Code of practice for selections, care and repair of Safety footwear
IS: 11226-1985	Leather Safety footwear having direct molding sole
IS: 5983-1978	Eye protectors
IS: 9167-1979	Ear protectors
IS: 3521-1983	Industrial Safety belts and harness

ANNEXURE – II (Section – VIII) HEALTH, SAFETY & ENVIRONMENT (HSE) PLAN

PROJECT: ----- BIDDER: -----

DATE: ----- OWNER: -----
(To be prepared by each construction Agency)

ACTIVITY DESCRIPTION	PROCEDURE W./ GUIDELIES	CODE OF CONFORMANCE	PERFORMANCE FUNCTIONS		
			PERFORMER	CHECKER	APPROVER

PREPARED BY

REVIEWED BY

APPROVED BY
(RESIDENT ENGINEER)

MONTHLY HSE CHECKLIST CUM COMPLIANCE REPORT (1/6)

PROJECT: ----- BIDDER: -----

DATE: ----- OWNER: -----

INSPECTION BY: -----

Note: Write 'NA' wherever the item is not applicable.

ITEM	YES NO	REMARKS	ACTION
HOUSING KEEPING			
Waste containers provided and used			
Sanitary facilities adequate and clean			
Passageways and Walkways Clear			
General neatness of working areas			
Others			
PERSONNEL PROTECTIVE EQUIPMENT			
Goggles: Shields Face			
protection Hearing			
protection Safety			
Shoes provided Hand			
protection Safety			
Belts			
Others			
EXCAVATIONS / OPENINGS			

HSE CHECKLIST CUM COMPLIANCE REPORT (Contd... 2/6)

ITEM	YES NO	REMARKS	ACTION
Openings properly covered or barricaded Excavations shored Excavations barricaded Overnight lighting provided Other SCAFFOLDING Fully decked platforms Guard and intermediate rails in place Toe boards in place Adequate shoring Adequate access Other LADDERS Extension side rails 1 m above Top of landing Properly secured Angle + 70 from horizontal Other			

MONTHLY HSE CHECKLIST CUM COMPLIANCE REPORT (Contd... 3/6)

ITEM	YES NO	REMARKS	ACTION
WELDING, CUTTING Gas cylinders chained upright Cables and hoses not obstructing Screens or shields used Flammable materials protected Fire extinguisher (s) accessible Other			
Condition of cables and sheaves OK Condition of slings, chains, hooks & eyes O.K. Inspection and maintenance logs maintained Outriggers used Signs/barricades provided Signals observed and understood Qualified operators Other			

MONTHLY HSE CHECKLIST CUM COMPLIANCE REPORT (Contd... 4/6)

ITEM	YES NO	REMARKS	ACTION
<p>HOIST. CRANES AND DERRICKS MACHINERY, TOOLS AND EQUIPMENT</p> <p>Proper instruction Safety devices Proper cords Inspection and maintenance Other</p> <p>VEHICLE AND TRAFFIC Rules and regulations observed Inspection and maintenance Licensed drivers Other</p> <p>TEMPORARY FACILITIES Emergency instructions posted Fire extinguishers provided Fire-aid equipment available Secured against storm damage General neatness In accordance with electrical requi</p> <p>FIRE PREVENTION Personnel instructed Fire extinguishers checked No smoking in Prohibited areas Hydrants Clear Other</p> <p>ELECTRICAL Proper wiring ELCB's provided Ground fault circuit interrupters Protection against damage Prevention of tripping hazards Other</p>			

MONTHLY HSE CHECKLIST CUM COMPLIANCE REPORT (Contd... 5/6)

ITEM	YES NO	REMARKS	ACTION
<p>HANDLING AND STORAGE OF MATERIALS</p> <p>Properly stored or stacked Passageways clear Other</p> <p>FLAMMABLE GASES AND LIQUIDS WORKING AT HEIGHT</p> <p>Containers clearly identified</p> <p>Proper storage</p> <p>Fire extinguishers nearby</p> <p>Other</p> <p>Erection plan</p> <p>Safety belts and lanyards; chute lines</p> <p>Other</p> <p>ENVIRONMENT</p> <p>Chemical and other Effluents properly disposed</p> <p>Cleaning liquid of pipes disposed off properly</p> <p>Water used for hydro testing disposed off as Per agreed procedure</p> <p>Lubricant Waste/Engine Oil properly disposed</p> <p>Waste from Canteen, offices, sanitation etc,. Disposed properly</p> <p>Disposal of surplus earth, stripping materials,</p>			

MONTHLY HSE CHECKLIST CUM COMPLIANCE REPORT (Contd... 6/6)

ITEM	YES NO	REMARKS	ACTION
<p>Oily rags and combustible materials done Properly Green belt protection</p> <p>Hygienic conditions at labour camps O.K?</p> <p>Availability of First Aid facilities</p> <p>Proper sanitation at site, office and Labour camps</p> <p>Arrangement of medical facilities</p> <p>Measures for dealing with illness</p> <p>Availability of Potable drinking water For workmen & staff</p>			

**Signature of Resident
Engineer with Seal**

ACCIDENT CUM FIRE REPORT

(To be submitted by Bidder after every accident within 24 hours of accident)

Report: _____

Date: _____

Name of Site: _____

BIDDER _____

NAME OF THE INJURED _____

FATHER'S NAME _____

SUB-BIDDER M/S _____

DATE & TIME OF ACCIDENT _____

LOCATION _____

BRIEF DESCRIPTION OF ACCIDENT

CAUSE OF ACCIDENT

NATURE OF INJURY/DAMAGE

MEDICAL AID PROVIDED/ACTIONS TAKEN

INTIMATION TO LOCAL AUTHORITIES

DATE:

SIGNATURE OF BIDDER
WITH SEAL

TO: SITE-IN-CHARGE/BHEL 1 COPY

SUPPLEMENTARY ACCIDENT & INVESTIGATION REPORT

Project: _____ Supplementary to Report
No. _____

(Copy enclosed)

Site: _____ Date: _____

BIDDER _____

NAME OF THE INJURED _____

FATHER'S NAME _____

SUB-BIDDER M/S _____

DATE & TIME OF ACCIDENT _____

LOCATION _____

BRIEF DESCRIPTION & CAUSE OF ACCIDENT

NATURE OF INJURY/DAMAGE

COMMENTS FROM MEDICAL PRACTITIONER, WHO ATTENDED THE
VICTIM / INJURED

SUGGESTED IMPROVEMENT IN THE WORKING CONDITION, IF ANY

LOSS OF MANHOURS AND IMPACT ON SITE WORKS

ANY OTHER COMMENT BY SAFETY OFFICER

DATE:

SIGNATURE OF BIDDER
WITH SEAL

TO: SITE-IN-CHARGE/BHEL 1 COPY

MONTHLY HEALTH, SAFETY & ENVIRONMENT (HSE) REPORT

(To be submitted by each Bidder)

Actual work start Date: _____ For the month of _____

Project: _____ Report No. _____

Name of the Bidder: _____ Status as on: _____

Name of Work: _____ Name of safety officer _____

ITEM	THIS MONTH	CUMMULATIVE
------	------------	-------------

Total Strength (Staff + Workmen)

Number of HSE meetings organized at site

Number of HSE awareness programs

Attended at site

Whether workmen compensation policy taken Y/N

Whether workmen compensation policy is valid Y/N

Whether workmen registered under ESI Act Y/N

Number of Fatal Accidents

Number of Loss Time Accidents (Other than Fatal

Other accidents (Non Loss Time)

Total No. of Accidents

Total man-hours worked

Man-hour loss due to fire and accidents

Compensation cases raised with Insurance

Compensation cases resolved and paid to workmen

Remarks

Date _____ Safety Officer/Resident Engineer

(Signature & Name)

1 COPY To: SITE-IN-CHARGE, BHEL

CE-ES/2015-16/09/Neyveli-R&M/E&C/RED

Signature & Seal of the Bidder

Annexure – III (Section – VIII)

Safety Norms of Neyveli Lignite Corporation, Neyveli

The Successful Bidder / Bidder should adhere to the following Safety Norms (and also any other safety Norms that may be communicated in future) of BHEL's Customer NLC.

1. The Bidder shall submit a specific safe action plan for safe execution of the scope of contract in line with the "Health & Safety Manual of NLC. The same need to be approved by NLC Safety department. The Bidder will be allowed to mobilize after obtaining "safety clearance" from safety dept.
2. The Bidder shall submit the organization structure for the site. The Bio-data of the nominated safety in charge shall be submitted to NLC safety dept. in advance for approval of the same as per Tamil Nadu factories rules.
3. The Bidder shall submit to the NLC safety dept. list of Construction Equipment, Lifting Appliances, Machineries, etc. to be deployed.
4. Bidder must ensure safety induction training & issue identity card to all its employees before engaging them in the work. The identity card issued by Bidder will be treated as temporary gate pass till obtaining gate passes from NLC security dept.
5. The Bidder shall ensure at all necessary care taken along with safety precaution, adequate supervision in order to do the job safely & without damage to any property and environment.
6. The Bidder shall submit Pre-employment medical checkup record in Form No. 31 A (Factories Rules' 1950) prior to entry of workers work premises.
7. Unless mentioned otherwise, the Bidder shall provide the necessary Personal Protective Equipment (PPEs) including safety Helmet and Safety Shoes to all workmen and supervising staff at his own cost. The PPEs should be in good condition and conform to relevant national or international standards/code.
8. The Bidder shall submit the fitness certificate, Insurance copy, Road Challan for all Construction Equipment, Lifting Appliances, Machineries, etc. to NLC.
9. Bidder shall ensure that all the Lifting Appliances and Lifting Tools & tackles have the valid load test certificates issued by a third party competent authority, approved by Directorate of Factories & Boilers, Tamilnadu. The certificate of competent authority should be submitted to NLC.
10. All electrical appliances, hand tools, cables, distribution boards, etc. should be in good working condition and confirm to be IS standard and connected in such a manner that is safe with respect to overload, electrical shock and short circuit.

11. Electrical equipment used in Plotline should not have earth connection. This is to be checked and specially marked by the Pot room Electrical In-Charge.
12. The Bidder shall ensure that the safety of other workmen working nearby is not endangered due to the work execution.
13. The Bidder shall obey the safety signage and safety instructions displayed inside the premises and must not alter in anyway.
14. The Bidder shall abide by the existing “permit to work system” and the revisions / amendments as notified from time to time.
15. The Bidder shall abide by the notifications, circulars, resolutions, etc. issued by NLC from time to time.
16. The Bidder shall abide by the provisions of Factories Act, Tamilnadu Factories Rules, Workmen Compensation Act, Payment of wages Act, Contract Labor (Regulations) Act, etc. and keep the principal employer indemnified of provisions of the above acts & rules.
17. In case of Injury to persons, the Bidder shall administrate the necessary first aid and then take to the Plant First Aid Centre.
18. All the accident / incident / near miss case shall be reported to NLC along with the investigation report , corrective and preventive measures
19. The Bidder shall be fully responsible for accidents caused due to negligence or carelessness in regard to the observances of the safety requirements and shall be liable to pay compensations for injuries.
20. If required the executing department of NLC would take the necessary shutdowns where there are hazards of gases, electricity, moving machineries, etc. The Bidder shall ensure that the shutdown / clearance are taken appropriate clearance/permit are to be taken for working at height, confined space welding & cutting in fire prove area, deep excavation before sending workmen to such locations and also ensure that the equipment's are under the state of Zero energy .After completion of the work the clearances shall be returned to the issuing department.
21. In case of violation of safety norms with reference to the Health & Safety Manual of NLC and instructions given time to time the penalty clauses as mentioned in the H&S manual-NLC shall be comes into force. Work stoppage order may be issued in addition to the impose of penalization. The contract may be terminated for severe breach of contract clause/ clauses or any such violation which has very severe impact in terms of Health, Safety and Environment.
22. The Bidder & his workmen will extend full support to the safety audit team member during audit/inspection/check.
23. Where multi groups will work on particular equipment, LOTO system has to be followed.

DOS & DONTs

DOS

GENERAL

1. Wear full body safety Belts when working at height
2. The safety belts, Lifting tackles, Conveyors examined thoroughly and certified by competent Person.
3. Every work man should possess valid health fitness and insurance while working at height.(Chimney, cooling tower)
4. Every unsafe area cordoned off by safety barricade tape.
5. Use proper PPE's at regular interval.
6. Welding equipment's have been inspected and certified.
7. Air analysis to be taken before start of work in generator area for H2 leak.
8. Welding M/C is to be provided with body earth compulsory.
9. Anybody wants to cross the running conveyor must use the cross over bridge.

H2 PLANT

1. Use non sparking tools.
2. While starting any major repair work purge all pipe lines with INERTGAS – N2
3. Handling cylinder with valve cap.
4. Keep away cylinder from any Electric apparatus.
5. Before using cylinder Review License/Recondition at testing station.
6. Only cylinder trolleys to be used for transport the cylinder.

Cl2 PLANT

1. To open the cylinder use proper valve handles.
2. To find out the Cl2 gas leak use ammonia liquid
3. Cl2 cylinder stored in horizontal position.
4. Keep container cool by spraying water if exposed to fire.

DONTs

Cl2 PLANT

1. Do not use oil, grease in the cylinder valves and Joints.
2. Do not roll the cylinder in the ground
3. Near the chlorine gas no gas cutting and welding is permitted.
4. Do not use rope, wire chain for handling the cylinders.

H2 PLANT

1. Do not use ordinary tools
2. Do not pull any metal stand or gas cylinders on the concrete floor to avoid sparking.

3. Do not mix empty cylinder with filled cylinder
4. Do not open the valve by keeping the face towards valve.
5. Do not allow any vehicle with IC Engine within the premises of the plant for any purpose.
6. Do not use Gas cylinder after license expiry.

GENERAL

1. While working at height(Chimney and Cooling Tower) the work shall not be done during rainy days.(High wind flow and Rain)
2. No domestic LPG cylinder allowed for any hot job such as gas welding/Cutting.
3. Do not cross the conveyor while in operation.
4. No person shall wear loose cloths while on duty near moving mechanism/conveyors.

NLC Safety Clearance Form

Safety Clearance for the Month ofDATE

- 1. Name of Bidder
- 2. Address (Present)
-
- Address (Permanent)
-
-
- 3. Work Order No. with date
- 4. Department Location & Nature of Work.....
- 5. Name of the (Bidder/ Sub-Bidder).....
- 6. Name of the employer
- 7. Whether Bidder workers are to be engaged in G / A / B / C / Shift
- 8. Proposed date of starting the work
- 9. Name& Qualification of Supervisors (Experience certificates to be attached for approval)
- 10. Name, Age, Work Experience & Address proof, ID of workers (List to be attached) ...
- 11. Name of Electrician, Valid License & Work Experience
- 12. No. of workmen Inducted Safety Training & Date
- 13. Form 31-A (List to be Attached)
- 14. H.S. Manual (Attached)

NOTE:

- i) No person below 18 years of age engaged for work inside NLC.
- ii) No Female to be deployed near moving belt conveyors & after 6 pm.
- iii) No loose clothing allowed inside the plant.

15. No. of PPE issued

- i) Safety Shoes-
- ii) Safety Helmet-
- iii) Safety Belt-
- iv) F. R. APPRON/DRESS-
- v) Goggles -
- vi) Ear Muff / Ear plug-
- vii) Face shield-
- viii) Nose Mask-
- ix) Gum boot -
- x) Fall Arrester & Lifeline-

- 16. i) No. of persons required to work at a Height of 2 meters & above
- ii) Training for height work (Document to be attached).....
- iii) Height pass issued

17. Certificate by the Bidder

I have understood the safety instructions of Safety & Fire Department and I shall adhere to all the safety precautions / rules as mentioned in the Safety Clauses in the Work order so as to ensure the safety and health of all my workers engaged on the above job. I have also received a copy of the safety instructions for Bidder. I also certify that the information furnished by me is correct.

Date:
CE-ES/2015-16/09/Neyveli-R&M/E&C/RED

Signature of the Bidder with Stamp
Signature & Seal of the Bidder

18. Certificate by the Department

Certified that the Bidder M/s..... has been engaged by us for the work described above.

Signature of Deptt. Incharge
Name
Designation.....

19. Statutory Register

- a. PPE Register -
- b. Insurance -
- c. Register of Adult worker -
- d. Form 31 -
- e. Induction Register -
- f. First Aid Box -

20. Fitness certificate of all Lifting tools, Tackles & machineries :-

21. Certified / Not certified

The above Bidder has complied statutory requirements as above.

Date:

Head (S, H & F)

CC: Finance Department – For Bill clearance
Security Department – For Gate pass

PART - II

PRICE BID

Annexure – A (Total Price)

RATE SCHEDULE FOR “TOTAL PACKAGE (UNIT NO. 4 &7)”

Item No.	Description of work		Total value in INR (In Figures and words)
01	Total Price for Renovation and Modernization of Control and Instrumentation Equipment including Dismantling of Existing Control & Instrumentation Equipment and Shifting Handing over the same to BHEL/NLC designated area. Receipt of materials from BHEL Stores/Open yard at NLC, Verification / Identification, Shifting to place of Installation, Erection, Fixing of Cable Trays and JBs, Laying of Cables, Termination of Cables and Commissioning of new equipments for Two Units and Common Systems at 4 x 210 MW Thermal Power Station – II, Stage - II Neyveli Lignite Corporation Limited, Neyveli, Cuddalore (Dist.) TAMILNADU	A	
	Service tax @ 14.00 % on Total Amount in Rs.	B	
	SBC @ 0.5 % on Total Amount in Rs.	C	
	Total Cost to BHEL in Rs.	A+B+C	

Notes:

- 1. The rates of individual item for the entire scope of work as defined in Bill Of Quantity for Total scope of work shall be arrived as per Calculation defined in Annexure – B (Unit Rates for Bill Of Quantity).**
- 2. Based on BOQ bidder has to calculate Total price “A” and quote.**
- 3. The derived item rate will remain firm throughout the contract period.**

Annexure – B (Unit Rates for Bill Of Quantity)

PROJECT: TWO UNITS (Unit 4 & 7) OF 4 X 210 MW (R & M) TPS - II, STAGE - II, NLC, NEYVELI, TAMILNADU.

WORK: Erection & Commissioning of New equipment, Dismantling of Old equipment OF R & M of CONTROL & INSTRUMENTATION PACKAGE for Two Units in Two Phases.

* UOM = UNIT OF MEASUREMENT (Nos = Numbers, Mtr = Meters))

Sl. No.	ITEM DESCRIPTION	U O M	Factor	Quantity			Unit Rate	Total Amount	Remarks
				Phase - 3	Phase - 4	Total Quantity			
1	DDCMIS PANELS	Nos.	12.5452	73	85	158			PANELS (Sl. No. 1 - 6) are in single / two / three or Four suite (Dimensions - L X B X H: 750 X 800 X 2200 mm and Approximate weight = 400 kg per Suite). Erection Work includes making necessary opening and insertion on the floor as required and certified by BHEL Engineer, Shifting of panels from stores to Respective Rooms, Erection of panel, packing plate, alignment, tack welding, fixing canopy as per drawing / documents provided by BHEL. Quantity in numbers is single suite, panels consists of single, double, triple & four suites. Panels will be BRIO (26), TRIO (75) and DCS(56) nos.
2	Emergency Backup Panel	Nos.	0.1588	1	1	2			Cubicle Dimensions (L X B X H) 2000 X 1000 X 2200 mm Approximate Weight: 500 kg
3	Generator Metering Panel	Nos.	0.1588	1	1	2			Cubicle Dimensions (L X B X H) 2000 X 1000 X 2200 mm Approximate Weight: 500 kg per Suite
4	Generator Control Panel:	Nos.	0.2382	1	1	2			Cubicle Dimensions (L X B X H) 3000 X 1000 X 2200 mm Approximate Weight: 700 kg
5	Common Auxiliary Control Panel	Nos.	0.1588	--	1	1			Cubicle Dimensions (L X B X H) 4000 X 1000 X 2200 mm Approximate Weight: 900 kg
6	Common Metering Panel	Nos.	0.0794	--	1	1			Cubicle Dimensions (L X B X H) 1600 X 1000 X 2200 mm Approximate Weight: 700 kg
7	HMI (PERSONAL COMPUTER ITEMS)	Set	0.1270	16	16	32			Shifting of materials from stores to place of Erection/ Installation and providing manpower assistance during commissioning. Including Power Up, Software / Driver installation, Communication establishment with Switches etc.
8	PRINTERS	Set	0.0699	11	11	22			Work includes Shifting of Printer from Stores to place of Installation and assistance during Driver Installation/network establishment, etc.

Sl. No.	ITEM DESCRIPTION	U O M	Factor	Quantity			Unit Rate	Total Amount	Remarks
				Phase - 3	Phase - 4	Total Quantity			
9	Large Video Screens (LVS)	Set	0.1588	1	1	2			67" with other related accessories - Man power assistance for shifting of materials from stores to place of Erection identified by BHEL/NLC & also during commissioning.
10	Unit Control Desk	Set	0.4764	1	1	2			UNIT CONTROL DESK & Furniture (Sl. No. 10 - 13) - Shifting of material from stores to the place of installation in Control Room in TG Hall and providing necessary manpower and T&P assistance to BHEL's Vendor during installation/mounting on the floor.
11	Chairs	Nos.	0.0246	16	15	31			
12	Table For Mounting PCs	Nos.	0.0643	9	9	18			
13	Table For Printers	Nos.	0.0270	9	8	17			
14	Pneumatic cylinder actuators for PCD with positioner, position transmitter, mechanical linkage, etc for FD fans	Nos.	0.3970	2	2	4			FIELD INSTRUMENTS (Sl. No. 14 - 27): Work includes Field mounting, Piping/Tubing work, Providing assistance during assembly work, Calibration, Testing and Assistance to BHEL Engineers in Loop checking, Functional testing and commissioning / Troubleshooting of the Field Instrumentation and Sensors included in this specification. The Tenderer shall arrange all tools and tackles, special testing equipment's and consumables required for erection and commissioning activities. Any other special instruments (e.g. portable hand held unit with liquid crystal display) required for commissioning of Instrument shall be provided by the Tenderer. Transmitters shall be positioned as close as possible to the measuring point as instructed by BHEL Site Engineers.
15	Remote Valve position for hot air damper	Nos.	0.2779	7	7	14			
16	Position Transmitter-pneumatic control valves (Linear/ vertical stroke)	Nos.	1.1513	29	29	58			
17	Position Transmitter for Dampers	Nos.	0.6352	16	16	32			
18	Position Transmitter for HP Bypass valves	Nos.	0.1588	4	4	8			
19	Position Transmitter for Gland steam valves	Nos.	0.0794	2	2	4			
20	Position Transmitter for Boiler feed pump Scoop Tube	Nos.	0.1191	3	3	6			
21	Position transmitter for LP Bypass, HP control valves and IP control valves	Nos.	0.2382	6	6	12			
22	Turbine Speed Measurement for EHC, TSI & EBP	Nos.	0.2382	6	6	12			

Sl. No.	ITEM DESCRIPTION	U O M	Factor	Quantity			Unit Rate	Total Amount	Remarks
				Phase - 3	Phase - 4	Total Quantity			
23	Solenoid valve for Turbine trip and its associated piping fabrication	Nos.	0.1985	1	1	2			
24	Fixing hardware for speed probes on turbine MOP shaft	Nos.	0.0397	1	1	2			
25	E/P converters	Nos.	0.0223	3	3	6			
26	Air Filter Regulator	Nos.	0.0119	3	3	6			
27	Solenoid Valves	Nos.	0.0335	9	9	18			
28	TURBO SUPERVISORY SYSTEM	Set	3.9700	1	1	2			Work includes assistance for mounting of sensors as per erection guidelines & Quality plan of BHEL / Vendor and extension cables laying through conduits, JB mounting and laying of signal cables from JB to panel at control room. Bidder to assist with necessary manpower and Tools and Tackles as required by BHEL / Vendor.
29	VIBRATION MONITORING SYSTEM (VMS) FOR FD & ID Fans	Set	0.3176	1	1	2			Work includes Erection of Panel at Common DCS Room (Dim 1600 mm (W) x 800 mm (D) x 2415 mm (H), Approx. weight = 600 Kg and assistance to vendor in Mounting of sensors cable laying through SS conduit from JB to Panel and during Commissioning.
30	Temperature Elements	Nos.	0.2541	16	16	32			The work involves Interconnections to / from thermocouples (K type) to temperature transmitters and shall be made via ext. cables having thermo electric characteristics compatible with thermocouple to which they connect. Compensating cables connected to transmitters shall not be through terminal blocks but shall be directly connected. Proper marking for Polarities for thermocouple ends to be done during ferruling.
31	LIR - Type B - 1450 mm (W) X 650 mm (D) X 1600 mm (H) Weight 670 Kg	Nos.	0.9528	6	6	12			Local Instrument Racks (LIR) (Sl. No. 31 - 32): Installation at various locations / elevations in Boiler/TG as per drawing / instructions of BHEL Engineer. Dimensions in W X D X H. Installation work includes fabrication of base frame using ISMC/ISA and welding on to the boiler structure / anchoring on concrete floor with anchor bolts (Supply of LIR, Angle / Channel only in BHEL Scope).
32	LIR - Type C - 950 mm (W) X 650 mm (D) X 1600 mm (H) Weight 550 Kg	Nos.	1.7468	11	11	22			

Sl. No.	ITEM DESCRIPTION	U O M	Factor	Quantity			Unit Rate	Total Amount	Remarks
				Phase - 3	Phase - 4	Total Quantity			
33	A106 GR C 1/2' NB SCH 160 Pipe	Mtr	0.1906	80	80	160			IMPULSE PIPES (SI. No. 33 - 36): Identification, marking, cleaning, shifting to erection location, Erection, socket welding, Hydraulic testing, leak checking, drying with Air Blowing etc primer & final painting (including supply of paints as per colour code of customer) up to BHEL/Customer Satisfaction. All consumables like welding electrodes, testing materials, tags, etc., needed for the work to be supplied by vendor within the quoted price. Installation of all impulse line fittings including CONDENSATE POTS are considered as part of impulse line work. Welding allowed only by qualified welders accepted by BHEL/Customer and strictly as per approved procedure of BHEL/Customer. Only BHEL / NLC approved welding electrodes to be used. Installation work also includes fabrication of supports using ISMC/ISA and welding (Supply of Impulse Pipe, socket fittings, Angles, Channels only in BHEL Scope).
34	A106 GR C 3/4' NB SCH 80 Pipe	Mtr	0.0298	15	15	30			
35	A106 GR C 1/2" NB SCH 80 Pipe	Mtr	0.5359	270	270	540			
36	G I Pipe of 1 / 2 " NB	Mtr	0.0873	110	110	220			GI PIPES
37	2 PAIR X 1.0 Sq.mm	Mtr	0.3430	1800	1800	3600			INSTRUMENTATION CABLES (SI. No. 37 - 42): All cables are armoured FRLS type
38	4 PAIR X 1.0 Sq.mm	Mtr	0.5336	2900	2900	5800			
39	8 PAIR X 1.0 Sq.mm	Mtr	0.2620	1100	1100	2200			
40	10 PAIR X 1.0 Sq.mm	Mtr	0.5717	1500	2100	3600			
41	12 PAIR X 0.75 Sq. mm	Mtr	11.1557	30000	30000	60000			
42	12 PAIR X 1.0 Sq.mm	Mtr	2.5011	7300	7300	14600			
43	1C X 35 sq.mm	Mtr	0.3335	2100	2100	4200			
44	1C X 70 sq.mm	Mtr	0.5002	2100	2100	4200			
45	1C X 120 sq.mm	Mtr	0.6352	1600	1600	3200			
46	2C X 2.5 sq.mm	Mtr	0.2263	800	1100	1900			
47	2C X 4.0 sq.mm	Mtr	2.2153	8200	10400	18600			
48	2C X 6.0 sq.mm	Mtr	0.7622	3200	3200	6400			
49	3C X 1.5 sq.mm	Mtr	0.8099	3400	3400	6800			
50	3C X 2.5 sq.mm	Mtr	1.4411	4800	7300	12100			
51	4C X 4.0 sq.mm	Mtr	1.6436	5300	8500	13800			
52	5C X 1.5 sq.mm	Mtr	1.2625	6400	6400	12800			

Sl. No.	ITEM DESCRIPTION	U O M	Factor	Quantity			Unit Rate	Total Amount	Remarks
				Phase - 3	Phase - 4	Total Quantity			
53	5C X 2.5 sq.mm	Mtr	2.2986	7900	11400	19300			
54	7C X 1.5 sq.mm	Mtr	1.0243	4300	4300	8600			
55	7C x 2.5 sq.mm	Mtr	0.5240	1300	2000	3300			
56	9C X 2.5 sq.mm	Mtr	0.4168	1400	2100	3500			
57	10C X 1.5 sq.mm	Mtr	1.6198	6100	6100	12200			
58	12C X 2.5 sq.mm	Mtr	0.4605	1100	1800	2900			
59	14C X 1.5 sq.mm	Mtr	0.0715	300	300	600			
60	15C X 2.5 sq.mm	Mtr	0.4605	1100	1800	2900			
61	20C X 1.5 sq.mm	Mtr	0.1906	600	1000	1600			
62	24C X 1.5 sq.mm	Mtr	19.4530	50000	50000	100000			
63	37C X 1.5 sq.mm	Mtr	0.7146	1800	1800	3600			
64	KX - 1 pair	Mtr	0.1667	700	700	1400			Thermo couple extension cable
65	OPTICAL FIBER CABLE	Mtr	1.1910	3000	3000	6000			SIX FIBER GEL-FILLED Multi-tube construction SMOFC: Optic fiber cables have to be laid on Cable trays, Conduits. fiber Optic Cable shall be used to interconnect the RIO / IO rack module with the Control processor and for interconnecting between DCS of other units. All system / Control bus and information bus cables shall be fiber-optic. Work includes laying in Cable tray and conduits with proper dressing, assisting BHEL vendor during interconnection, Testing and Commissioning.
66	UTP CABLE	Mtr	0.2382	2000	2000	4000			UTP CAT 5e / 6e CABLE Laying, dressing using ties and crimping on both ends. RJ45 Connectors & Ties will be provided by BHEL
67	Cable Tray of Size: W X H X T - 50 X 25 X 2.5 mm	Mtr	0.3871	650	650	1300			G. I. PERFORATED CABLE TRAYS (Sl. No. 67 - 74) (Each Tray length is 2.5 m): Installation work includes supports using welding on to structure/ on concrete floor with anchor bolts and Fixing suitable coupler plates with fasteners for Joining more than one Tray. (Supply of Angle / Channel in BHEL Scope and Anchoring fasteners in bidder's scope)
68	Cable Tray of Size: W X H X T - 100 X 25 X 2.5 mm	Mtr	0.8932	900	900	1800			
69	Cable Tray of Size: W X H X T - 150 X 40 X 2.5 mm	Mtr	1.0421	750	750	1500			
70	Cable Tray of Size: W X H X T-300X 50 X 2.5 mm	Mtr	1.7468	1100	1100	2200			

SI. No.	ITEM DESCRIPTION	U O M	Factor	Quantity			Unit Rate	Total Amount	Remarks
				Phase - 3	Phase - 4	Total Quantity			
71	Cable Tray of Size: W X H X T - 600 X 100 X 3.0 mm	Mtr	2.6202	1100	1100	2200			
72	Cable Tray of Size: W X H X T - 750 X 100 X 3.0 mm	Mtr	0.2779	100	100	200			
73	Cable Tray cover of Size: W X H X T - 50 X 25 X 2.5 mm	Mtr	0.2977	500	500	1000			
74	Cable Tray cover of Size: W X H X T - 100 X 25 X 2.5 mm	Mtr	0.4962	500	500	1000			
75	G.I Rigid Conduit 1" (25 mm)	Mtr	0.1191	300	300	600			G I CONDUITS (SI. No. 75 – 77): Installation in trenches, cable trays, along the walls , dressing using saddles, Ties, tag plates etc .Fittings like bends ,inspection bends etc will be supplied by BHEL. All consumables like saddles, mounting hardware, jumpers etc. for conduit / flexible to be arranged by contractor within the quoted rates.
76	G. I Flexible Conduit 1" (25 mm)	Mtr	0.0794	200	200	400			
77	G.I Rigid Conduit 4" (100 mm)	Mtr	0.2382	150	150	300			
78	400 mm (H) X 450 mm (W) X 350 mm (D) 24 WAY	Nos.	0.1906	20	20	40			GROUP JUNCTION BOXES (SI. No. 78 - 82) (Di cast Aluminum): Installation work includes fabrication of mounting frame using ISMC/ISA and welding on to structure / on concrete floor with fasteners, (Supply of Angle/Channel in BHEL Scope and Anchoring fasteners in bidder's scope)
79	400 mm (H) X 450 mm (W) X 350 mm (D) 48 WAY	Nos.	0.1906	16	16	32			
80	650 mm (H) X 450 mm (W) X 360 mm (D) 96 WAY	Nos.	0.3811	16	16	32			
81	650 mm (H) X 450 mm (W) X 360 mm (D) 128 WAY	Nos.	0.6987	22	22	44			
82	Marshalling Box in Cable Gallery for Cabinets 2000 mm (H) x 2000 mm (W) x 800 mm (D)	Nos.	0.5558	14	14	28			
83	12 WAY	Nos.	0.0238	3	3	6			JUNCTION BOXES (SI. No. 83 - 86) OF SIZE 375 mm (H) X 400 mm (W) X 350 mm (D) for Temperature Transmitters (Di cast Aluminum): Installation work includes fabrication of mounting frame using ISMC/ISA and welding on LIR with fasteners (Supply of Angle/Channel in BHEL Scope and Anchoring fasteners in bidder's scope)
84	24 WAY	Nos.	0.0357	3	3	6			
85	36 WAY	Nos.	0.1429	9	9	18			
86	48 WAY	Nos.	0.0397	2	2	4			

Sl. No.	ITEM DESCRIPTION	U O M	Factor	Quantity			Unit Rate	Total Amount	Remarks
				Phase - 3	Phase - 4	Total Quantity			
87	SMART Pressure Transmitters, 2 Wire	Nos.	0.2826	22	22	44			TRANSMITTERS (Sl. No. 87 - 89): Wherever standalone transmitters mounting is envisaged, fabrication of support in bidder's scope and required structural steel will be supplied by BHEL.
88	SMART Level Transmitters, DP Type 2 Wire	Nos.	0.2028	12	12	24			
89	Temperature transmitters, SMART 2 Wire	Nos.	1.1177	87	87	174			
90	DISMANTLING WORK	Lot	6.3520	1	1	2			Dismantling of approximately 100 number of various size panels and Associated Cables, Cable Trays, Field Instrumentations, TSI sensors, PCD actuators, Position Transmitters, Temperature sensors, Speed sensors. The removed cables shall be Measured, Rolled and Tagged. After dismantling, these all materials are to be shifted to the BHEL/NLC designated area, which is around 2 km from each unit, with in TPS - II premises. (Sl. No. 90 - 92)
91	Removing Cable Termination from old panels	Lot	0.7940	1	1	2			
92	Re-termination of Cables	Lot	0.7940	1	1	2			
Total Amount in Rs.						A			
Service tax @ 14.00 % on Total Amount in Rs.						B			
SBC @ 0.5 % on Total Amount in Rs.						C			
Contract Value (Total Amount + Service Tax with SBC) in Rs.						A + B + C			

NOTE:

Unit Rate for each item will be calculated as below:

$$\frac{A \times \text{Factor given against each item}}{\text{Total Quantity of each item} \times 100}$$

1. The specification in respect of all items received from BHEL Stores / Customer's Stores / Open store sheds / storage yard. Approx. quantity to be handled is indicated above.
2. Quantity is indicative only. Rate shall be valid for any upward or downward revision in quantity without any limit.
3. Electricians, Fitters, Instrument Technicians, Helpers are to be provided throughout the Contract Period for assisting BHEL Engineers in Commissioning Activities (in addition to the Electricians employed for regular work) within the Contract Price.