

**BHARAT HEAVY ELECTRICALS LIMITED**  
(A GOVERNMENT OF INDIA UNDERTAKING)  
P.O.-BHEL, JHANSI - 284129

**Transformer Engineering Department**

**Automation of Winding**  
**Drawings for**  
**Power Transformer**

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**Annexure 'A'**

**NOTICE INVITING TENDER**

1. Scope of Work : **AUTOMATION OF WINDING DRAWINGS FOR POWER TRANSFORMER.**
2. Tender Evaluation Criteria : As per Annexure – D
3. Duration of the Contract : Twelve months from the date of the award of the contract.
4. Last date of receipt of the Tender : 1315 hours on **29.10.2010**
5. Date of opening of Techno Commercial Bid : 1400 hours on **29.10.2010**
6. Address for receipt of Tender : Additional General Manager (TRE & FES)  
Bharat Heavy Electricals Limited  
Khailar, Jhansi-284129  
U.P.
7. Earnest Money Deposit : ₹ 40,000/- (Rs Fourty thousand only)  
payable in the form of Demand Draft/  
Banker's Cheque favoring BHEL, Jhansi  
(1. In case of successful bidder EMD shall be converted and adjusted against the security deposit  
2. In case of others the EMD shall be returned within 15 days of acceptance of award of work by the successful tenderer.)
8. Cost of tender documents : ₹ 400/- + 13.5% VAT = ₹ 454/- payable through a separate Demand Draft in favor of "BHEL, Jhansi" along with technical bid.

1. **TECHNO-COMMERCIAL BID AND PRICE BID SHOULD BE SUBMITTED IN SEPARATE SEALED ENVELOPES. IN CASE THE BIDS ARE FOUND IN ONE SINGLE ENVELOPE THE "BIDS" ARE LIABLE TO BE REJECTED.**
2. **THE BIDDERS MAY PHYSICALLY VISIT THE WORK PLACE BEFORE QUOTING THEIR RATES.**

I/We agree with the above  
Signature of bidder with Seal

**Executive Incharge**

**Annexure 'B'**

**QUALIFYING REQUIREMENTS**

1. Companies/ parties in business of manufacturing similar range of products/ services as of BHEL Jhansi are technically not qualified to participate.
2. The party should have the minimum experience of two years and has done projects of Automation work in AutoCAD & MS Excel using Visual basic as frontend. Copy of Purchase order and order completion copy are to be submitted as a proof (along with customer reference details).
3. The party should have experience on generation of Power Transformer Winding drawings from 132kV to 220kV class Transformer 'or' should have done the Automation on Power Transformer winding drawing generation. Copy of Purchase order and order completion copy are to be submitted as a proof (along with customer reference details).
4. The party should have minimum average Turnover of Rs10 Lakhs in last two years.
5. The successful vendors shall have to sign a confidentiality agreement (Non Disclosure Agreement) with BHEL to maintain the confidentiality of the information passed on to them by BHEL during the execution of the contract. The proforma of 'Non Disclosure Agreement' is attached as Annexure-H.
6. Should have valid PAN based Service Tax registration No.
7. Should have Income tax PAN Number.
8. Income Tax Return for the last three years.
9. Should have at least one no authentic AutoCAD license.
10. Self certificate that they are not blacklisted by any of the BHEL Unit and other organization where they have worked.
11. Declaration that they are not guilty by a Court of Law in India for any offence involving fraud, dishonesty and moral turpitude.

**I/We agree with the above**  
Signature of bidder with Seal

**Executive Incharge**

**Annexure 'C'**

**INSTRUCTIONS TO TENDERERS**

1. The tender is to be processed in two parts viz. Technical bid and price/rate bid. The Technical Bid Application (Annexure - F) and its enclosures along with the bidder's Obligations, General Terms & Conditions must be submitted in one sealed envelope superscribed as **"Tender for AUTOMATION OF WINDING DRAWINGS FOR POWER TRANSFORMER IN TRANSFORMER ENGINEERING DEPARTMENT OF BHEL, JHANSI – Technical Bid"**. The second envelope duly sealed should contain the price bid (Annexure – G) only superscribed as **"AUTOMATION OF WINDING DRAWINGS FOR POWER TRANSFORMER IN TRANSFORMER ENGINEERING DEPARTMENT OF BHEL, JHANSI - Price Bid"**. Any other enclosures, which the tenderer wishes to submit, must be enclosed with the Technical Bid only. The price bid envelope should contain the rates only. Offers not in line with the above procedure or quoted in any other format will be rejected.
2. Both the technical bid and price bid sealed envelopes must be again kept in a single envelope duly sealed and superscribed as **"Tender for AUTOMATION OF WINDING DRAWINGS FOR POWER TRANSFORMER IN TRANSFORMER ENGINEERING DEPARTMENT OF BHEL, JHANSI"** and NIT number as given on website. The same should be dropped in the tender box kept at the gate of Administrative Building, BHEL, Khailar, Jhansi, within the specified date and time by the representative of the tenderer. Late offers / quote through e-mail / fax will not be considered.
3. All tenderers can witness the opening of the Technical Bid. After evaluation of the Technical Bid which may involve visit to the tenderer's / clients place by authorised officials, price bids of only those tenderers who are technically/commercially found suitable will be opened on a subsequent date which will be informed to the concerned parties in advance for witnessing the Price Bid opening.
4. All entries in the tender document should be in one ink. Corrections, over writing, cuttings, etc. will not be permitted. All the columns in the tender form should be filled without leaving blank in any page of the tender and all the pages must be duly signed & stamped by the tenderer before submission.

The price / rate should be quoted in figures as well as in words.

**Annexure 'D'**

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## **TENDER EVALUATION CRITERIA**

The evaluation of the Tender will be carried out as follows:

1. The tenders conforming to the Notice Inviting Tender, Qualifying requirements, Instructions to the Tenderers, bidder's obligations, General Terms and Conditions, Technical and Price bids conditions only will be evaluated.
2. Such of those tenders which conform to the technical bid (Annexure - F) only will be evaluated.
3. BHEL officials may visit the tenderer's office & their client's place to evaluate the capability and assess the performance.
4. Capability of the bidder will be assessed on the basis of previous track record, experience in other organizations, etc.
5. Successful tenderers after the above process only will be invited for opening of the price bid.
6. The Contract shall be awarded on overall L1 basis.

**I/We agree with the above**  
Signature of bidder with Seal

**Executive Incharge**

**Annexure'E'**

**TENDER DOCUMENT**

Sealed tenders are invited for Automation of winding drawings for Power Transformer as per the enquiry in BHEL format.

**IMPORTANT**

The quotation should be in two parts (Part-A) Techno-commercial bid and (Part-B) the price bid.

**(a) Techno – Commercial bid for tender**

All parties are required to submit techno commercial bid covering all the points covered under the head duly filled in and **signed** together along with the photocopies of their registration under the industry of state government and income tax return of last three years.

**(b) Price bid for Enquiry:**

The Price bid would be opened only for those vendors who would fulfill the technical commercial and statutory requirements.

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**(A) TECHNO – COMMERCIAL BID:**

**(A 1) TECHNICAL CONDITIONS:**

The parties should fulfill all the technical requirements mentioned below. Documents or self statement in support of the requirement should be submitted with the offer.

**(A 2) SCOPE OF WORK:**

Transformer is a tailor made product and is highly engineering intensive. For almost every order of Transformer the engineering is to be done. Presently all the drawings are generated in AutoCAD, which leads to increase in errors & drawing generation cycle time. This Tender for automation of 11 nos coils and 6 nos winding assembly drawings is to reduce the engineering cycle time and errors.

The Winding is having size variation from 1.5mm to 4000mm within components/ assemblies. Therefore on generation of winding drawing to the scale, the small size features/ components are not visible, for that many detailed/ broken views is required. Hence winding drawing in AutoCAD is prepared in Not-to-Scale views.

In the proposed automation, the 11 no coils and 6 no winding assemblies configuration mentioned below with all possible variation will be standardize and its drawing will be prepared in AutoCAD in Not-to-Scale views. In the standardization process each component in a drawing will be uniquely identified and will be itemized in AutoCAD. For components which are having similar shape but vary in size, their variable parameters will be identified and parametric drawings will be prepared with variables like a,b,c,d...etc marked in the drawing. Then a program will be written in Visual basic, which will take all the inputs for generation of coils and winding assemblies and will generate the Bill of Material in Excel sheet. The bill of material of material will have all component details like, quantity, weight, values of variable parameters, material code, material specification, reference drawing & Remark etc.

**6 Nos Winding assemblies:**

1. Auto Transformers with LV-COM-REG-SER arrangement
2. Auto Transformer with LV-REG-COM-SER arrangement
3. System Transformer with LV-IV-HVM-HVR arrangement
4. System Transformer with LV-HVM–HVR arrangement
5. System Transformer with LV-HV-HVR arrangement
6. System Transformer LV-HV (Integral R) arrangement

**11 Nos Coils:**

1. Spiral Winding
2. Helical Winding –Single Layer
3. Helical Winding – Double Layer
4. Split Helical winding double layer
5. Interwound Spiral Winding
6. Interwound Helical Winding
7. Composite coil in two/four/ six groups
8. RS Integral in two groups ( Body Tap)

## Tender Document

Drawing Office Subcontract

Tender Notification No: TRE/25/WindingProgram/2010/01 Rev00

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- 9. RS/PID/FID coil in one group
- 10. RS/PID/FID coil in two groups
- 11. RS/PID/FID coil in two groups in series

- a) The vendor will study all type of winding configuration drawings with all the variations based on the reference drawings given to them.
- b) Vendor will be involved in the standardization process of 11 nos coils and 6 nos winding configurations with the guidance of BHEL team.
- c) All the standard drawing generation in AutoCAD is in the scope of vendor.
- d) Manufacturing drawings shall be complete in all respect as per BHEL practice.
- e) The vendor shall perform above work at his premises.
- f) The automation of Winding assemblies will be done in three stages. In each stage the 2 Winding assemblies configuration will be automated. The next stage will start only after completion of previous stage.

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**(B) COMMERCIAL AND STATUTORY REQUIREMENT:**

**(B1) DELIVERABLES & DELIVERY SCHEDULE:**

The Automation program will be delivered in a CD in soft copy for each activity defined in Annexure "G". Total activities are to be completed within 12 months time from the award of contract. The 12 months delivery period has been arrived at considering 3 months period for requirement study at BHEL.

**(B2) TESTING:**

After delivery of each activity, BHEL will test the deliverables for all the test cases. The final testing will be done on work order. Final approval of testing and completion of each deliverable will be given by a committee of 3 members from TRE.

**(B3) PERIOD OF CONTRACT:**

The contract will be valid for a period of 15 months from the date of award, however if need arises it can be further extended to next 6 months based on the mutual agreement.

**(B4) BHEL reserves the right to terminate the contract and forfeit security deposit at any time if it is found that the assigned work is not being promptly attended or that there is a deliberate negligence on the part of the vender or BHEL equipments are being tempered by the vendors / their representatives /or confidentiality of the information is breached.**

**(B5) PENALTY CLAUSE:**

Failure to supply of drawings in time as mentioned in Clause (B1) will make supplier liable to pay penalty of 0.5% of the price of the item in arrears per week or in part thereof limited to max 10% of the order value.

**(B6) SUB LETTING:**

The vendors will not sub-let job allotted/ allocated to him.

The drawings and other related materials supplied by BHEL or made in BHEL is the sole property of BHEL. These should not be referred to any other party. These should be preserved in the suppliers custody at the supplier's cost and returned soon after the completion of drawing work.

**(B7) EARNEST MONEY DEPOSIT (EMD)**

The earnest money of ₹40,000/- (Rs Fourty Thousand only) to be deposited through a demand draft in favor of BHEL Jhansi shall be submitted along with the offer. In case of successful bidder EMD shall be converted and adjusted against the security deposit and for unsuccessful bidder the EMD shall be returned after 15 days of start of work by successful bidder.

## Tender Document

Drawing Office Subcontract

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**(B8) SECURITY DEPOSIT:**

(B8.1) The vendor shall deposit security deposit, as prescribed under Clause 8.2.1 of Works Policy of BHEL (Annexure-I). Security deposit should be in the form of demand draft in favor of BHEL Jhansi. This security deposit shall be returned to vendor after successful completion of the contract, compliance of statutory obligations, submission of service tax challan, return of engineering design documents / drawings etc supplied by BHEL.

(B8.2) In case of non satisfactory performance of the contract or abandoning the contract BHEL reserves the right to forfeit the security deposit which shall be final and binding on contract.

**(B9) PAYMENT TERMS:**

90% of payment shall be released on successful completion & testing of each activity (as per Annexure "G") upon submission of Challan and Bill duly certified by the Transformer Engineering Department. Balance 10% payment shall be released after successful completion of all the 17 activities as per Annexure "G". However no advance payment shall be made by BHEL and offers of vendors with advance payment terms shall be summarily rejected.

**(B10) TAXES AND DUTIES:**

As the job is of services, no taxes and duties (except Service Tax) shall be applicable, however necessary tax deduction at source from the supplier's bill shall be made as per income tax rule.

**(C) SAFETY:**

The persons appointed by the vendor for the work should follow all safety instructions applicable in BHEL factory.

**(D) RISK AND COST:**

In the event of vendor abandoning the work BHEL reserves the right to get the unfinished work completed at vendor's risk and cost.

**(E) STATUTORY**

(E.1) The vendor shall be responsible for any statutory requirement of state / central Government pertaining to their staff such as Provident Fund, ESI etc.

(E.2) The vendor shall comply with the provision of all relevant rules enforced from time to time by Central Govt. / State Govt. / Municipal Corporation etc.

**(F) ARBITRATION AND LAW:**

The disputes if any shall be referred to the sole arbitration of the concerned divisional Head of BHEL or any other person appointed by BHEL. The venue of arbitration shall be JHANSI only.

**(G) AFTER SALES SUPPORT:**

The vendor shall render after sales support for a period of 6 months from

**Tender Document**

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the completion of contract date to remove bugs/ errors if any arising during this period.

**Annexure 'F'**

**PROFORMA FOR SUBMITTING TECHNICAL BID FOR AUTOMATION OF  
WINDING DRAWINGS FOR POWER TRANSFORMER**

1. Name of the firm :
2. Name of the Proprietor /CEO/Partner :
3. Address and Contact Numbers :
4. Service Tax Registration Number :  
Copy of the Certificate : Enclosed / Not Enclosed
5. PAN Number :  
Copy of PAN : Enclosed / Not Enclosed
6. Income Tax Return for last 3 years : Enclosed / Not Enclosed
7. 2 years Audited annual accounts : Enclosed / Not Enclosed  
(in support of Turnover)
8. 2 years Experience Certificate : Enclosed / Not Enclosed  
(Of similar work)
9. AutoCAD license (Serial no and Version) :  
License Certificate Copy/ Invoice : Enclosed / Not Enclosed
10. Self Certificate : Enclosed/Not Enclosed  
(As per Qualifying Requirement clause 9)
11. Declaration : Enclosed/Not Enclosed  
(As per Qualifying Requirement clause 10)
12. Earnest Money Deposit : ₹ 40,000/-  
a) Demand Draft Number & Date : \_\_\_\_\_  
b) Drawn on : \_\_\_\_\_
13. Tender Cost : ₹ 454/-  
D.D.No : \_\_\_\_\_
14. Any other relevant information :
15. Un-priced (Blanked) price bid : Enclosed/Not Enclosed

**We will fulfill all the obligations of the contract and abide by the Terms & Conditions mentioned in the enquiry.**

Date:

Signature with Name  
& Office Seal

**Annexure 'G'**

**PROFORMA FOR SUBMITTING PRICE BID FOR FOR AUTOMATION OF WINDING DRAWINGS FOR POWER TRANSFORMER**

1. Name of the firm :
2. Name of the Proprietor /CEO/Partner :
3. Address and Contact Numbers :

Sl No	Activity Description	Rate (₹)
<b>1.</b>	<b>Winding assemblies:</b>	
(i)	Auto Transformers with LV-COM-REG-SER arrangement	
(ii)	Auto Transformer with LV-REG-COM-SER arrangement	
(iii)	System Transformer with LV-IV-HVM-HVR arrangement	
(iv)	System Transformer with LV-HVM-HVR arrangement	
(v)	System Transformer with LV-HV-HVR arrangement	
(vi)	System Transformer LV-HV (Integral R) arrangement	
<b>2.</b>	<b>Coils:</b>	
(i)	Spiral Winding	
(ii)	Helical Winding –Single Layer	
(iii)	Helical Winding – Double Layer	
(iv)	Split Helical winding double layer	
(v)	Interwound Spiral Winding	
(vi)	Interwound Helical Winding	
(vii)	Composite coil in two/four/ six groups	
(viii)	RS Integral in two groups ( Body Tap)	
(ix)	RS/PID/FID coil in one group	
(x)	RS/PID/FID coil in two groups	
(xi)	RS/PID/FID coil in two groups in series	
3.	Service Tax (@ _____%)	
4.	Total	

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(Sign of Authorized Signatory with date & stamp)

Date:

*(To be executed on ₹100 Stamp Paper)*  
**BHARAT HEAVY ELECTRICALS LIMITED**

**Annexure'H'**

UNIT NAME: BHEL JHANSI

**THIRD PARTY NON-DISCLOSURE AGREEMENT**

I/we \_\_\_\_\_, on behalf of the  
(Name of Company), acknowledge that the information received or generated, directly or indirectly, while working with BHEL on contract is confidential and that the nature of the business of the BHEL is such that the following conditions are reasonable, and therefore:

I/we warrant and agree as follows:

I/we, or any other personnel employed or engaged by our company, agree not to disclose, directly or indirectly, any information related to the BHEL. Without restricting the generality of the foregoing, it is agreed that we will not disclose such information consisting but not necessarily limited to:

- Technical information: Methods, drawings, processes, formulae, compositions, systems, techniques, inventions, computer data/configuration and research projects.
- Business information: Customer lists, project schedules, pricing data, estimates, financial or marketing data,

On conclusion of contract, I/we, or any other personnel employed or engaged by our company shall return to BHEL all documents and property of BHEL, including but not necessarily limited to: drawings, blueprints, reports, manuals, computer data/configuration, and all other materials and all copies thereof relating in any way to BHEL' s business, or in any way obtained by me during the course of contract. I/we further agree that I/we, or any others employed or engaged by our company shall not retain copies, notes or abstracts of the foregoing.

The obligation of this confidentiality agreement shall continue even after the conclusion of the contract also.

I/we acknowledge that the aforesaid restrictions are necessary and fundamental to the business of the BHEL, and are reasonable given the nature of the business carried on by the BHEL. I/we agree that this agreement shall be governed by and construed in accordance with the laws of country.

I/we enter into this agreement totally voluntarily, with full knowledge of its meaning, and without duress.

Dated at \_\_\_\_\_, this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_ .

SIGNATURE :  
NAME :  
DATE :  
SEAL OF COMPANY :

## Annexure 'I'

	<b>WORKS POLICY</b>	Document No.: AA:MM:WP Rev. No: 00    Date: 06-08-2008
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### 8.2 Security Deposit:

8.2.1 Security Deposit should be collected from the successful tenderer. The rate of Security Deposit will be as below:

- 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.