

# BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

High Pressure Boiler Plant, Tiruchirappalli 620 014, India

(WORKS CONTRACTS MANAGEMENT )

☎: (0431) 2575916/2575242 Fax: (0431) 2576805

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## **NOTICE INVITING TENDER**

01.	Name of work	<b>OPERATION AND MAINTENANCE OF 110 / 11 KV SUB STATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)</b>
02.	Area of Work	110 / 10 KV Sub Station at BHEL – Trichy.
03.	Enquiry Number	9251500035, Dt:29.08.2015, Due:25.09.2015
04.	Earnest Money	₹ 1,50,000.00
05.	Completion Time (Period of Contract)	24 Months (From the date of issue of work order)
06.	Last date for submission of offer	10.00 Hrs on 25.09.2015
07.	Techno Commercial Offer opening date:	10.30 Hrs on 25.09.2015
08.	Price Bid Opening date	Shall be intimated separately to Technically qualified bidders.
09.	Tender Document details	A] Techno Commercial Bid  Part-1 (Techno Commercial bid-Qualifying Criteria) - 01 Page. Part-1A( General Instructions to tenderer ) - 02 pages Part-1B( General Terms & Conditions ) - 02 pages Part-1C( Special Terms & Conditions ) - 03 pages Part-1D( Scope of Work , Testing facility & tools and Manpower ) - 07 pages  B] Price Bid  Part-2 (Price bid) - 01 Pages.
10.	Tender to be Addressed to	<b>DGM, WORKS CONTRACTS MANAGEMENT, 53 BUILDING, I st FLOOR, HIGH PRESSURE BOILER PLANT BHARAT HEAVY ELECTRICALS LIMITED, TIRUCHIRAPPALLI - 620014, TAMILNADU,INDIA</b>

The Tender documents can be down loaded from BHEL website/ Govt. website.

([www.bhel.com](http://www.bhel.com) / [www.tenders.gov.in](http://www.tenders.gov.in) )

Tender for above mentioned work should be submitted in a sealed cover consisting of **three** inner sealed covers. First cover shall contain EMD, second cover shall contain Part-1: Technical cum commercial offer and third cover shall contain Part-2: Price bid. All superscripting the name of work, enquiry number and enquiry due date.

- 1) EMD cover shall contain requisite EMD in the form of Demand Draft drawn in favor of 'BHEL, Tiruchirappalli. **EMD in any other form will not be accepted.** Tenderers who had already remitted one time EMD should furnish the details of cash receipt No./ date, on the top of EMD cover. Tender without EMD / one time EMD reference will be summarily rejected and Tech. cum commercial offer & price bid shall not be considered.
- 2) Tech. cum commercial offer cover shall contain all documents duly filled and signed by the tenderer in all the pages with documentary evidences for qualifying criteria such as experience, value of work executed in the similar nature of work etc. Any bid without proper documentary evidence for qualifying criteria shall not be considered for further evaluation.
- 3) The price bid cover shall contain price bid document duly filled in and signed by the tenderer in all the pages. The tenderer has to quote most competitive rates for all the items given in the Bill of Quantities in price bid.

The completed qualification bid and price bid along with requisite **EMD of ₹1, 50,000/-** for this work shall reach the office of the undersigned on or before **25-09-2015 at 10.00 Hrs.**

The Technical cum commercial offer will be opened on the same day at 10.30 hrs. In case of opening day falls on holiday or happened to be declared as a holiday the receipt and opening of the tender shall automatically fall on the same timing of the next working day. Date and time of opening of the Price Bid shall be intimated only to those bidders whose Tech cum commercial offer is accepted. You / Your authorized representative may participate in the tender opening.

Clarification if any, can be obtained from the undersigned.

Thanking you,

Yours faithfully,  
For Bharat Heavy Electricals Limited,

Sr. Engineer / WCM  
BHEL-Trichy

Encl:

- 1) Part-1: Techno commercial Bid.
- 2) Part-2: Price bid.

PART-I ( TECHNO COMMERCIAL BID)				
ENQUIRY NO / DATE: 9251500035,Dt:29.08.2015			ENQUIRY DUE DATE:25.09.2015	
NAME OF WORK: OPERATION & MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)				
NAME OF THE COMPANY / FIRM:				
QUALIFYING CRITERIA				
1	SEPARATE REGISTRATION FOR EPF, ESI, SERVICE TAX and PAN.	EPF REG. NO.		
		ESI REG. NO.		
		ST REG. NO.		
		PAN NO.		
2	VALID ESA GRADE CONTRACTOR LICENSE ISSUED BY ELECTRICAL LICENCING BOARD	LICENSE GRADE	LICENSE NO	VALIDITY
3	INCOME TAX RETURN STATEMENT FOR LAST THREE FINANCIAL YEARS. (2012-13,2013-14,2014-15)	STATUS	2012-13	2013-14
		YES/NO		
4	AVERAGE ANNUAL TURNOVER DURING THE LAST THREE FINANCIAL YEARS (2012-13,2013-14,2014-15)	₹ 31.00 LAKHS		
5	EXPERIENCE OF HAVING SUCCESSFULLY COMPLETED SIMILAR WORKS DURING LAST SEVEN YEARS ENDING LAST DAY OF MONTH PREVIOUS TO THE ONE IN WHICH APPLICATION IS BEING INVITED.	QUALIFYING VALUE		
	THREE SIMILAR COMPLETED WORKS COSTING NOT LESS THAN ₹ 24.80 LACS	₹ 24.80 LAKHS	WO DETAILS	WO DETAILS
			WO VALUE	WO VALUE
	(OR)		₹	₹
	TWO SIMILAR COMPLETED WORKS COSTING NOT LESS THAN ₹ 31.00 LACS	₹ 31.00 LAKHS	WO DETAILS	
			WO VALUE	WO VALUE
	(OR)		₹	₹
	ONE SIMILAR COMPLETED WORK COSTING NOT LESS THAN ₹ 49.60 LACS	₹ 49.60 LAKHS	WO DETAILS	
			WO VALUE	
			₹	
6	SOLVENCY (Attach Certificate(from scheduled bank) issued within six months from date of enquiry.)	QUALIFYING VALUE	SOLVENCY AMOUNT	DETAILS OF SOLVENCY CERTIFICATE
		₹2.00 LAKH		
7	ACCEPTANCE FOR GENERAL INTRUCTIONS TO TENDERER AND GENERAL TERMS & CONDITIONS OF CONTRACT (Annexure-A & B)	Signed copy to be attached .		
8	ACCEPTANCE FOR SPECIAL TERMS & CONDITIONS OF CONTRACT (Annexure-C)	Signed copy to be attached .		
9	ACCEPTANCE FOR SCOPE OF WORK ,TESTING FACILITY & TOOLS AND QUALIFICATION OF MANPOWER TO BE DEPLOYED FOR CONTRACT. (Annexure-D)	Signed copy to be attached .		
NOTE: 1.CONTRACT WILL BE FINALIZED ON OVERALL L1 BASIS. 2. ATTESTED (By Gazetted officer) COPY OF DOCUMENTS FOR DETAILS FURNISHED ABOVE SHOULD BE ATTACHED .				

<b>ANNEXURE-1A</b>	
<b>PART-I ( TECHNO COMMERCIAL OFFER)</b>	
ENQUIRY NO / DATE: 9251500035, Dt: 29.08.2015	ENQUIRY DUE DATE: 25.09.2015
NAME OF WORK: OPERATION & MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)	
NAME OF THE COMPANY / FIRM:	

**GENERAL INSTRUCTIONS TO TENDERER:**

<b>01.</b>	Sealed Tender enclosed for the work is hereby invited from contractor holding a valid Electrical contractor's license and experienced in works of similar kind.
<b>02.</b>	Before tendering, the tenderers are advised to inspect the site of work and its environments and be well acquainted with the actual working and other relevant conditions, position of materials and labour. Tenderers are also requested to go through <b>General -Terms &amp; conditions and Special -Terms &amp; conditions of Contract</b> , Scope of work ,drawings and specifications and all other documents which form part of the agreement to be entered into.
<b>03.</b>	Tender should be addressed to <b>DGM/ WCM,53-Building,1stFloor, High Pressure Boiler Plant ,BHARAT HEAVY ELECTRICALS LIMITED, Tiruchirapalli- 620 014</b> . Full name , address of the Tenderer and the name of the work should be noted on the covers of EMD, Technical bid & Price bid with tender No & due date of opening.
<b>04.</b>	The validity of the offer submitted by the tenderer shall be valid for a period of "Six months" from the date of opening of the tender.
<b>05.</b>	All entries in the tender documents shall be made in one ink. Erasure and over-writing are not permitted. All cancellations and insertions should be duly signed by the Tenderer concerned.
<b>06.</b>	Tenderer should fill in all the required particulars in the blank spaces provided for this purpose in the tender documents along with signature on each and every page of the tender document including corrigendum & the drawing attached there to while submitting their tender.
<b>07.</b>	Unit rates should be quoted in figures as well as in words with reference to each item and for all the items shown in the attached schedule. These rates shall be for the furnished work at site. Amount for each item and the totals page by page and also the grand total amount for the contract should also be filled in by the Tenderer.
<b>08.</b>	Rates for each item of the tender schedule should be quoted in Rupees and paise only, In case any difference in rates quoted to figures and in words, the lower of the rates will be taken as the tendered rate.
<b>09.</b>	Quantities shown in the attached schedule are only approximate and are subject to variation. The rate shall remain firm throughout the contract period. However executed work value shall remain within <b>+ 20% (plus Twenty percent)</b> of work order value .
<b>10.</b>	In quoting the rates the tenderer is advised to take into account all factors including any fluctuations in market rates. No claim will be entertained on this account after acceptance of the tender or during the currency of the contract.
<b>11.</b>	<b>Rates quoted shall be inclusive of all royalties, taxes, duties &amp; other taxes except Service tax.</b> Service Taxes as applicable shall be shown extra in the offer. The Bharat Heavy Electricals Limited, Tiruchirapalli will not entertain any claim what so ever in this respect. The applicable Service Tax can be claimed from BHEL, along with monthly bill .  While claiming for Service tax, the contractor should produce copies of challans of previous Month/Quarter as proof of deposit of Service Tax, if applicable, along with a declaration that "The Service tax collected from BHEL has been remitted to Service Tax authorities.
<b>12.</b>	If a tenderer find discrepancies or omissions in the drawings or any of the tender documents and should there be doubts as to their meaning, he should at once address 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 the successful tenderer shall taken upon himself to provide for the risk or any error which may be subsequently discovered and shall make no subsequent claim on account thereof.
<b>13.</b>	In the event of tender being submitted by the firm, all pages of the tender must be signed legibly by each partner or member of the firm or in their absence, by the person holding the power of attorney on behalf of the firm concerned. In the latter case, a copy of the power of attorney duly attested by a Gazetted Officer must accompany the tender.
<b>14.</b>	Unless the Contractor, whose tender is accepted, signs the contract agreement within seven days (7 days) of the date of the order directing him to do so, the amount of Earnest Money Deposit already deposited by him will be forfeited and acceptance of the tender withdrawn.
<b>15.</b>	If after opening of tenders, a tenderer revokes his tender or increases his earlier quoted rates or after acceptance of his tender does not commence the work in accordance with the instructions of the Engineering-In-Charge, the Earnest Money Deposited by him will be forfeited and acceptance of his tender withdrawn. If only, a part of the work included in the tender has been awarded to the tenderer and the tenderer refuses to take up the work the amount of Earnest Money to be forfeited will be based on the value of the contract so awarded.

Contractor signature/seal

Accepting officer/BHEL

<b>ANNEXURE-1A</b>	
<b>PART-I ( TECHNO COMMERCIAL OFFER)</b>	
ENQUIRY NO / DATE: 9251500035,Dt:29.08.2015	ENQUIRY DUE DATE:25.09.2015
NAME OF WORK: OPERATION & MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)	
NAME OF THE COMPANY / FIRM:	
<b><u>GENERAL INSTRUCTIONS TO TENDERER:</u></b>	
16.	The BHARAT HEAVY ELECTRICALS LIMITED, reserves the right to reject any or all the tenders received or accept any tender or part thereof without assigning any reason therefore. In the case of acceptance of the part of tender, time for completion may also be reduced to the extent considered appropriate by the accepting officer.
17.	Tenders not submitted in the prescribed forms are liable to be rejected.
18.	The Contractor who is not in the approved list of contractors of BHEL must submit the following documents along with their offers otherwise offers will be rejected. <b>01).</b> Copy of work order received from any large reputed firm of similar nature to establish that the tenderer is an independent contractor working on his own. The contractor shall furnish details like name of the contact person, mobile no, email id and address. <b>02).</b> Copy of performance certificate from atleast 2 reputed large firms or govt. bodies for having executed similar works satisfactorily in the last two years. BHEL reserves the right to verify with original certificate. <b>03).</b> A certificate from a Bank regarding the tenderer's financial position. (Solvency) <b>04).</b> License details of the firm or the contractor.
19.	The tender should be accompanied by a list of contracts already held by the contractor at BHEL-Trichy at the time of submission of the tender and giving the following particulars: <b>a).</b> WO reference number and value of contract. <b>b).</b> The balance of work in value remaining to be done for the same.
20.	Tender may be sent by post or dropped in Tender box available at WCM, 53-Building, BHARAT HEAVY ELECTRICALS LIMITED, Tiruchirapalli- 620 014. Tender submitted by Post should be sent by " Registered Post/Speed post. These should be posted well in advance with due allowance for any delay in postal delivery. Tender received after the due date of opening of tender shall be rejected.
21.	The Contractor's responsibility under this contract shall commence from the date of work order.
22.	If a tenderer expires after the submission of his tender or after the acceptance of his tender, the BHEL may at their discretion cancel such tender.
23.	The BHARAT HEAVY ELECTRICALS LIMITED, will not be bound by any power of attorney granted by the tenderer or by changes in the composition of the firm, made subsequent to the execution of the contract. They may, however, recognize such power of attorney and change after obtaining proper legal advice, the cost of which will be charged above to the contractor concerned.
24.	If the tenderer deliberately gives wrong information in his tender BHEL, reserves the right to reject tender at any stage.
25.	Words imparting the singular number shall also be deemed to include the plural number and vice the context so required.
26.	The 'General Instructions to Tenderers' and 'Special Terms and Conditions of Contract' are complementary to each other and where they are in conflict, the ' Special terms and conditions of Contract 'shall prevail.
27.	The expenses for completing and stamping the agreement shall be paid by the contractor.
28.	Tenderer shall not increase their quoted rates, in case BHEL, calls for negotiation for reduction of rates. Such negotiations shall not amount to cancellation or withdrawal of the original offer and the rates originally quoted shall be binding on the tenderers for the period of three months from the date of opening of tenders. (If price negotiation held on any tender, the revised offer should be submitted within a week.)
29.	All contractors will have to produce PAN/income tax clearance certificate from the Income Tax concerned along with their tender. The contractor whose Income is not taxable will be required to give affidavit for their income on the prescribed form. If the successful tenderer fails to produce the PAN/income tax clearance certificate within the stated period, the Earnest money deposit and the Security Deposit of the tenderer may be forfeited and the contract terminated.
30.	<b>TENDERERS ARE REQUESTED TO COVER THEIR EMPLOYEE (SUPERVISORS AND LABOURERS) UNDER PF/ESI/GROUP INSURANCE/CONTRACT LABOUR REGULATIONS ACT.</b>
31.	<b>THE GENERAL INSTRUCTIONS TO TENDERER</b> shall be deemed to form an integral part of the work to be entered into.

## ANNEXURE-1B

## PART-I ( TECHNO COMMERCIAL BID)

ENQUIRY NO / DATE: 9251500035, Dt:29.08.2015

ENQUIRY DUE DATE:25.09.2015

NAME OF WORK: OPERATION &amp; MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)

NAME OF THE COMPANY / FIRM:

## GENERAL TERMS AND CONDITIONS

A EARNEST MONEY DEPOSIT:								
	Tender must be accompanied by Earnest Money for the amount mentioned in tender notice, pledged to BHEL, Trichy in any of the forms mentioned below. The Earnest Money Deposit will be refunded to the unsuccessful tenderers within 15 days of acceptance of the award of work by successful tenderer. In the case of successful tenderer, the Earnest Money Deposit will be retained as part of the Security Deposits for satisfactory completion of the work in accordance with clause 2.0 of the General Terms and Conditions of contract.							
A.1	The Earnest Money Deposit may be furnished in form of Pay order or Demand Draft drawn in favour of BHEL-Trichy. <b>Note: EMD shall not carry any interest.</b>							
A.2	Unless the Contractor, whose tender is accepted, signs the contract agreement, within seven days (7 days) of the date of the order directing him to do so, the amount of Earnest Money Deposit already deposited by him will be forfeited and acceptance of the tender withdrawn.							
A.3	If after opening of tenders, a tenderer revokes his tender or increases his earlier quoted rates or after acceptance of his tender does not commence the work in accordance with the instructions of the Engineer-In-Charge, the Earnest Money Deposited by him will be forfeited and acceptance of his tender withdrawn. If only, a part of the work included in the tender has been awarded to the tenderer and the tenderer refuses to take up the work the amount of Earnest Money to be forfeited will be based on the value of the contract so awarded.							
B SECURITY DEPOSIT:								
	The contractor whose tender has been accepted shall, within seven days of receipt of the notification of acceptance of his tender, should deposit the prescribed sum as per Clause 2.1 towards Security Deposit.							
B.1	The <b>rate</b> of security <b>deposit</b> for the contract will be as follows: <table border="1" data-bbox="236 913 1431 1077"> <tbody> <tr> <td>a). For Contract Valued up to Rs 10.00 Lakh.</td> <td>: 10% of the Contract value.</td> </tr> <tr> <td>b). For Contract Valued above Rs 10.00 Lakh upto Rs 50.00 Lakh</td> <td>: Rs 1 lakh plus 7.5% on the balance of the contract value.</td> </tr> <tr> <td>c). For Contracts valued above Rs 50.00 Lakh</td> <td>: Rs 4 lakhs + Plus 5% on the balance of the contract value.</td> </tr> </tbody> </table>	a). For Contract Valued up to Rs 10.00 Lakh.	: 10% of the Contract value.	b). For Contract Valued above Rs 10.00 Lakh upto Rs 50.00 Lakh	: Rs 1 lakh plus 7.5% on the balance of the contract value.	c). For Contracts valued above Rs 50.00 Lakh	: Rs 4 lakhs + Plus 5% on the balance of the contract value.	
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b). For Contract Valued above Rs 10.00 Lakh upto Rs 50.00 Lakh	: Rs 1 lakh plus 7.5% on the balance of the contract value.							
c). For Contracts valued above Rs 50.00 Lakh	: Rs 4 lakhs + Plus 5% on the balance of the contract value.							
B.2	The Security Deposit may be furnished in any of the following forms: <table border="1" data-bbox="236 1115 1431 1624"> <tbody> <tr> <td>a). Pay order or Demand Draft drawn in favour of BHEL.</td> </tr> <tr> <td>b). Local cheques of scheduled banks, subject to realization.</td> </tr> <tr> <td>c). Securities available from Post offices such as National Savings Certificates, Kisan Vikas Patra etc. (Certificates should be held in the name of the contractor furnishing the security and duly pledged in favour of BHEL, Trichy and discharged on the back).</td> </tr> <tr> <td>d). Bank Guarantee from scheduled Banks/Public Financial Institutions as defined in the Companies Act. The bank guarantee format should have the approval of BHEL.</td> </tr> <tr> <td>e). 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 contractor, A/C BHEL, duly discharged on the back.</td> </tr> <tr> <td>f). 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 will be collected before start of the work and the balance 50% may be recovered from the running bills.</td> </tr> <tr> <td>h). EMD of the successful tenderer shall be converted and adjusted against the security deposit. <b>NO INTEREST SHALL BE ALLOWED ON SECURITY DEPOSITS.</b> BHEL, shall not be responsible for any loss of securities due to liquidation or any other reason whatsoever or any depreciation in the value of the Securities while in their charge or for any loss of interest thereon.</td> </tr> </tbody> </table>	a). Pay order or Demand Draft drawn in favour of BHEL.	b). Local cheques of scheduled banks, subject to realization.	c). Securities available from Post offices such as National Savings Certificates, Kisan Vikas Patra etc. (Certificates should be held in the name of the contractor furnishing the security and duly pledged in favour of BHEL, Trichy and discharged on the back).	d). Bank Guarantee from scheduled Banks/Public Financial Institutions as defined in the Companies Act. The bank guarantee format should have the approval of BHEL.	e). 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 contractor, A/C BHEL, duly discharged on the back.	f). 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 will be collected before start of the work and the balance 50% may be recovered from the running bills.	h). EMD of the successful tenderer shall be converted and adjusted against the security deposit. <b>NO INTEREST SHALL BE ALLOWED ON SECURITY DEPOSITS.</b> BHEL, shall not be responsible for any loss of securities due to liquidation or any other reason whatsoever or any depreciation in the value of the Securities while in their charge or for any loss of interest thereon.
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d). Bank Guarantee from scheduled Banks/Public Financial Institutions as defined in the Companies Act. The bank guarantee format should have the approval of BHEL.								
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f). 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 will be collected before start of the work and the balance 50% may be recovered from the running bills.								
h). EMD of the successful tenderer shall be converted and adjusted against the security deposit. <b>NO INTEREST SHALL BE ALLOWED ON SECURITY DEPOSITS.</b> BHEL, shall not be responsible for any loss of securities due to liquidation or any other reason whatsoever or any depreciation in the value of the Securities while in their charge or for any loss of interest thereon.								
	<b>NOTE:</b> Acceptance of Security Deposit against Sl. No. (c) and (d) above will be subject to hypothecation or endorsement on the documents (Signature of the Branch Manager must be present ) in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.							

## ANNEXURE-1B

## PART-I ( TECHNO COMMERCIAL BID)

ENQUIRY NO / DATE: 9251500035,Dt:29.08.2015

ENQUIRY DUE DATE:25.09.2015

NAME OF WORK: OPERATION &amp; MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)

NAME OF THE COMPANY / FIRM:

## GENERAL TERMS AND CONDITIONS

<b>B.3</b>	All compensation or other sums of money payable by the contractor to BHEL under the terms of this contract or under any other contract with BHEL, may be deducted from the Security Deposit or realized by the sale of the securities of from the interest arising there from or from any sums which may be due or may become due to the contractor payable by BHEL, on any account whatsoever against this contract of any other contract with BHEL and in the event of his Security Deposit being reduced by reason of such deductions or sale as aforesaid, the Contractor shall within seven days thereafter make good in cash or in securities endorsed as aforesaid, any sum or sums by which the security Deposit has been so reduced.
<b>B.4</b>	Security Deposit will be refunded on completion of the work and after the expiry of the maintenance period. In case no maintenance period is applicable, then 100% of security Deposit will be refunded after <b>confirming the final bill payment.</b>
<b>C</b>	<b>INCOME TAX :</b>
<b>C.1</b>	<p>a). Income tax shall be deducted at the applicable rate in respect of the service contract including supply of labour for any work as follows:  # Up to Rs. 10 lakhs: 10%  # Above Rs. 10 lakhs up to Rs.50 lakhs: Rs.1 lakh + 7.5% of the amount exceeding Rs. 10 lakhs.  # Above Rs. 50 lakhs: Rs 4 lakhs + 5% of the amount exceeding Rs. 50 lakhs. The security Deposit should be collected before start of the work by the contractor.</p> <p>b). Xerox copy of PAN card shall be submitted to Account Dept along with original for verification.</p> <p>c). TDS Certificate will be issued to vendors for each quarter ending as on 30th June,30th Sept,31st Dec. and 31st March during the following quarter.</p>
<b>D</b>	<b>SERVICE TAX</b>
<b>D.1</b>	<p>a). Wherever service tax is liable to be paid by the contractor, the contractor shall register himself under the Service Tax Rules and a copy of Certificate of Registration shall be furnished to Accounts Dept</p> <p>b). After registration, the payment of Service Tax shall be effected by the contractor to the Central Government monthly/quarterly based on the invoices raised before the due date of payment The Service Tax Return also shall be submitted to the Government before the due date.</p> <p>c). The invoice/bill in original duly signed by the contractor claiming the payment for Service Tax shall clearly indicate the following:  1) Continuous Serial no &amp; date of the bill  2) Cost of the service  3) Separately showing the Service Tax amount calculated at the applicable rate  4) Separately showing the Cess on Service Tax amount  5) PAN based Service Tax Registration No.</p> <p>d). The service tax claimed in the bill will be paid to the contractor based on the proof of payment of service tax to the Central Government for the previous month/quarter as the case may be.</p>
<b>E</b>	<b>CENVAT</b>
<b>E.1</b>	a). Wherever the contractor claims payment for the supply of materials used in the service, "Duplicate for Transporter" copy in original clearly depicting the Cenvat paid apart from the original invoice is required to be submitted to BHEL for the purpose of availing the Cenvat Credit
<b>F</b>	<b>VALUE ADDED TAX(VAT)</b>
<b>F.1</b>	a). Wherever the service includes the supply of materials and claim is made for the payment of VAT, the original invoice duly signed by the contractor clearly indicating the cost of materials,rate of VAT,VAT amount,TIN no.is to be submitted for payment and availing the VAT credit.
<b>G</b>	<b>PAYMENT TERMS</b>
<b>G.1</b>	Payment shall be made for value of work executed on pro rata basis .
<b>G.1</b>	Quarterly payment shall be made at the end of every quarter after completion of work and on submission of invoice in triplicate duly certified by engineer in charge and other supporting documents as per contract.
<b>H</b>	<b>LIQUIDATED DAMAGE/PENALTY :</b>
<b>H.1</b>	a).If the contractor fails to complete the service/work as per terms & conditions of the order within the delivery schedule, 0.5% of the order value will be deducted for each week of delay or a part thereof subject to a maximum of 15% of the total contract value.

Contractor signature/seal

Accepting Officer/BHEL

ANNEXURE-1C	
PART-I ( TECHNO COMMERCIAL BID)	
ENQUIRY NO / DATE: 9251500035,Dt:29.08.2015	
ENQUIRY DUE DATE:25.09.2015	
NAME OF WORK:OPERATION & MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)	
NAME OF THE COMPANY / FIRM:	
<b>SPECIAL TERMS AND CONDITIONS</b>	
<b>A AWARD OF CONTRACT:</b>	
A.1	The contract will be awarded to overall L1 vendor.
<b>B FINALIZATION OF CONTRACT BY ADOPTING "REVERSE AUCTION":</b>	
<i>"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 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.</i>	
<i>In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit „online sealed bid“ in the Reverse Auction. Non- submission of „online sealed bid“ by the bidder will be considered as tempering of the tender process and will invite action by BHEL as per extant guidelines in vogue."</i>	
The business rules for Reverse Auction (RA) are as follows:	
B.1	Technically and Commercially acceptable Bidders shall only be eligible to participate in the Reverse Auction.
B.2	BHEL shall engage the services of a Service Provider, who shall extend all necessary training and assistance before commencement of ON-LINE-BIDDING through Internet,at NO extra-cost to the Bidders.
B.3	Eligible Bidders shall be informed in writing, about the details of Service Provider, to enable Vendors to contact the Service Provider and get trained.
B.4	Event Date, Time, Start Price, Bid Decrement, Time-Extensions, etc. shall also be communicated through the Service Provider for compliance by Bidders.
B.5	Vendors have to FAX the Compliance Form, before start of RA. Without furnishing the above Compliance Form, Bidders shall not be eligible to participate in the RA.
B.6	BHEL shall provide the calculation sheet through the Service Provider, which shall be helpful to arrive at "TOTAL COST to BHEL", like Packing and Forwarding Charges, Taxes and Duties, Freight Charges, Insurance, Service Tax and other loading factors (for non-compliance to BHEL Standard Commercial Terms and Conditions), for each of the Bidder, to enable them to fill in the price and keep it ready for inputting data during the RA.
B.7	RA shall be conducted on a pre-determined Date and Time.
B.8	At the end of RA, the lowest Bid Value will be known on the Network.
B.9	Lowest Bidder has to FAX the Prescribed Format, duly filled in and signed in, as provided, on a case-to-case basis, to the Service Provider, within 24 Hours of RA without fail.
B.10	Any variation between the ON-LINE Bid Value and the signed document will be considered as unethical the Tender process and will invite disqualification of Bidder, for further business dealings with BHEL as per the prevailing procedure.
B.11	Rules for finalization of procurement, Terms and conditions for Reverse Auction ,Process compliance form ,Final price bid conformation shall be provided to technically and commercially accepted bidders.
<b>C DEPLOYMENT OF WORKMEN &amp; SUPERVISORS</b>	
	<b>a).</b> A list containing the name of persons who are working, their age, designations, pay, nature of work is to be furnished immediately on receipt of work order, in triplicate.
	<b>b).</b> The work should be carried out in the presence of contract supervisor and prior permission should be obtained from the concerned supervisor and the section before starting the work.
	<b>c).</b> The Contractor is required to cover their employee/labourers by suitable insurance scheme (like Janatha Insurance) against any risk. The policy taken by them should be produced to BHEL authorities concerned before commencing the work.

<b>ANNEXURE-1C</b>	
<b>PART-I ( TECHNO COMMERCIAL BID)</b>	
ENQUIRY NO / DATE: 9251500035,Dt:29.08.2015	
ENQUIRY DUE DATE:25.09.2015	
NAME OF WORK:OPERATION & MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)	
NAME OF THE COMPANY / FIRM:	
<b>SPECIAL TERMS AND CONDITIONS</b>	
<b>D</b>	<b>BIOMETRIC ENTRY/EXIT SYSTEM FOR CONTRACT WORKMEN</b>
	a).The Entry/Exit of the contract workmen is to be regulated only through Biometric system.
	b).The Contractor initially will be issued with a temporary gang pass for his/her contract workmen for a period of ten days.
	c).The contractor should arrange photo coverage for all his/her workmen within the above stipulated time.
	d).The contractor has to submit Form I for all his/her contract workmen. All the particulars required in Form I are to be provided by the contractor without fail.
	e).The contractor should educate the contract workmen in registering the attendance through the system.
	f).Whenever a contract workman migrates or leaves service, the contractor has to surrender the biometric card of the particular contract workman to Contract Cell with immediate effect.
	g).If a contract workman having biometric card joins another contractor, the contractor who engages them, has to intimate contract cell along with the biometric card for switching over the contract workmen from the earlier contractor to the present contractor.
	h).On completion of the work, the contractor has to surrender all the biometric cards immediately to the contract cell. Otherwise, an amount of Rs.100/- per card will be deducted from the final bill/security deposit of the contractor.
	i).If any contract workmen lose his/her card, the contractor shall arrange a duplicate card for the workmen by paying an amount of Rs.100/-.
	j).The Contractor is totally responsible for the biometric cards issued to his/her contract workmen.
<b>E</b>	<b>SAFETY :</b>
	a). In case of cable laying ,work should be carried out after getting the prior permission from the concerned electrical supervisor and civil department for digging the road when it is required to ensure that proper precautions are taken.
	b). While digging the road, a good barricade and proper sign boards should be provided in the area.
	c). While erecting the poles, proper safety precautions such as supporting the poles, tying with ropes suitable lifting tackles etc. are to be adhered.
	d). While working at heights, proper platform ladder, safety belts, etc. should be used.
	e). The necessary safety equipments such as gloves, lineman's belts etc. should be used.
	f). Any other safety measure as necessitated by the nature of work should be strictly followed.
	g). If Contractor's workmen are found to violate the safety regulations punitive action will be taken by with-holding a sum of Rs. 100/- to Rs. 500/- for each such violation.
	h). These safety measures shall be deemed to form an integral part of the work order/agreement.
<b>F</b>	<b>COMPLIANCE WITH VARIOUS LABOUR LAWS :</b>
	The Contractor shall in respect of labour employed by him either directly or through sub contractors, comply with or cause to be complied with the following statutory provisions, rules & in regard to all matters provided therein.
	a). The Contract labour (Regulation & Abolition) Act 1970 and the related Tamilnadu Rules.
	b). The Minimum Wage Act 1948 and the related Tamilnadu Rules.
	c). The Payment of Wages Act 1936 and the related Tamilnadu Rules.
	d). The Factories Act 1948 and the related Tamilnadu Rules.
	e). Employee's Provident Fund & Miscellaneous Provision Act 1952.
	f). The Workmen Compensation Act 1923.
	g). The Industrial Dispute Act 1947.
	h). Additional Amount of Rs 2500/-,Rs 3500/-,Rs 4100/- Rs 4100/- to all Unskilled, Semiskilled, Skilled labourers and Supervisors respectively over and above the minimum wage as per BHEL Corporate guidelines.
	i). Bonus payment to be made for the Contract employees as per Bonus Act.
	<b>TENDERERS ARE REQUESTED TO COVER THEIR EMPLOYEE (SUPERVISORS AND LABOURERS) UNDER PF/ESI/GROUP INSURANCE/CONTRACT LABOUR REGULATIONS ACT.</b>

<b>ANNEXURE-1C</b>	
<b>PART-I ( TECHNO COMMERCIAL BID)</b>	
ENQUIRY NO / DATE: 9251500035, Dt: 29.08.2015	
ENQUIRY DUE DATE: 25.09.2015	
NAME OF WORK: OPERATION & MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)	
NAME OF THE COMPANY / FIRM:	
<b>SPECIAL TERMS AND CONDITIONS</b>	
<b>G</b>	<b>STANDARDS FOR MATERIALS &amp; SERVICES/WORKS</b>
<b>G.1</b>	<p><b>01).</b> Small consumables like Screws, clamps, PVC L, T, Coupling, Bend, Elbow , Bolt,Nuts are the scope of the contractor.</p> <p><b>02).</b> If any other materials required other than BHEL supply specified in the schedule is meant to contractor's scope of supply.</p> <p><b>03).</b> Issue of materials from Stores is subject to the availability. The contractor shall not be entitled for any claim or compensation for non-supply or delay in supply from Stores under any circumstances.</p> <p><b>04).</b> Entire work should be completed within the stipulated period.</p> <p><b>05).</b> Cable glands, Electrical Power Boards, Switch Boxes are to be properly earthed.</p> <p><b>06).</b> Safety precautions have to be ensured by the Contractor depending on the work nature. Necessary work permit system and personal protective equipments (PPE) such as electrical resistance rubber gloves, helmet, spectacle goggles, safety shoes, safety belt etc. as applicable to electrical works should be adhered while carrying out the work.</p>
<b>G.2</b>	All the materials supplied by the contractor should conform to the relevant IS/BS/ISO/EN Specifications and agreeable to the engineer-in-charge.
<b>G.3</b>	The wiring shall confirm IS: 732:1989/2005 or any other relevant Indian Standard Specifications and Indian Electricity Rules.
<b>G.4</b>	Incase of PVC / Steel conduit wiring, the switches, plug sockets, regulators and other controls should be mounted on metal boxes. These boxes as well as all metal boxes used for street light controls should be fabricated as per IS 5133: Part-1: 1969 / 1996.
<b>G.5</b>	Erection of equipments includes testing and commissioning of equipments.
<b>G.6</b>	Completion reports should be submitted in the pro forma as per appendix 'E' of IS 732: 1989/2005.
<b>G.7</b>	The contractor should be present at the time of inspection of the installation by the Electrical inspector. Any defects pointed out by the Electrical inspector should be rectified by the contractor free of cost.
<b>G.8</b>	Final lay-out as well as foundation drawings should be submitted in advance for executing the civil works.
<b>G.9</b>	Any covering letter and comments of the contractor should be submitted in duplicate along with the offer.
<b>G.10</b>	<p>If cables have to be laid in the ground, the following specification should be followed:</p> <p><b>FOR LT CABLE :</b> For laying of single run of cable, trenches should be excavated up to a depth of 0.8 meter, width 0.3 metre (add 0.1 M width for additional run for excavation) and 0.075 meter deep layer of sand should be spread below as well as above the cable (0.15 M) and covered with one layer of brick with longitudinal direction. If two or more cables are run, the brick should be laid in a longitudinal direction for each cable separately and 0.075 meter deep layer of sand should be spread below as well as the above the cable for each run (0.15M).</p> <p><b>FOR HT CABLE :</b> For laying of single run of cable, trenches should be excavated upto a depth of 1 meter, width 0.35 metre (add 0.35 M width for additional run for excavation) and 0.075 meter deep layer of sand should be spread below as well as above the cable (0.15M). The cable covered with bricks by box type formation. If two or more cables are run, the bricks should be laid in a box type formation for each cable and 0.75 meter deep layer of sand should be spread below as well as the above the cable (0.15M) for each run.</p>
<b>G.11</b>	In case of open trench/wall/column, cables have to be taken with proper clamping either in cable racks/wall/column. The clamps have to be supplied by the contractor.
<b>G.12</b>	End Termination for the cable include supply and using solerless crimping type tinned copper lugs, glands and if necessary cable adaptor boxes etc. and earthing the glands and adaptor boxes with 8 SWG/7/20 GI wire.
<b>G.13</b>	The Cement will not be supplied by BHEL.
<b>G.14</b>	Cubicle/Industrial Type switch boards should be manufactured by any of the reputed manufacturer, (if the make of the switch board is not specifically mentioned in the detailed specification of the board ), who have sufficient experience in manufacture of electrical switch boards. The switch board has to be approved by BHEL before dispatch to work spot.
<b>G.15</b>	For all sheet metal fabrication, pre-treatment of all metals with acid and rust preventing chemical has to be carried out and two coats of red oxide and one coat of stove enamelling paint has to be applied by spray painting.

<b>ANNEXURE-1D</b>	
<b>PART-I ( TECHNO COMMERCIAL BID )</b>	
<b>ENQUIRY NO / DATE: 9251500035,Dt:29.08.2015</b>	<b>ENQUIRY DUE DATE:25.09.2015</b>
<b>NAME OF WORK: OPERATION &amp; MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)</b>	
<b>NAME OF THE COMPANY / FIRM:</b>	
<b>SCOPE OF WORK ,TESTING FACILITY &amp; TOOLS AND QUALIFICATION OF MANPOWER</b>	
<b>SCOPE OF WORK:</b>	
<p>Carrying out day to day operation and Maintenance works in 110/11 KV switch yard, Electrical control panel room, 11KV VCB panels, 11KV/415 V station transformers,2X2000KVA Diesel Generator set HT switch gear &amp; NGR panel and other auxiliary equipment installed in the SS by deploying operation &amp; maintenance staff with necessary safety equipment &amp; tools. The O&amp;M should be performed for 24 Hrs. (3 shifts) for 365 days.</p> <p>Note:</p> <p>1) The contractor should engage qualified &amp; experienced operating &amp; maintenance personnel. The total staff proposed for this contract should be mentioned separately for O&amp;M in their offer.</p> <p>2) Spares and other electrical consumable items will be supplied free of cost at site.</p> <p>3) Required Transportation for O &amp; M staff to be arranged by the contractor on their own</p>	
<b>A.]</b>	<b>110 / 11 KV SUB STATIONS - EQUIPMENT LIST:</b>
Following are the equipment available in the Sub Station:	
1) 96 kV lighting arrestor- 18 nos.	
2) 110 kV motorized isolators with earth switch- 4 nos.	
3) 110 kV motorized isolators without earth switch- 4 nos.	
4) 110 kV line current transformer 500 / 1 Amps with 3 single phase secondary- 2 sets.	
5) 110 kV transformer bay current transformer 100 / 1 Amps with 3 single phase secondary- 4 sets.	
6) Potential transformer for bus PT -110kV/√3 / 110V/√3 - 2 sets.	
7) 110 kV 2000 A SF6 circuit breaker 3 phase-2 nos.	
8) 110 kV 1250 A SF6 circuit breaker 3 phase-3 nos.	
9) 110 kV 800 A SF6 circuit breaker 3 phase-1 no.	
10) 110 / 11 kV, 10 / 12.5 MVA capacity power transformers Dyn 11- 4 Nos with OLTC.	
11)11 kV switch board- 27 nos. (Including bus raiser panels & trunking panels)	
12) Maintenance free 110V DC 200AH battery -1 set.	
13) Battery Charger-1 No.	
14) ACDB Panel -1 No.	
15) DCDB Panel -1 No.	
16) Maintenance of UPS along with batteries - 1 Set.	
17) Nitrogen firefighting system operating panels-4 no's	
18) 2x2000 KVA DG HT VCB panel-6Nos.	
19) 2x2000 KVA DG NGR control panel-2Nos.	
<b>B.]</b>	<b>DETAILED SCOPE OF WORK:</b>
<b>1.0 ) OPERATION ACTIVITIES IN 110 KV SWITCH YARD:</b>	
1.1) Observing and recording the voltage, current, KVA demand, temperature, OLTC system, Tap position of the Four 10/12.5 MVA Transformers and maintaining the correct supply voltage at the Transformers out going as required.	
1.2) Inspection of all the switch yard equipment as indicated in the single line diagram and noting down any abnormalities of the system and inform to Engineer-in-charge for appropriate direction.	
1.3) Checking all the earth pits, connections and watering periodically for its healthiness.	
1.4) Cleaning of the yard free from vegetation regularly.	
1.5) Checking the Transformer for its normal working condition and inspect the Transformer for any oil leakage, conservator oil level, changing of silica gel etc.	
1.6) Checking the SF6 breakers daily for the gas pressure position and ensure its safe operation.	
1.7) Inspect the total substation Bus bar & conductor junction clamps and its connection for healthiness & effectiveness.	
1.8) Checking the Nitrogen fire protection system daily for the gas pressure position and ensure its safe operation of four transformers.	

## PART-I ( TECHNO COMMERCIAL BID )

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NAME OF THE COMPANY / FIRM:

## SCOPE OF WORK , TESTING FACILITY &amp; TOOLS AND QUALIFICATION OF MANPOWER

**2.0 ) OPERATION ACTIVITIES IN 110 KV CONTROL PANEL ROOM:**

2.1) Regular Cleaning of all the 11 KV HT SWG panel, control relay panels, battery charger, ACDB, DCDB, 110 KV yard control box, control panels, CT, PT & BAY control junction boxes and RTCC panels

2.2) Checking the DC Battery & Battery Charger for its proper functioning.

2.3) During fault condition, observe the flag indication of the protective relays connected with 110 KV and 11 KV panels (Viz. Distance protection, Restricted Earth Fault, Earth fault, Differential protection, Over Load etc.) and take corrective steps to resume the power as early as possible as directed

2.4) Take immediate action to rectify the fault by taking corrective action and details of fault shall be recorded like IR values and other relevant readings). Before restoring power supply clearance shall be obtained from the Engineer/ shift-in-charge,

2.5) Recording all the activities conducted in the SS log book.

**3.0 ) MAINTENANCE ACTIVITIES OF SUB STATION:**

3.1 During maintenance work, the following works to be carried out at 110 KV Substation yard /11 KV panels.

a) Required line clearance to be obtained for switching OFF 110 KV breakers /isolator /11 KV VCB.

b) Draw out breaker, opening of switches to ensure safety during working.

3.2) Resume power ('ON') after removing of Earth Rod, inspect the line / panels free from materials / tools and return the LC.

3.3) Preventive maintenance to be carried out for the following equipment once in a year and respective preventive maintenance check list has to be filled-in and recorded.

(a) 4 X 10 / 12.5 MVA Transformer.

(b) Earth pits (79 Nos) and mat connections healthiness.

(c) Analog Relays and meters in 11 KV SWG, 110 KV C&R, CT, PT, Isolators control and other panels.

(d) 6 Nos SF6 Breaker in 110 SS Yard.

(e) Control and Relay Panel Setting & its function.

(f) 2-Sets Potential transformers.

(g) 6-Sets Current transformers.

(h) 8 Nos of Isolators with and without earth switch.

(i) Outgoing cables on transformers and 11 KV SWG panel.

(j) 27 Nos of M /s ABB make 11 KV VCB panel.

(k) Battery and battery charger.

(l) 4 Nos. OLTC/RTCC panels of M /s Volt Amp make.

(m) Marshalling Boxes (BMK).

(n) Marshalling kiosks (Trans).

(o) ACDB & DCDB.

(p) Control Room & Switch Yard Lighting system.

(q) 6 Nos. of VCB in 2x 2000 KVA DG HT panel.

(r) 2 Nos of Power panel 2x2000 KVA DG NGR panel.

(s) Nitrogen purging system and control panels.

3.4) In case of major breakdown or emergency cut OFF power supply to the faulty section, the same to be informed to BHEL Engineer-in-charge.

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	3.5) Keeping in touch with TNEB / ALUNDUR staff for any instructions regarding Operation during power failure/ tripping well in advance and inform BHEL Engineer-in-charge.
	3.6) All the electrical complaints should be attended and recorded immediately.
	3.7) Maintenance of AC & DC distribution boards and panels of the equipment wherever required.
	3.8) Proper Safety procedure should be followed by using safety shoes, safety hand gloves etc. as per the instructions while executing the service works in 110 KV yard, 11 KV panel room & Battery room.
	3.9) The contractor may specifically note that the scope of work as detailed above are only indicative of the probable nature of work and the entire scope of work is not limited to the information furnished above.
	3.10) Required spares will be issued by BHEL free of cost at BHEL SS stores.
<b>C.]</b>	<b><u>MAINTENANCE SCHEDULES:</u></b>
	<b>1.0 ) DAILY MAINTENANCE SCHEDULE :</b>
	1.1) Note the peak hour readings as per schedule.
	1.2) Note down the HT/LT/Control meter readings of substation for analysing and reporting.
	1.3) Monitoring and recording the transformer parameters such as:-
	a) Winding temperature.
	b) Oil temperature.
	c) Oil level in Main tank & condenser bushings
	e) Checking the breathers of transformer & OLTC.
	f) Checking of oil leakage, if any, and take immediate action to stop leakage. (If transformer is required to be sent outside for any modifications / repair / overhauling, the same has to be informed in advance and the cost will be borne by BHEL).
	g) OLTC oil level checking. OSR relay status and noting down operation counter details.
	h) OLTC On-line oil filtration unit operations & indications has to be checked-4 no's
	1.4) Cleaning of HT Switch gears panels, control panels and LT panels externally as per the schedule. 1.5) Check auxiliary supply and control voltages.
	1.6) Check the condition of indication lamps provided on HT and LT panels.
	1.7) Check the proper working condition of RTCC panels for each Transformer.
	1.8) Check the batteries and battery chargers for proper functioning.
	1.9) Isolation & Re-energisation of feeders as per the demand of operation.
	1.1). Test & reset the annunciation, take corrective action whenever necessary.
	1.11) Inspection of water stagnation in cable cellar and removal of the stagnated water and sludges.
	1.12) Required Housekeeping work to maintain aesthetic look as per instruction of SS in charge.
	1.13) Recording on-line data logging system available in M&S Web page.
	1.14) Regular check-up and monitoring of nitrogen purging system available in 4nos of Transformers.
	1.15) Checking and up keeping lighting systems in switch yard, control room & around control room.
	1.16) Correspondence with BHEL / TANGEDCO officials related with Power Supply operations and interruptions etc.
	2.0 Weekly Schedule:
	2.1) Carry out preventive maintenance as per the check-lists available in Equipment manuals.
	2.2) Prepare list of spares and material required for carrying maintenance work and submit it to BHEL in advance for better spares/ material management.

Contractor signature/seal

Accepting officer/BHEL

## PART-I ( TECHNO COMMERCIAL BID )

ENQUIRY NO / DATE: 9251500035,Dt:29.08.2015

ENQUIRY DUE DATE:25.09.2015

NAME OF WORK: OPERATION &amp; MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)

NAME OF THE COMPANY / FIRM:

## SCOPE OF WORK ,TESTING FACILITY &amp; TOOLS AND QUALIFICATION OF MANPOWER

	2.3) Arrange for proper storage of material / spares for easy & immediate identification of spares at the time of critical need.
	2.4) Carry out battery maintenance as per schedule.
	2.5) Measurement of voltage of each cell and should be recorded.
	2.6) Operation of online filtration unit of OLTC-1 No. as per SS in charge instructions
	<b>3.0 ) MONTHLY MAINTENANCE SCHEDULE :</b>
	3.1) Checking the discharge devices and fuses.
	3.2) Carry out preventive maintenance of battery charger in both Float and Boost mode.
	3.3) Checking of oil leakage and general body inspection of Transformers.
	3.4) Manual actuation of cooling fans in Transformers.
	3.5) Checking the condition of silica-gel in breather.
	3.6) Checking the oil level in oil seal of breather.
	3.7) Check the Control room lights, yard lights and water pump at cellar room.
	3.8) Testing & Recording of OLTC Oil BDV.
	3.9) Cleaning of the Cable Cellar/Trench, Burnt oil pit, Storm water pit & drains as per BHEL engineer instruction
	3.10) Contractor should submit all log, PM check list and test and calibration reports to SS in-charge.
	3.11) Checking the bellow expansion in the marshalling box WTI and OTI.
	3.12) Checking of exhaust fan in the battery room.
	<b>4.0 ) QUARTERLY MAINTENANCE SCHEDULE :</b>
	4.1) Checking the overall condition of radiators, transformer main tank, Bushings and cleaning the same periodically.
	4.2) If there is any total shut down of 110KV SS, checking of all making & breaking points of AB switches, line healthiness, ACSR clamps and connector healthiness, PT & CT terminations, transformer terminations, insulation bushes condition, oil leakage points, etc., Tap changer operations in local &
	4.3) Rectification & corrective action of loose connections.
	4.4) Checking the indication lamps and contactors in the nitrogen purging systems.
	5.0 Yearly schedule/ Half Yearly:
	5.1) Prepare the schedule for carrying out preventive maintenance programme on the equipment & submit report after completion of maintenance activity.
	5.2) Check the earth pit values (substations & lightening protection) and do the preventive maintenance.
	5.3) Testing of of all protective equipment in the control panels like over current, earth fault, Buchholz relay, REF relay, etc., and report to be submitted.
	5.4) Earth resistance testing for earth pits using own instruments and submits report for the same.
	5.5) Checking of battery cable connections.
	5.6) Cleaning of all bushings & its inspection thereof, checking of horn gap distance & its tightness.
	5.7) External cleaning of Transformer radiators.
	5.8) Checking of all Cooling fans.
	5.9) Maintenance of OLTC driving mechanism, Oil replacement, operational check & maintaining circuit along with the OEM.
	5.10) Maintenance of OLTC diverter switch.

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	5.11) Checking of transformer trouble & operating devices.
	5.12) Checking of marshalling box.
	5.13) Checking of transformer neutral earthing, body earthing & earth pit resistance measurement
	5.14) BDV, PPM & Resistivity test of transformer oil.
	5.15) Tan delta & capacitance measurement of bushing & main windings.
	5.16) Measurement of winding resistance at all tap positions.
	5.17) Testing of transformer oil for DGA.
	5.18) Oil filtering work in all Transformers by using Standard Oil filtering m/c, if necessary oil top up to be done and submit Oil test reports.
	5.19) Based on the recommendation of OLTC OEM and BHEL engineer, OLTC overhauling should be carried out.
	5.20) Transformer OLTC oil sample has to be taken once in 6 months as per BHEL O&M in- charge advice to test BDV and DGA to assure healthy condition of OLTC oil.
	5.21) Thermal imaging of all overhead XLPE cable / ACSR line joints and termination and submit the hard copy of image with date time to assure healthiness cable and ACSR terminations.
	5.22) All the meters (voltmeters, ammeters, energy meters, multi-function meters, etc.,) shall be calibrated with NABL lab certified kits once in year and reports shall be submitted.
<b>D.]</b>	<b>QUALIFICATION &amp; EXPERIENCE OF THE MANPOWER:</b>
	<b>1.) Site-in charge:</b>
	Degree in Electrical engineering with a minimum 7 years' Experience in 110 KV or above SS operation and maintenance.
	<b>2.) Shift Engineer:</b>
	Diploma in electrical Engineering with 5 yr experience OR, ITI in Electrical trade with minimum of 7 year experience in EHT substation operation and maintenance with valid C license issued by electrical licensing Board
	<b>3.) Technician:</b>
	Diploma in electrical Engineering with 2 years' experience OR ITI in Elect. Trade with minimum 5 years' experience in EHT SS operation and maintenance with valid B license issued by electrical licensing Board.
<b>E.]</b>	<b>TESTING FACILITY AND TOOLS TO BE OWNED/ HIRED BY VENDOR:</b>
	a) Automatic 3 phase relay testing unit to test numerical relays
	b) HV capacitance & tan delta test kit to test power Transformer
	c) Micro ohm meter for contact resistance measurement.
	d) Transformer winding resistance meter.
	e) Transformer turns ratio meter.
	f) Primary current injection test kit up to 2000A for CT test.
	g) 3 Pole/1 Pole time interval meters for breaker timing test.
	h) Digital/ motorized insulation resistance tester up to 10KV.
	i) Battery operated digital / soil resistivity test kit.
	j) 3 Phase Energy Meter Test kit for Energy meter testing.
	k) Single Phase Automatic / Manual relay test kit for testing numeric / static / Electromagnetic relays.
	l) Transformer oil filtration machine.
	m) Transformer oil test kit.-

## PART-I ( TECHNO COMMERCIAL BID )

ENQUIRY NO / DATE: 9251500035,Dt:29.08.2015

ENQUIRY DUE DATE:25.09.2015

NAME OF WORK: OPERATION &amp; MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)

NAME OF THE COMPANY / FIRM:

## SCOPE OF WORK ,TESTING FACILITY &amp; TOOLS AND QUALIFICATION OF MANPOWER

n) Thermal imaging camera

## F.] Special terms and conditions:

- 1) Trouble shooting in HT panels and rectification, if defective works to be carried out as instructed by SS-in-charge.
- 2) Collecting meter reading from HT panels and recording various meter reading in prescribed log sheet DAILY as instructed by Substation-in-charge.
- 3) Recording attendance of staffs in 3 shifts and coordinating with SS maintenance & TNEB officials to carry out day-to-day works and take monthly meter reading.
- 4) Constant vigilance of 110/ 11 KV distribution system, incoming and outgoing voltages, and Tap positions of HT Transformer shall be maintained and recorded suitably in daily log sheet and submitted to the Substation-in-charge.
- 5) The log book will be maintained and staff working in the rotational shifts shall maintain & recorded data's and submit to the Substation-in-charge.
- 6) Maintaining good housekeeping in substation, up-keeping the panel boards and surrounding areas, cleaning transformer yard and, batteries etc. as instructed by Substation -in-charge.
- 7) The contractor shall arrange for proper supervision and organization from his side for carrying out the works satisfactorily.
- 8) A constant vigil has to be kept on distribution lines and the service mains for providing uninterrupted power supply.
- 9) The periodical maintenance chart for various operational and control equipment, transformers to be prepared by the contractors and it should be approved by the SS-in-charge before taking over.
- 10) A repair request form regarding electrical maintenance will be provided to the contractor. They should enter the data like date of receiving complaint, date of completion of job, materials / spares used for that work etc. and submit to the SS-in-charge.
- 11) Adequate precaution shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person/equipment.
- 12) All necessary personal safety equipment as considered adequate by the Engineer should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use and the contractor should take adequate steps to ensure proper use of equipment by
- 13) Taking hourly readings of 110KV/11KV Panels, Transformer temperature etc. and recording in the logbook.
- 14) Studying the logbook and note down the operation carried out in the previous shift and complete the pending works.
- 15) The contractor shall depute Shift Enigneer-1no. Technician -1 No. for round the clock operations on shift basis and Two Technicians in General shift other than Sunday and Holiday along with the Site Engineer In-charge to meet out the scope.
- 16) A qualified and experienced reliever should be available throughout the year to replace Site Engineer/Shift engineer/technician during leave/absent period for smooth and continuous operation & maintenance of the substation.
- 17) The contractor shall furnish all the contact details of their staff working in the operation and maintenance team, with a copy of their certificates.
- 18) The contractor has to submit the organization chart of their set up for the works and any change thereafter in the organization set up should be intimated to SS in-charge.
- 19) The contractor shall carry out health performance test at its cost for all the workmen engaged in the work through a registered medical practitioner and produce certificate on demand.
- 20) It shall be the responsibility of the contractor to see the workmen do not utilize the departmental canteen facilities. Contractor has to make his own arrangement to provide refreshment of the workmen.
- 21) Contractor's materials such as tools, testing equipment etc., shall have to be brought inside the factory/switch yard with proper documents/voucher and make necessary entry in the security gate. They should maintain proper record for tool equipment, materials etc., brought inside the factory
- 22) The contractor should extend fullest cooperation with the third part agencies engaged, if any by BHEL to adhere the statutory regulations.
- 23) Water, electricity and compressed air will be provided by this organization at free of cost at site.
- 24) The contractor shall be responsible for the equipment and materials handed over to him and in case of any mishandling or missing of the same shall be repaired or replaced by his own risk and cost.
- 25) Effective periodical supervision, apart from the regular work done by the Shift Engineer/technician during round the clock maintenance of the substation should be made by the higher level competent person of the contracting organization.
- 26) Any damage done to the existing installation, equipment or building particularly due to the negligence of the contractor shall be the entire responsibility of the contractor to repair, rectify and replace the same free of cost.
- 27) Timely submission of the invoice with all necessary supporting documents for the work done or the duration of the work has completed to be ensured.
- 28) All the instruments brought by the contractor for maintenance work should have valid calibration certificate from NABL accredited labs.
- 29) In case any leave of site in-charge/Working staff should be informed and prior permission to be obtained from the Engineer In-charge.
- 30) The working staff should have the knowledge & Experience in operating the firefighting unit and first aid treatment.
- 31) The Contractor should apply Occupational Health & Safety regulations, Codes and practices in the work place.

## PART-I ( TECHNO COMMERCIAL BID )

ENQUIRY NO / DATE: 9251500035,Dt:29.08.2015

ENQUIRY DUE DATE:25.09.2015

NAME OF WORK: OPERATION &amp; MAINTENANCE OF 110/11 KV SUBSTATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)

NAME OF THE COMPANY / FIRM:

## SCOPE OF WORK ,TESTING FACILITY &amp; TOOLS AND QUALIFICATION OF MANPOWER

	32) Induction into workplace, location of work area and storage area, shift roasters, Uniform, House-Keeping rules, Emergency procedures, Evacuation procedures should be done by the contractor.
	33) The contractor shall follow norms of BHEL security system for movement of men & materials Within the complex.
	34) Since the responsibility for the quality, workmanship and accuracy of any work being carried out Under this contract lies with the contractor, the contractor should ensure that no work is done Without the presence of contractor's representative at the work spot.
	35) It shall be the responsibility of the contractor to see the workmen do not utilize the Departmental canteen facilities. Contractor has to make his own arrangement to provide Refreshment for the workmen.
	36) Contractor's materials such as tools, testing equipments etc., shall have to be brought inside factory With proper documents /voucher and make necessary entry in the security gate. They should maintain
	Proper record for tools equipments, materials etc. brought inside the factory complex.
	37) The contractor should extend fullest co-operation with the third party agencies engaged, if any by BHEL to adhere the statutory regulations.
	38) The contractor should extend fullest co-operation to the other contractors who may be doing Other works in the same areas to enable them to execute their portions of work without any Delay or difficulty.

**PART-II ( PRICE BID)**

ENQUIRY NO / DATE: 9251500035,Dt:29.08.2015

ENQUIRY DUE DATE: 25.09.2015

**NAME OF WORK: OPERATION AND MAINTENANCE OF 110 / 11 KV SUB STATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017)****NAME OF THE COMPANY / FIRM:**

Sl. No	Description	Quantity ( Qtr.)	Rate ( ₹ / Qtr.)	Total Value ( ₹ )
1	OPERATION & MAINTENANCE OF 110 /11 KV SUB STATION AT BHEL-TRICHY FOR TWO YEARS (2015-2017).	8		
<b>TOTAL</b>				

**❖ Taxes if any should be quoted Extra**

1) Tax deduction will be made from the every bill at the prevailing rate as per the Government rule and regulation from time to time.

2) Detailed scope of work and other terms and conditions are specified in the Technical Bid of the Tender.

Contractors Signature / seal

Accepting officer/BHEL