

**Bharat Heavy Electricals Ltd**  
Electronics Division  
Mysore Road, Bangalore – 560 026

Tender document for  
**Consultancy for Shadow Analysis of 65 MW Solar Photovoltaic Power Plant at  
Neyveli, Tamil Nadu.**

**Due date & time for tender document submission: 11-July-2016 before 13.00 hours**

**This tender document contains following documents**

- (a) Cover page(this page) -1 Sheet
- (b) **Annexure-I:**  
Technical-cum-commercial-bid (part-I) - Two sheets
- (c) **Annexure-II:**  
Notice Inviting Tender-One Sheet
- (d) **Annexure-III:** Six Sheets  
Information to Tenderer including General conditions of contract and Special conditions of contract .
- (e) **Annexure -IV:** Price-bid (part B)-1 sheet
- (f) **Annexure -V** BHEL specification PS-439-1042 Rev 00 (1 sheet)
- (g) **EFT Authorization Format** – 1 sheet

**Instructions for Tender Submission:**

1. Technical-cum-commercial-bid (part-I) to be submitted in a separate sealed cover.
2. Price-bid (part B) to be submitted in a separate sealed cover.
3. Part A & Part B sealed covers should be put in outer envelope and super scribing the Name of work and Name & Address of the Consultant and the Tender Name and Number.

**Note:**

The tender document shall be addressed to Manager (SC&PV-Engineering), NEB 5<sup>th</sup> floor, BHEL, Electronics Division, Mysore Road, Bangalore 560 026.

  
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PUNAM MISHRA, MANAGER/SC&PV-RPD  
BHEL-EDN, MYSORE ROAD, BANGALORE - 560 026



**Annexure-I**

**Bharat Heavy Electricals Limited, Electronics Division, Mysore Road,  
Bangalore 560026**

DEPARTMENT: SC & PV

SECTION: PV SYSTEM ENGINEERING

**Tender Enquiry No: EDN: SCPV: NLC-: Consultancy-02, 1-July-2016**

**TECHNICAL-CUM-COMMERCIAL BID**

**01. NAME OF THE WORK**

Consultancy for carrying out shadow analysis for 65 MW Solar Photovoltaic Power Plant at Neyveli, Tamil Nadui as defined in BHEL specification PS-439-1042.

**02. STIPULATED PERIOD:**

Work shall commence immediately after receipt of work order.

- (i) 7 days from the date of issue of initial array layout (including buildings and transmission line network) and subsequently 4 days from the issue of revised array layout.

**03. PAYMENT TERMS**

- (1) No advance payment
- (2) Upon successful completion of work as certified by BHEL Engineer.  
Payment shall be made through NEFT to Bank account registered against vendor at BHEL as per EFT Authorization format attached.

04. NAME OF CONTRACTOR : .....

05. OFFICE ADDRESS : .....

Telephone No : .....

Cell No : .....

Email address : .....

  
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- 06. QUALIFICATION : .....
- 07. STAFF STRENGTH
  - (A) TECHNICAL : .....
  - (B) GENERAL : .....
- 08. NAME OF LICENSED SOFTWARE BEING EMPLOYED FOR SHADOW ANALYSIS : .....
- 09.
  - A) SCOPE OF WORK (as per schedule of works) : UNDERSTOOD / NOT UNDERSTOOD
  - B) ACCEPT TO EXECUTE IN TOTAL : YES / NO
  - C) ACCEPTANCE OF BHEL SPECIFICATIONS PS-439-1042 : YES / NO
- 10. EXPERIENCE CERTIFICATE FOR HAVING SUCCESSFULLY COMPLETED SIMILAR CONSULTANCY WORKS (Supporting documents to be enclosed) : YES / NO
- 11. EMD PARTICULARS : NOT APPLICABLE
- 12. SECURITY DEPOSIT : NOT APPLICABLE
- 13.
  - A) WHETHER REGISTERED WITH GOVT. AGENCIES SUCH AS CPWD/ STATE PWD/MES/RAILWAY/ OTHER PUBLIC SECTOR UNDERTAKING ETC : .....
  - B) VALIDITY OF REGISTRATION : .....
- 14. BHEL PAYMENT TERMS : ACCEPTABLE / NOT ACCEPTABLE
- 15. DETAILS OF PAN, TIN REGISTRATION ENCLOSED : YES / NO

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## Annexure-II (1 sheet)

Phone: 080- 26998991

**Bharat Heavy Electricals Limited, Electronics Division  
Mysore Road, Bangalore - 560026.**

### NOTICE INVITING TENDERS

1. TENDER REFERENCE NO : **EDN: SCPV:NLC-Consultancy-02**  
dated 1-July-2016
2. NAME OF THE WORK : **Consultancy for carrying out shadow  
Analysis for 65 MW Solar Photovoltaic  
Power Plant at Neyveli, Tamil Nadu.**
3. APPROXIMATE COST  
(Excluding service tax) : Rs 59,000/- only.
4. PRICE VARIATION CLAUSE : **Price variation clause is NOT applicable.**
5. EARNEST MONEY DEPOSIT : Not applicable.
6. SECURITY DEPOSIT (SD) : Not applicable
7. LAST DATE AND TIME FOR THE SUBMISSION OF DULY FILLED IN TENDER DOCUMENT : **BEFORE 13.00 hours on 11<sup>th</sup> July 2016**
8. PLACE OF SUBMISSION OF TENDER DOCUMENT & PLACE : **TO BE ADDRESSED TO  
Manager (SC&PV-Engineering),  
NEB, 5<sup>th</sup> Floor, BHEL,  
Electronics Division, Mysore Road,  
Bangalore 560 026**
9. DATE AND TIME FOR TECHNICAL: **13.30 hours on 11<sup>th</sup> July 2016**  
BID OPENING

**NOTE: Tenderer shall return the filled-in Tender document after affixing signature on all pages.**

  
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**Annexure-III (5 sheets)**

**Bharat Heavy Electricals Limited**  
**(ELECTRONICS DIVISION)**  
**MYSORE ROAD, BANGALORE - 560 026**

**INSTRUCTIONS TO TENDERER**

1. Sealed Tender for the above noted work is hereby invited from Architects experienced in works of similar kind and magnitude.
2. Tenders should be addressed to the Manager/SC&PV ENGG. Electronics Division, Bharat Heavy Electricals Limited, Mysore road, Bangalore – 560 026, super scribing the Name of Work and Name and Address of the Tenderer.
  - 2.1 The local address of the Contractors, the name of the person to whom all the correspondence are to be addressed should be indicated, with telephone number (both office and residence).
3. All entries in tender documents should be in one ink. Eraser and over writing are not permitted. All cancellation and insertion should be duly signed by tenderer concerned with proper indication of the name designation and address of the person signing.
4. Tenderers shall fill in all the required particular in the blank space provided for this purpose in the tender documents and also sign in each and every page of the tender document including the drawings attached there to before submitting tender.
5. Unit rate should be quoted in figures as well as in words in Indian Currency only i.e. Rupees and Paise with reference to each item and for the items shown in the attached schedule. The rate shall include all taxes and duties payable an account of Octroi, Sales Tax, tax on work contract etc., and also expenses towards all statutory formalities (see clauses 8, 39 and Annexure ‘C’). Amount of each item and total on each sheet as also the grand total amount of the whole contract shall be filled by the tenderers.

  
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6. In case the rate quoted in figures differs from those quoted in words, the rate quoted in words will be taken as the tendered rate and shall be binding on the tenderer.
7. In quoting rates, the tenderer are advised to take into account all factors including any fluctuations in market rates. No claim for enhanced rates will be entertained on this account after acceptance of the tender or during the currency of the contract.
8. The rate to be quoted by the tenderer shall be firm and shall cover and include all statutory levies such as “Service tax etc., arising from Act passed by Parliament or State Legislature and rules framed there –under. The rates shall further be deemed to include statutory levies arising from such Acts, Central or State, which may come into force, subsequent to submission of tenders. The tenderer shall note that no claim for enhancement rates, on the ground that existing statutory levies have been increased, or that new statutory levies have come into effect after tender, or on any other ground, will be entertained on any account.
- 9(a) The rate quoted in the tender shall remain valid for a period of ONE MONTH from the date of opening tender.  
(b) Tenderer shall not increase their quoted rates, once the tenderer has submitted his quotation and during execution of contract in case his tender is accepted.
- 10 Quantities shown in the schedule are only approximate and are liable to variation without entitling the Contractors to any compensation, provided the total value of the contract does not vary by more than 20% (Twenty percent).
- 11 The details of the site are as below:  
**65 MW solar power plant at Neyveli, Tamil Nadu.**
12. Should a tenderer find discrepancies or omission in the drawing attached to the tender documents or should be in doubt as to their meaning he should at once address to the authority inviting the tender for clarifications.  
Every endeavor is made to avoid any error which can materially affect the basis of the tender but successful tenderer shall take upon himself to provide for the risk of any error which may be subsequently discovered and shall make no subsequent claim on account thereof.
13. The tender being submitted by a firm the tender must be signed separately and legibly by each partner or member of the firm or in their absence, by the person holding the power of Attorney on behalf of firm concerned. In the later case, a copy of the power of Attorney duly attested by the Gazetted Officer must accompany the tender.
14. If in any case, the date of Tender Opening falls on holiday, the Tender will be opened on the next working day.

  
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15. If after opening of tenders a tenderer revokes his tender or increase his earlier quoted rates or after acceptance of his tender does not commence the work in accordance with the instruction of Engineer –in-charge, the work order shall be cancelled forfeited will be based on value of the contract so awarded.
16. BHARAT HEAVY ELECTRICALS LIMITED reserve the right to reject any or all the tenders received or accept any tender or part thereof without assigning reason thereof. In the case of acceptance of a part of tender, the time for completion may also be reduced to the extent considered approximately by the accepting authority.
17. Conditional and Unsigned tenders, tender containing absurd rates and amounts, tenderer which are incomplete or otherwise considered defective, tenders which are not in accordance with the tender conditions laid down by the accepting officer and tenders not submitted in the prescribed forms are liable to be rejected.
18. The Contractors not borne on the approved list of Contractors of this organization must submit the following testimonials simultaneously with their tender super scribed. These testimonials shall be signed by the person(s) issuing the same indicating their name designation and full address.
19. Tenders received after the due date of opening tenders are liable to be rejected.
20. The Contractors responsibility under this contract shall commence from date of receipt of the order or acceptance of tender.
21. If tenderer expires after the submission of the tender or acceptance of his tender, the BHEL, may at their discretion cancel such tender.  
If a partner of a firm expires after the submission the tender, after the acceptance of tender, BHEL, may cancel such tenders at their discretion unless the firm retains its character/s.
22. BHARAT HEAVY ELECTRICALS LIMITED will not be bound by any power of Attorney granted by the tenderer or changes in the composition firm made subsequent to execution of contract. They may however recognize such power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor concerned.
23. If the tenderer deliberately gives wrong information on his tender, the BHEL reserves the right to reject such tender at any stage.
24. The General and Special Conditions are complementary to each other and where they are in conflict, the special condition shall prevail.



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25. Should a tenderer or a contractor on the list of approved contractors has a relative or in the case of firm or Company of Contractors any of its share holders relative is employed in a Gazetted Capacity in the Electronics Division of Bharat Heavy Electricals Limited, Banalore-26, the authority inviting tenders shall be informed of this fact at the time of submission of the tender, failing which tender may be disqualified or if such fact subsequently come to light, the relevant provisions of the General Conditions of Contract will apply.
  
26. They should be well versed with BHEL General conditions of Contract instruction to the tenderers, drawing and specification and all other documents which form part of the agreement to be entered into subsequent award of work.

CONTRACTOR

  
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## FORM OF TENDER

Having examined the invitation to bid, Instructions to Bidder, General conditions of contract, special conditions, specifications tender schedule, contract drawings and other documents for the above work, we the undersigned, offer to construct, erect complete and maintain the whole of the said in conformity with the said bid documents on the terms and conditions and under the provisions set out or called for in the contract documents at the rates listed in the schedule of unit prices or else wherein the contract documents.

We undertake if our bid is accepted, to commence the works from the date of issue of award and to complete and delivery the whole of the works comprised in the contract as per the time schedule agreed to the contract document.

We agree to abide by this bid for the period of one month from the date of opening of the tender and it shall remain binding upon us and may be accepted at any time before expiry of the period.

Until and unless a formal agreement is prepared and executed this bid, together with your award thereof shall constitute a binding contract between us.

  
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EDN:SCPV:NLC:Consultancy-02 dated 1-July-2016

**Annexure- III ( Price Bid of Schedule of Works)**

Stage	Works	Qty	Unit rate (Rs)	Total amount (Rs)
Stage-1	<p>The Consultant shall carry out the following using proven and established software as per item no. 2 of PS-439-1034:</p> <p>(i) Shadow Analysis of the entire plant (including arrays, transmission towers, buildings, etc.). BHEL will include the transmission towers, Inverter room buildings, etc., to prepare the shadow analysis.</p> <p>(ii) Shadow analysis and submission of calculations for spacing</p> <p>(iii) Calculation of energy output / exported</p> <p>(iv) Optimisation of solar array layout based on the above.</p>	1 lot		
	<p><b>A) Total Amount in Rs.</b></p> <p><b>B) Taxes, Cess Applicable in Rs.</b></p> <p><b>C) Total amount in words (inclusive of all taxes) ( A + B)</b></p>			

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Annexure-V (1 sheets)

	<b>Specification for Consultancy for preparation of Solar array layout drawing and shadow analysis at 65 MW Solar Photovoltaic Power Plant at Neyveli, Tamil Nadu.</b>	PS-439 -1042
		REV NO: 00
		PAGE : 1 OF 1

Bharat Heavy Electricals Limited (BHEL), Electronics Division, Bangalore is setting up a 65 MW Grid-connected SPV Power Plant at NLC Neyveli.

**1.0 Pre-Qualification Criterion:**

The Consultant should have executed similar works for SPV plant of minimum 500 KW.

**2.0 Vendor Scope of Work:**

#	Consultancy works and specification
1	<p><b>SOLAR ARRAY RELATED DESIGNS:</b></p> <p>Shadow Analysis of the entire plant (including arrays, transmission towers, buildings, etc.). BHEL will include the transmission towers, Inverter room buildings, etc., to prepare the shadow analysis. The Consultant shall carry out the following using proven and established software:</p> <p>Review of the solar array layout furnished by BHEL</p> <p>Shadow analysis and submission of calculations for spacing</p> <p>Calculation of energy output / exported</p> <p>Optimisation of solar array layout based on the above.</p>

Revision details :R 0	Prepared NY	Approved PM	Date 30-June 2016
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PV SYSTEM ENGG

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**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  STATE

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"/>
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 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