



ಭಾರತ್ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್  
भारत हेवी इलेक्ट्रिकल्स लिमिटेड  
**Bharat Heavy Electricals Limited**

(A Government of India Undertaking)  
ELECTRONICS DIVISION

P.B. No 2606, Mysore Road, Bangalore - 560 026  
An ISO 9001, ISO 14001, OHSAS 18001 & ISO/IEC 27001-2005 Company

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Mob: 9845605037

EDN:PVE:NTPC-U:01

DATED 05.04.13

To:

**Sub: Tender enquiry for Topographical Survey, Soil testing & investigation**

**Ref : RFQ No. EDN:PVE:NTPC-U:01 DATED 05.04.13 DUE 19.04.2013 1300 HRS**

Dear Sir,

BHEL is executing a 10 MW PV power plant for NTPC in Unchahar, Rae Bareli Dist, U.P. The work involves construction of civil foundations for mounting Solar PV modules on support structures and construction of control room building and HT Yard for power evacuation to grid. Before commencing these works it is essential to carry out soil test as per the schedule / specification enclosed.

**Address of site : 3 KMs from Unchahar town, Rae Bareli Dist, U.P., 35 KMs from Rae Bareli. In the proximity of NTPC thermal power station.**

The site for 10 MW as cited above will be available to commence Survey/Testing works immediately.

1. You are requested to submit your techno commercial offer in a sealed cover on or before 19.04.2013. The offer shall be submitted in two parts, each in a separate Sealed Cover;
  - Part 1 : containing Earnest Money Deposit (EMD) and the unpriced techno-commercial offer with details required as below
  - Part 2 : containing the Price bid with tax details.

The Offers in sealed envelope containing the above covers shall be superscribed with words **"OFFER AGAINST RFQ:EDN:PVE:NTPC-U:01 DATED 05.04.13 DUE ON 19.04.2013 AT 1300 HOURS"** and shall reach the undersigned before the due date and time:

**DGM (PV SYS.ENGINEERING), SC&PV Dept., NEB 5<sup>th</sup> Floor, BHEL, Electronics Division (EDN), Mysore road, BANGALORE -560 026. KARNATAKA.**

**Tenders shall be opened on the same day at 1400 hrs.** Bidders desiring to be present for the opening shall depute their representatives with due letter of authorization presented well in advance. Part-2 (Financial) bid of Technically and Commercially acceptable quotes shall be opened subsequently as per date which shall be notified to such bidders.



## 2. Eligibility Criteria for qualification of bidder:

The bidder shall be a registered vendor of either NTPC or BHEL. Bidder shall provide the proof of the same in part-1 of the bid.

3. **EMD** : EMD of Rs.20,000/- (Rs. Twenty thousand only) shall be submitted in the form of Demand Draft payable to BHEL, Bangalore. EMD of unsuccessful bidders shall be refunded normally within fifteen days of acceptance of award of work by the successful tenderer.

EMD by the Tenderer will be forfeited as per if:

i) After opening the tender, the tenderer revokes his tender within the validity period or increases his earlier quoted rates.

ii) The tenderer does not commence the work within the period as per LOI /Contract.

## 4. Security Deposit(SD):

SD shall be collected from the successful tenderer and the amount shall be equivalent to 10% of the Contract value. EMD of the successful tenderer shall be converted and adjusted against the amount to be collected as SD. Balance amount to make up the SD shall be recovered from the bill of the bidder. The SD shall be refunded after a period of 3 months after completion of the works (submission and acceptance of the Final report).

## 5. The Techno-commercial offer shall contain following details:

- a) Technical compliance to the Scope of work listed in the schedule of this RFQ
- b) Work completion schedule – the Work is required to be completed and report submitted in 5 to 6 weeks' time from placement of LOI/Work order. Vendor shall submit the schedule in his offer covering time line from mobilization at site to Report submission as per this RFQ duration.

**Offers which are i) not containing EMD, ii) not covering all BOQ items and iii) not adhering to time line of submission of draft report in 5 weeks shall be rejected.**

- c) General Information of the vendor viz. Registered office address, Contact details and Personnel, years of operation, email id, PAN no., TIN no., VAT and CST registration nos., etc. are mandatory.
- d) Vendor's details with respect to Laboratory & Machinery facilities
- e) Information regarding similar works completed (List & two recent Work order copies)
- f) Vendor's Commercial offer shall comply with regard to payment terms and details to be furnished with respect to Tax registration, work duration period.
- g) The offer shall be valid for 60 days.
- h) Vendor shall make his own arrangements for the transport of personnel and equipment to the site and for the stay and boarding facilities of their team at site during the course of work.
- i) Vendor shall ensure safety of the operating team and personnel at site during the execution of work. To this extent vendor shall furnish certificate to BHEL as per enclosed format.
- j) If required, vendor shall arrange for multiple soil drilling machines to complete the work at earliest.

In case of any need for clarifications, queries if any may be sent by email or by mail to the above address well in time. Request for extension in tender due date shall not be considered.



**6. Payment terms:**

- 1) 100% payment within 45 days after the submission of all the reports.
- 2) Completion of works & submission of report – draft report within 4 weeks from the date of placement of work order and final report within 6 weeks from the date of placement of work order.
- 3) No advance will be paid
- 4) Details of payee shall be furnished for effecting payment through EFT (format attached)

**7. Penalty:**

Penalty at the rate of 2% per week subjected to a maximum of 10% of the work order value will be levied for every week of delay for submission of draft report.

Thanking You,

Yours faithfully,

For BHEL – Electronics Division

M.SREENATH  
DGM (PVSE - SC&PV)



**Electronic Funds Transfer (EFT) OR  
Paylink Direct Credit Form**

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

TYPE OF REQUEST(Tick one): \_\_\_\_\_ CREATE \_\_\_\_\_ CHANGE

|                                |                      |
|--------------------------------|----------------------|
| BHEL Vendor / Supplier Code:   | <input type="text"/> |
| Company Name :                 | <input type="text"/> |
| Permanent Account Number(PAN): | <input type="text"/> |
| Address                        | <input type="text"/> |
|                                | <input type="text"/> |

|             |                              |                            |
|-------------|------------------------------|----------------------------|
| City: _____ | PINCODE <input type="text"/> | STATE <input type="text"/> |
|-------------|------------------------------|----------------------------|

|                   |                      |
|-------------------|----------------------|
| Contact Person(s) | <input type="text"/> |
| Telephone No:     | <input type="text"/> |
| Fax No:           | <input type="text"/> |
| e-mail id:        | <input type="text"/> |

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

- 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 authorise 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:

Authorised Signatory:

Designation:

Telephone NO. with STD Code

Company Seal

**Bank Certificate**

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

Date:

(.....)

Place:

Signature

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

Bharath Heavy Electricals Ltd,

Attn:

Electronics Division, Mysore Road,

BANGALORE - 560 026

In case of any Query, please call : 080-26998xxx / 2674xxxx or fax no. 080-2674xxxx



BHEL EDN RFQ REFERENCE : EDN:PVE:NTPC:U:01 DATED  
05.04.13 DUE ON 19.04.2013

# PRICE BID

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GEO- TECHNICAL INVESTIGATION AT SITES NEAR  
NTPC THERMAL POWER STATION UNCHAHAR,  
DISTRICT RAE BARELI, U.P FOR ESTABLISHING 10  
MW SOLAR PV GRID CONNECTED POWER PLANT

NAME OF BIDDER :

(AFFIX SEAL & SIGNATURE ON ALL 4 PAGES OF PRICE BID)

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| SL. No. | ITEM DESCRIPTION   | UNIT  | QTY. | RATE IN RS | AMOUNT IN RS |
|---------|--|---|------|------------|--------------|
| 1       | Topographical survey shall have to be done of the proposed site at suitable interval ( <b>10 M X 10 M GRID</b> ) by Total station equipment. All necessary levels as entered in the Field Book have to be submitted along with pre contour layout of the total site. Based on the above survey work a general layout drawing with clear demarcation showing boundary pillars, location of control room, array yard, approach road and general drainage etc. has to be prepared. Two sets of drawings and survey reports along with all relevant documents to be submitted in hard copy. Soft copy of the drawings in ACAD Version 10 (atleast) , survey details also shall be made available in CDs. | Lumpsum (LS)<br>Approximate total area 45 acres | 1    |            |              |
| 2       | Mobilisation of necessary <b>equipments</b> , men and materials to the project site for carrying out the geotechnical investigation and demobilisation of the same after completion of all the field works etc.  | LS  | 1    |            |              |
| 3(a)    | Locating and making 150mm nominal diameter <b>bore hole</b> at various locations upto a maximum depth of 10m below ground level in <b>all types of soil</b> including laterite using suitable approved method of boring including chiselling, cleaning, providing casing pipes as required or as directed; performing standard penetration test at every 1.5m interval down to 10m depth below ground level and at change of strata and at depths wherever undisturbed soil samples could not be collected; Bore hole locations shall be identified and shown by BHEL prior to commencement  | Each(Bore of 10 metres depth)                   | 16   |            |              |

|      |  |                               |    |  |  |
|------|--|-------------------------------|----|--|--|
| 3(b) | Performing standard penetration test at every 1.5m interval down to 10m depth below ground level and at change of strata and at depths wherever undisturbed soil samples could not be collected; and back filling of boreholes with sand on completion of the same etc all complete as per specification | Each(Bore of 10 metres depth) | 40 |  |  |
| 3(c) | Core drilling (Nx size) in rock up to a maximum of 10 m depth below ground level using hydraulic feed rotary drill and double tube core barrel with diamond bit including collection of core samples,  | Each(If Required only)        | 4  |  |  |
| 3(d) | Performing SPT at locations where core recovery is less than 20%, maintaining continuous record of core recovery and RQD, keeping the cores in wooden core boxes, transporting the cores to laboratory. Locations shall be identified and shown by BHEL prior to commencement                            | Each( If Required only)       | 4  |  |  |
| 4(a) | Collection of undisturbed samples from bore holes as required  | Each                          | 40 |  |  |
| 4(b) | Collection of disturbed samples from bore holes as required  | Each                          | 80 |  |  |
| 5    | Conducting <b>electrical resistivity test (ERT)</b> at various locations complete as per specification, drawings and as directed by the engineer-in-charge.  | Each                          | 12 |  |  |
| 6    | Conducting <b>Laboratory Test on soil samples</b> at an approved laboratory including preparation of soil samples to determine the following properties etc all complete as per specification.   |                               |    |  |  |
| a    | Atterberg Limits   | Each                          | 40 |  |  |
| b    | Dry and Bulk density   | Each                          | 40 |  |  |
| c    | Moisture content   |                               | 40 |  |  |
| d    | Sieve analysis   | Each                          | 40 |  |  |
| e    | Specific Gravity and Voids Ratio   |                               | 40 |  |  |
| f    | Chemical analysis - Soil and water   | Each                          | 40 |  |  |
| g    | Direct shear test  |                               | 40 |  |  |

|    |  |      |    |  |  |
|----|--|------|----|--|--|
| h  | CBR Test   |      | 40 |  |  |
| i  | Shrinkage limit test   | Each | 40 |  |  |
| j  | Swell pressure test  | Each | 40 |  |  |
| k  | Unconfined compressive strength  | Each | 40 |  |  |
| 7  | Conducting <b>Laboratory Test on rock samples (If Rock encountered)</b> including preparation of the samples to determine the following properties etc all complete as per specification.  |      | 40 |  |  |
| a  | Determination of RQD   | Each | 40 |  |  |
| b  | UCC Test   | Each | 40 |  |  |
| c  | Specific Gravity Test  | Each | 40 |  |  |
| d  | Water Absorption test  | Each | 40 |  |  |
| 8  | Preparation and submission of draft report in 2 copies and final report in 5 hard copies and 2 soft copies on CDs after the approval of draft report including all field records, laboratory test results, graphs, analysis of test results and recommendation regarding type of foundation etc all complete as per specification. | LS   | 1  |  |  |
| 9  | Chemical analysis of water as per IS:456. Scope to cover Organic, Inorganic, Sulphates, Chlorides PH value, Suspended matter, Acids, Alkalis etc. (To be done for 2 samples in the area as decided with BHEL site engineer)  | LS   | 1  |  |  |
| 10 | Chemical analysis of Soil as per relevant standard. Scope to cover content of Sulphates, Chlorides, PH value (To be done for 2 samples in the area as decided with BHEL site engineer)   | LS   | 1  |  |  |
|    | <b>Total</b>   |      |    |  |  |
|    | <b>Taxes on the above</b>  |      |    |  |  |
|    | <b>NET TOTAL</b>   |      |    |  |  |

**Total In words:**

NOTE: Quantities shown are approximate and may vary slightly as per site requirements during course of investigation based on findings and accordingly the work value will vary pro-rata.



Declaration on Vendors Letter head

**Subject: Certification of Work safety by Testing Agency during Topographical Survey and Soil Investigation work for Solar Power Plant at NTPC Unchahar site**

This is to certify that, during the execution of the work of Topographical Survey and Soil testing at 10 MW Solar Power Plant sites at NTPC Thermal Power Station Unchahar, undertaken by us, we shall be solely responsible for the Safety and health of our team consisting of site engineers, technicians and labour working at the site. Required statutory provisions governing Workmen safety and protection and accident compensation shall be our sole responsibility and entirely covered by us during the course of mobilization and execution of works.

For and on behalf of

M/s