Works Contract Tender Enquiry No: TRM/TW/25/01



# TENDER DOCUMENT For Works Contract Tender Enquiry No: TRM/TW/25/01

### For Manufacturing activities of Special Transformers using In-house facilities at BHEL Jhansi

### **Contact person:**

Name: Krishna Kumar

Designation: Manager/ TRM Email: krishna.kumar@bhel.in

Mo: 8004939843

Tender Due Date : 18.04.2025 13 :15 hrs Tender Opening Date : 18.04.2025 14 :00 hrs

Rev 00	Short details of revision :
Date	

## SPECIAL TRANSFORMER MANUFACTURING DEPARTMENT BHEL, PO: BHEL, Jhansi 284120 (UP)

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### Details of bidder and Documents To Be Submitted Along With Technical Bid

Please number your documents in continuation with tender documents at bottom (footer) of page.

SL	Particular	Detail	
1.	Name of the Firm		
2.	Name of the Proprietor/Partners		
3.	Address		
4.	Mobile No:		
5.	E-mail ID:		
	Essential Docu	ments	
	Particular	Detail	Page No
6.	Acceptance of Terms & conditions Signature on all pages without conditions of contractor	Submitted/ Not submitted	
7.	Blank price bid format duly signed by the contractor.	Submitted/ Not submitted	
8.	Copy of PF registration	PF No:	
9.	Copy of ESI Registration	ESI No:	
10.	Copy of PAN Card	PAN No:	
11.	Copy of GST Registration	GST No:	
12.	Self decleration as per as per annexure-'V' on firm's letter head	Submitted/ Not submitted	
13.	Copy of ownership of firm (Refer page 21 point 8)	Submitted/ Not submitted	
14.	Reciept of tender fees deposition	Amt-	
15.	Reciept of EMD deposition	Amt-	

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15.	Copy of turn over for last three year  i. 2022-23 ii. 2023-24 iii. 2024-25	Submitted/ Not submitted			
16.	Work Experience :  i. Work Order  ii. Completion Certificte  iii. Relevant TDS/TRACES form 16A  or 26AS (in case of outside BHEL  expereince)	Submitted/ Not submitted			
	Desirable Documents				
17.	Copy of Income Tax Return  i. 2022-23 ii. 2023-24 iii. 2024-25	Submitted/ Not submitted			

We will fulfill all the obligations of the contractor and abide by the Terms & Conditions mentioned in the Tender Enquiry.

Date:	Signature with Name & Sea
Dale .	Signature With Name & Sea

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### **PART-I: TECHNO-COMMERCIAL BID**

### **PART-II: PRICE BID**

(Separate Envelope)

SL	Section	Page Nos.
1	PRICE BID (JS-472)	1-page

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### NOTICE INVITING TENDER



**NOTICE INVITING TENDER** 

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SL	Particulars	Details
1	Name of Works	Manufacturing activities of Special Transformers using In-House facilities at BHEL Jhansi
2	Estimated Value	
3	Estimated Value with 30% variation	
4	Tender Evaluation Criteria	As per Qualifying Requirements (As per Tender Documents & GTC)
5	Duration of the Contract	12 Months from the date of award of Works Contract / Order
6	Last Date of Receipt of the Tender	(as on page # 1)
7	Date of opening Tender	(as on page # 1)
8	Address for submitting the tender	(as on page # 7)
9	Earnest Money Deposit (EMD)	Rs 3.93 Lakhs/- only (Waived off for MSE Vendor provided UDHYAM is submitted)
10	Cost of Tender	NIL
11	Validity of Offer	120 Days
12	Reverse Auction	NA
13	Rejection of Tender	Bids lower than 80% of estimated value shall be rejected. This value of contract will be certified by Head TRM based on the technological hours required for the activities mentioned in tender
14	Price Variation clause	<u>Applicable</u>

**Note:** The EMD may be accepted only in the following forms:

- i) Electronic Fund Transfer credited in BHEL Account (before tender opening)
  BHEL account details: Bank Name: SBI, A/C No: 10670828866, IFSC Code: SBIN0003807,
  A/C Holder Name: BHARAT HEAVY ELECTRICALS LIMITED
- ii) At BHEL, cash office through POS machine No Demand Drafts shall be accepted. The contractors may physically visit the work place before quoting their rates. For relevant details, please visit our website <a href="https://jhs.bhel.com/">www.bhel.com</a> & <a href="https://jhs.bhel.com/">https://jhs.bhel.com/</a>.

Note: BHEL takes no responsibility for any delay / loss of documents or correspondence sent by courier or post. Late tenders shall be rejected outright.

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The techno-commercial bid comprising (i) all its sections, (ii) all enclosures in support of various clauses and requirements and (iii) EMD, shall be duly signed and sent in a sealed envelope boldly super-scribing "PART-I TECHNO COMMERCIAL BID FOR 'Manufacturing activities of Special Transformers using In-house facilities at BHEL Jhansi'. Similarly, the Price-bid must be duly signed and sent in a sealed envelope boldly super-scribing "PART-II PRICE BID FOR 'Manufacturing activities of Special Transformers using In-house facilities at BHEL Jhansi'. Both these envelopes shall be placed inside 3<sup>rd</sup> sealed envelope super-scribing 'Manufacturing activities of Special Transformers using In-house facilities at BHEL Jhansi'.

#### The tender shall be addressed to as follows:

Tender Box Control Room/Office Administrative Building Bharat Heavy Electricals Limited Jhansi-284120 (UP)

#### Part-I (Techno Commercial) Bid:

Part I of the sealed tenders alone will be opened by BHEL in the presence of tenderers who are present at the time & place of opening. A signed blank price-bid copy should be enclosed with this bid. The spaces for prices should be crossed (x).

#### Part-II (Price) Bid:

The price bid should contain prices only. Price bid will be opened only for the parties who qualify in techno commercial bid.

#### TO BE SIGNED BY THE TENDERER

Certified that all sections of the Tender have been read / complied & agreed to, and each page of the tender offer has been signed & stamped.

(Signature of Authorized person(s))

Name and designation of Authorized Person(s)

**WORK SPECIFICATION Brief Description of Works** 

SL	Description of Work	Section
(A)	(B)	(C)
1	Manufacturing activities of 3-phase freight Transformers (6531 KVA / 7775 KVA/9035 KVA)	Bay-3 & Bay-6
2	Manufacturing activities of IGBT MEMU Transformers	Bay-3 & Bay-6
3	Manufacturing activities of freight 5400 KVA Transformers	Bay-3 & Bay-6
4	Manufacturing activities of ESP Transformers	Bay-3, Aux. feeder shop, Bay-8 Assembly & winding
5	Manufacturing activities of Dry Type Transformers	Bay-3 & Bay-7
6	Manufacturing activities of Instrument (CT/VT) transformers	Aux. feeder shop, Bay-8 Assembly & winding
7	Manufacturing of Bushing/Turret CT/crepe paper tube & static ring of Power trfr	Bay-8 winding
8	Manufacturing of dovetail strips & angle ring of Power trfr	Aux. feeder shop

- The details of activity involved in the above said works are given in Annexure-G. The total work will be 404919 technology hrs & the same may vary by + 30%.
- The contractor will have to appoint sufficient no. of supervisors to organize and supervise the work being done by his employees in 1st, 2nd & 3rd shifts (if needed). Supervisors allocated for all the sections, against this contract need to be present full day and supervise the activities.
- The contractor shall ensure deployment of skilled/Semi skilled/Un-Skilled experienced manpower to carry out the said works. Also, for special process like brazing, welding, crimping etc, contractor has to get workers qualified by BHEL on a periodic basis.
- The above work should meet the requirement of the shop/CQX executive/supervisor. The above work shall be normally done in 1st & 2nd shift. Work shall also be done in 3rd shift and on Sunday/Holidays and as & when required.
- Contractor have to collect all required material, drawings and manufacturing information from shop SPC/contracting department. Required space, tools & tackles and facilities like material handling equipments, fixture and crane will be provided by BHEL subject to its availability in normal working conditions. Consumables like resin glass tape, araldite, varnish, paint, cotton waste, feviquik etc. will be issued by BHEL, and these will be collected by contractor. Contractor will check for any defect in material and get it rectified/ replaced before starting work.
- All the material, electricity, compressed air, consumable and tools available with BHEL shall be provided by BHEL free of cost.

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- EOT crane shall be provided by BHEL free of cost along with crane operator and slinger. However, in contingency in order to meet the job requirement, any additional resources (like crane operator, slinger etc.) if required shall be arrange by the contractor at their cost.
- All the job after manufacturing will be inspected by CQX/contracting department/customer. In the event of failure, the dismantling of job has to be carried out by the contactor. Further course of action will be decided after RCA/nature of failure.
- The contractor shall maintain proper records of all the activities/inspection stages and the same should be made available, as and when required by BHEL.
- Measurement Book (MB) to be prepared work order wise and job serial no./set no. wise by the contractor. Contractor should also get the MB verified by shop, CQX & TEX representative.
- Contactor has to ensure strict compliance of 5-S & housekeeping in the designated area of work. The contractor may be penalized if he fails to do the same.
- Contractor is advised to visit the work place to know the work content before submission of quotation. The required documents/ drawing/MI Sheet can be seen at our works.

Note: The above work should meet the technical requirement of BHEL and customer. Work should be carried out as per drawings, specification, standards, procedures, laid down by BHEL, which may get revised as per requirement from time to time. Party will be liable to follow drawings, standards, procedures that are in use at that time without any change in rates and terms and conditions of contract.

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#### **Annexure-G**

### **Scope of Works**

SL	Works Nature	Details of Activities Involved	Area Section
1.	6531 KVA / 7775 KVA / 9035kVA 3-Phase Freight Transformers: Core Assembly of LOT, Core coil assembly, E/F mounting Terminal Gear assembly, servicing and tanking of LOT, SOD and GOD. Core Assembly, Coil winding, Core Coil Assembly And TG of SOD. Core Assembly, Coil winding Core Coil Assembly And TG of GOD.	<ol> <li>Laying of Endframe, Core Assembly, resin glass taping of LOT, SOD &amp; GOD as per drawing.</li> <li>Welding of SOD core as per drawing.</li> <li>Unlacing of core, lowering of coil into core, clamping and tightening of coil and relacing of core.</li> <li>Enamel burning and cleaning, Terminal gear assembly, Brazing taping, and compartment fitting.</li> <li>Servicing of transformer: Re-tightening of all hardwares using torque wrench, varnishing, and quality inspection as per their checklist.</li> <li>Tanking of LOT, SOD &amp; GOD in tank and final cover mtg after vacuum processing.</li> <li>Preparation of job for Electrical testing.</li> <li>Cleaning of tank if dirty.</li> <li>Collection of material from store/CRX.</li> <li>BHEL Shop/quality/Customer shall inspect the job at any point of time and their bookings to be attended.</li> <li>Oil pressure testing &amp; final Painting pinking of transformers for dispatch as PER CQX checklist.</li> <li>Operation of drill machine, if required.</li> <li>Store Keeping for raw materials &amp; hardwares.</li> </ol>	Bay 3 & 6
2.	Core Assembly, Varnishing of coils, coil Assembly ,Core coil assembly, E/F mounting ,TG, Tanking, Tank preparation and wiring of IGBT ACEMU trfr	<ol> <li>Laying of End Frame, Core Assembly, E/F tightening and 2 KV test.</li> <li>Varnishing of coil as per BHEL Jhansi Specifications.</li> <li>Leg assembly of coils (2 legs /set)</li> <li>Unlacing of core, lowering of coil into core, clamping and tightening of coil and relacing of core.</li> <li>Terminal gear assembly, brazing, taping.</li> <li>Equipments mounting on tank, wiring, tanking &amp; cover mounting.</li> <li>Preparation of job for Electrical testing.</li> <li>Oil pressure testing &amp; final Painting, pinking of transformers for dispatch as PER CQX checklist.</li> <li>Collection of material from shop store/CRX.</li> <li>Preparation of job for Electrical testing.</li> <li>Operation of varnish plant.</li> <li>Operation of drill machine, if required.</li> </ol>	Bay 3 & 6

3.	5400 KVA trfr for WAG-7 locomotives.	<ol> <li>Laying of End Frame, Core Assembly, E/F tightening and 2 KV test.</li> <li>Coil stacking of leg I, II, III.</li> <li>Unlacing of core, lowering of coil into core, clamping and tightening of coil and relacing of core.</li> <li>Terminal gear assembly, brazing &amp; taping.</li> <li>Tanking of trfr in tank and final cover mtg after vacuum processing.</li> <li>Preparation of job for Electrical testing.</li> <li>Oil pressure testing &amp; final pinking of transformers for dispatch</li> <li>Cleaning of tank if dirty.</li> <li>Collection of material from store/CRX.</li> <li>BHEL Shop/quality/Customer shall inspect the job at any point of time and their bookings to be attended.</li> <li>Store Keeping for raw materials &amp; hardwares.</li> </ol>	Bay 3 & 6
4.	Bay 8 - ESP transformer assembly	<ol> <li>Laying of End Frame, Core Assembly, E/F tightening and 2 KV test of ESP &amp; ACR.</li> <li>Unlacing of core, lowering of coils (HV &amp; LV) into core, clamping and tightening of coils and relacing of core after pre-heating.</li> <li>Brazing, cleaning, taping &amp; lug crimping of LV leads. Crimping, soldering &amp; taping of HV leads.</li> <li>Terminal gear (TG) assembly followed by vacuum processing &amp; tank preparation.</li> <li>Servicing of TG assembly: Re-tightening of all hardwares using torque wrench &amp; varnishing.</li> <li>ACR assembly: Unlacing of core, lowering of coils into core, clamping and tightening of coils and re-lacing of core after pre-heating. Brazing, cleaning &amp; taping of leads followed by TG assembly.</li> <li>Tanking of TG &amp; ACR assembly in tank and final cover mounting after vacuum processing.</li> <li>Assembly of M Box.</li> <li>Preparation (case fitting) of job for electrical testing.</li> <li>Cleaning of tank (if dirty).</li> <li>Shop/quality/customer shall inspect the job at any point of time and their bookings to be attended.</li> <li>Oil pressure testing (IH/CI) &amp; final painting &amp; pinking of transformers for dispatch as per QC checklist.</li> <li>Collection of material from store/CRX.</li> <li>Store keeping for raw materials &amp; hardwares.</li> </ol>	Bay 3 & 8

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5.	Dry Type Transformers	<ol> <li>Laying of End Frame, Core Assembly, E/F tightening and 2 KV test.</li> <li>Unlacing of core, lowering of coil into core, clamping and tightening of coil and relacing of core.</li> <li>Terminal gear assembly, brazing, taping.</li> <li>Enclosure assembly &amp; wiring, E/F wiring, roller assembly.</li> <li>Preparation of job for Electrical testing.</li> <li>Store Keeping for raw materials &amp; hardware.</li> <li>Collection of material from shop store/CRX</li> </ol>	Bay 3 & 7
6.	Bay 8 - Instrument transformer assembly	<ol> <li>Tank preparation.</li> <li>Lowering of primary &amp; secondary coil in tank. Taping &amp; tightening/clamping of coils.</li> <li>Secondary coil connection preparation &amp; fitting of the same in secondary terminal board followed by pre heating of job.</li> <li>Mounting of tank cover followed by lowering of insulator &amp; tightening.</li> <li>Top chamber preparation &amp; its mounting. Primary coil connection preparation followed by vacuum processing &amp; final electrical testing.</li> <li>Shop/quality/customer shall inspect the job at any point of time and their bookings to be attended.</li> <li>Oil pressure testing (IH/CI), final painting &amp; pinking of transformer (including nitrogen filling) before dispatch as per QC checklist.</li> <li>Collection of material from store/CRX.</li> <li>Store keeping for raw materials &amp; hardwares.</li> </ol>	Bay 8
7.	Feeder shop – Tube tapping (Instrument transformer - CT)	<ol> <li>Collection of material (Copper/Aluminium pipes) from store/CRX.</li> <li>Bending of tube as per approved drawing.</li> <li>Thorough cleaning of tube through cotton tape, emery paper &amp; thinner.</li> <li>Marking &amp; tapping of tube (multi-layer insulation) as per approved drawing in dust free environment.</li> <li>Insulation through copper foil &amp; soldering on top layer of tube.</li> <li>Soldering of earth lead followed by single layer insulation of crepe paper &amp; cotton tape.</li> <li>Store keeping for raw materials.</li> </ol>	Aux. feeder shop
8.	Feeder shop – LV coil (ESP transformer)	<ol> <li>Fixing of mould on winding machine followed by pressboard wrapping over the mould.</li> <li>Fixing of spacer, bottom blocks &amp; edge blocks through adhesives.</li> <li>LV lead preparation (bottom side) followed by its locking with edge blocks.</li> <li>Winding to done as per approved drawing.</li> </ol>	Aux. feeder shop

		<ol> <li>LV lead preparation (top side) followed by cotton taping from top to bottom.</li> <li>Insulation of coil by usage of spacer, AWW paper &amp; aluminum kraft paper.</li> <li>Soldering of earth strip.</li> <li>Final layer of insulation of press paper, spacer, pressboard &amp; polyester tape.</li> <li>Collection of material from store/CRX.</li> <li>Store keeping for raw materials.</li> </ol>		
9.	Feeder shop – ACR coil (ESP transformer)`	<ol> <li>Fixing of mould on winding machine followed by pressboard wrapping over the mould.</li> <li>LV lead preparation followed by its locking with edge blocks.</li> <li>Winding to done as per approved drawing.</li> <li>LV lead preparation (opposite side) followed by cotton taping from top to bottom.</li> <li>Collection of material from store/CRX</li> <li>Store keeping for raw materials.</li> </ol>	Aux. shop	feeder
10.	Feeder shop – Static ring (ESP transformer)	<ol> <li>Lead marking on former of static ring.</li> <li>Insulation of copper foil followed by soldering of copper strip &amp; leads on layer of copper foil.</li> <li>Multi-layer insulation of crepe paper followed by single layer insulation of cotton tape.</li> <li>Collection of material from store/CRX.</li> <li>Store keeping for raw materials.</li> </ol>	Aux. shop	feeder
11.	Feeder shop – Cable (ESP transformer)	<ol> <li>Collection of material from store/CRX.</li> <li>Store keeping for raw materials.</li> <li>Cutting of cable from drum followed by cleaning of cables.</li> <li>Marking of cables &amp; part removal of rubber portion.</li> <li>Cutting of iron wire (present inside the cable) followed by fixing &amp; tightening of glands.</li> <li>Cutting &amp; marking of red, yellow, green &amp; black wires (present inside the cable) as per requirement.</li> <li>Insertion of ferrule followed by lug crimping.</li> <li>Steps from Sl. no. 4 to 7 to be repeated on opposite side of the cable.</li> </ol>	Aux. shop	feeder
12.	Feeder shop – Dovetail blocks (Power transformer)	<ol> <li>Collection of material from store/CRX.</li> <li>Store keeping for raw materials.</li> <li>Thorough cleaning &amp; oiling of power press machine.</li> <li>Dye &amp; plate fitting followed by block setting.</li> <li>Cutting of blocks as per approved drawing.</li> <li>Arranging &amp; bundling of blocks through adhesives in line with approved drawing &amp; requirement.</li> </ol>	Aux. shop	feeder

		4 84 ( ) ( )	A
13.	Feeder shop – Angle	Manufacturing of mould as per drawing.	Aux. feeder
	ring (Power	<ol><li>Insulation of press paper followed by marking &amp; cutting.</li></ol>	shop
ļ	transformer)	3. Insertion of top, middle & bottom washer	
ļ		through adhesives.	
ļ		4. Drilling of hole on washers.	
		<ol> <li>Tightening of ring by cotton tape.</li> </ol>	
		6. Cutting of off cut paper followed by final	
		finishing & identification work.	
		7. Collection of material from store/CRX.	
		8. Store keeping for raw materials.	
		, -	
14.	Bay 8 winding - Ring	1. Lifting of bare core from Bay 5 & unloading	Bay 8
	core CT (Power &	in Bay 8.	,
	Instrument	2. Fixing of bare core on winding machine.	
	transformer)	Cutting of washer & wrapping of the same on bare core thrice.	
		3. Winding of core as per approved ES/drawing	
		& offering the ring core CT to testing	
		department.	
		4. After satisfactory testing results, leads to be	
		prepared & soldering of the same to be done	
		on tested ring core CT.	
		5. Insulation through cotton tape followed by	
		insertion of ferrules & identification/marking	
		of ring core CT.	
		6. For bare core of size (greater than 550mm	
		dia & lesser than 150mm dia), hand winding	
		to be done.	
		7. Collection of material from store/CRX.	
		Store keeping for raw materials	
15.	Bay 8 winding -	1. Lifting of bare core from Bay 5 & unloading	Bay 8
	Flaring (Instrument	in Bay 8.	_ = 5.7 5
	transformer -	2. Fixing of bare core on winding machine.	
	24/36kV CT)	Cutting of washer & wrapping of the same on	
	27/30KV ()	bare core thrice.	
		3. Winding of core as per approved ES/drawing	
		& offering the ring core CT to testing	
		department	
		4. After satisfactory testing results, leads to be	
		prepared & soldering of the same to be done	
		on tested ring core CT.	
		5. Preparation of insulation material followed by	
		flaring (multi-layer insulation by crepe paper, aluminium foil & copper strip through	
		adhesives) in line with approved	
		drawing/requirement.	
		6. Collection of material from store/CRX.	
		7. Store keeping for raw materials.	
		, ,	

16.	Bay 8 winding – Flaring (Instrument transformer – 132kV & 220kV VT)	<ol> <li>Fixing of coil on flaring machine.</li> <li>Lead &amp; neck preparation.</li> <li>Preparation of insulation material followed by flaring (multi-layer insulation by crepe paper through adhesives) in line with approved drawing/requirement.</li> <li>Collection of material from store/CRX.</li> <li>Store keeping for raw materials.</li> </ol>	Bay 8
17.	Bay 8 winding – SSD Card & resistor board (ESP transformer)	1. Engraving & marking on SSD card base. 2. Lead preparation (12 nos.) 3. Mounting of glow tube, resistance & relay base on SSD card base. 4. Collection of material from store/CRX. 5. Store keeping for raw materials  Resistor Board:  1. Engraving & marking on resistor board base. 2. Lead preparation (6 nos.) 3. Dismantling of resistor board for fixing of leads followed by re-assembly. 4. Collection of material from store/CRX. 5. Store keeping for raw materials	Bay 8
18.	Bay 8 winding – Static ring (Power transformer)	<ol> <li>Lead marking on former of static ring.</li> <li>Insulation through copper foil followed by soldering of copper strip &amp; lead on layer of copper foil.</li> <li>Multi-layer insulation of crepe paper followed by single layer insulation of cotton tape.</li> <li>Collection of material from store/CRX.</li> <li>Store keeping for raw materials.</li> </ol>	Bay 8
19	Bay 8 – HV coil (ESP transformer)	<ol> <li>Fixing of mould on winding machine followed by water washed kraft paper wrapping over the mould.</li> <li>HV start lead preparation followed by its locking with sleeve and cotton tape (water washed kraft paper).</li> <li>Winding to done as per approved drawing and ES.</li> <li>HV lead preparation (finish side) followed by cotton taping and locking with sleeve (water washed kraft paper).</li> <li>Final layer of insulation of kraft paper, &amp; cotton tape.</li> <li>Collection of material from store/CRX.</li> <li>Store keeping for raw materials.</li> </ol>	Bay 8

20.	<ol> <li>Bay 8 winding – Crepe paper insulation Tube (power winding)</li> <li>Insulation of crepe paper followed by marking &amp; cutting.</li> <li>Insertion of adhesives between layers.</li> <li>Tightening of crepe paper followed by final finishing &amp; identification work.</li> <li>Collection of material from store/CRX.</li> <li>Store keeping for raw materials.</li> </ol>		Bay-4
21.	Operation of vacuum vessel, oil filtration plant, varnish impregnation plant & heating oven.	<ol> <li>Loading and unloading of job to/from the vessel.</li> <li>Data capturing like temperature &amp; vacuum at regular intervals.</li> <li>Filling of oil into vacuum pumps.</li> <li>Emptying of oil tanker to storage tank.</li> <li>Oil filtration of raw oil as per requirements.</li> <li>Filling and emptying of oil into the transformers.</li> <li>Cleaning and general maintenance of vessels and oil filtration plants.</li> <li>All operations of varnish impregnation plant &amp; heating oven (Bay-6 only).</li> </ol>	Bay 6 & Bay 8
22.	Operation of repair / rectification of Jobs / Trfr	1. Repair / rectification of Jobs / Trfr	Bay 6, Bay 7 (DTT) & Bay 8

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#### LD CLAUSE AND PAYMENT TERMS

- 1. **Penalty Clause:** Any delay in execution as per measurement book attributable to contractor shall attract penalty @ 0.5% per week for delayed job and maximum up to the ceiling of 10% respective job value.
- 2. **Payment Terms**: The work shall be measured in terms of technology hours and payment shall be made activity wise based on applicable technology hours of the activity (Refer Annexure M)
- 3. <u>Price Variation Clause (PVC):</u> Price variation with respect to statutory wages declared by the Government of UP, PF and ESI from the time to time will be permissible as per formula given below for bill processing:

For works contract, Revised rate without GST = Awarded rate per technical hour without GST X (1+ (Minimum wage during bill period for unskilled worker – Minimum wages at the time of tendering)/ Minimum wages at the time of tendering)).

Minimum wage rate declared by BHEL Jhansi HR department shall be the bases for calculating the PVC. Executing department will declare the technological hour rate based on the minimum wage rate declared by UNIT HR for billing purpose for the month in which the technological hours utilized

Α	Awarded rate per Technological Hour (Rs)	50
В	Minimum wages as on tender opening date (Rs per day)	518.4
С	Minimum wages as on tender opening date (Rs/Hour) considering 8 hours a day (B/8)	64.8
D	Minimum wages rate in the month in which Hour were utilized (Rs per day)	538.00
E	Minimum wages rate in the month in which Hour were utilized (Rs/Hour) considering 8 hour a day (D/8)	67.25
F	Difference (E-C)	2.45
G	% Increase in minimum Wages (F/C)	3.78%
Н	PVC rate for the month (A X G)	1.89
I	Billing rate per technological Hour (Rs) A+H	51.89

# Minimum wage rate circular bearing Ref No – HR/CLC/MW-05/25 dt 27.02.2025 attched at page no -29

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4. **ORC (Over Run Compensation)** /**Bonus**: Not applicable. However, contractor to ensure statutory compliances wr.r.t. labour as per statute.

#### Note:

- i) Non Power Transformer Manufacturing activities are approximately 15% of skilled nature, 44% Semi skilled nature & 41% unskilled nature.
- ii) The contractor shall follow BHEL norms prevailing for wages to be paid to the Contract workers
- iii) Records pertaining to deployed workers shall be maintained by contractor and same shall be verified with records of concerned manufacturing shop.

#### **Pre-Qualifying Requirements (PQR)**

SL	Description of Pre-Qualifying Requirements
1.	Average Annual financial turnover during the last 3 years ending 31st March 2024, should be at least
	Rs.59.01 Lakhs approx.(Non MSE) & Rs. 14.75 Lakhs (MSE). (Please attach <i>Income tax return certificate</i>
	balance sheet and Profit & Loss Account of last three financial year, ending 31st March 2025, or Certificate of
	CA).
	Note-Provisional /Actual Turnover for financial year 2023-24 duly certified by CA shall also be acceptable for
	evaluation purpose.
	If T/o details of 3 years are not available then available years T/o shall be evaluated by dividing it by 3.
2.	2.1: Work Experience: Experience of having successfully completed similar works* (defined below)
	during last 7 years ending the month previous to the month of issuing tender eqqury either of the
	following: -
	a) For Non MSE registered bidders

SL	Description of Pre-Qualifying Requirements
	<ul> <li>a. Three similar completed works each valuing not less than the amount equal to Rs.78.68</li> <li>Lakhs OR</li> </ul>
	<ul> <li>Two similar completed works each valuing not less than the amount equal to Rs.98.35</li> <li>OR</li> </ul>
	c. One similar completed works each valuing not less than the amount equal to Rs.157.36 Lakhs
	b) For MSE registered bidders: MSE bidders have to submit valid UDYAM certificate covering activities as mentioned in definition of <b>similar works*</b> (defined below)
	<ul> <li>a. Three similar completed works each valuing not less than the amount equal to Rs.19.67 Lakhs OR</li> </ul>
	b. Two similar completed works each valuing not less than the amount equal to <b>Rs.24.59 Lakhs OR</b>
	c. One similar completed works each valuing not less than the amount equal to Rs.39.34  Lakhs
	*Similar Work: Any works contract of requisite value even if the contract has not been completed or closed (in any PSU/CPSU/State govt./Central Govt./Private sector) involving manufacturing or assistance in manufacturing maintenance of electrical equipment.
	Documentary proof (Completion Certificate, Last raised Invoices if work is not complete, last payment receipt details and WO/PO/LOI) & TDS certificate issued from TRACES (Form 16A or 26AS) for experience performance report issued by customer for successful execution of the requisite value is to be submitted. IN case the value reflecting in TDS certificate are not matchinh with the value given in completion certificate/invoice etx, linking calculations will be provided by the bidder. BHEL may also approach customer for verification of details submitted by the bidder.
	In case experience is submitted for work done in BHEL, TDS Certificate ( 16A or 26AS) is not required.
	<b>Benefits under Start up scheme</b> : Considering critical quality aspects & technical specification implications for the work, no relaxation shall be given to start-up bidders on account of turnover criteria & prior experience.
3.	Contractor Should have an ESI Code number and PF number.
4.	Contractor Should have PAN number.
5.	Contractor Should have GST (PAN based).
6.	Bidders are required to submit a self-declaration on their letter head as per the Format enclosed in <b>Annexure V</b> of tender enquiry.

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SL	Description of Pre-Qualifying Requirements
7.	The documents required for legal entities under whose name and style Contractor has participated in the tender are as follows:
	8.1) Partnership Firm: Partnership Deed registered at the office of Registrar of Firms.
	8.2) Company: Certified copy Memorandum of Association, Article of Association and Incorporation Certificate.
	8.3) Society: Registration certificate issued by Registrar of societies.
	8.4) Sole Proprietor-ship Firm: Undertaking on oath (On Rs. 100/- Stamp Paper) that Proprietor is solely responsible for all rights and liabilities while working under the name and style of Sole Proprietorship firm namely ().

#### **Manner of Splitting of Work**

All the eligible bidders will be categorized from L1 to Lh bidder (Lh will be the bidder who quoted highest rate) on the basis of their quoted rates. In case of equal rates at the same level, toss/lottery shall be drawn among all the conractors having quoted equal rates for grading from lower to higher rates. This list shall be referred for award of work.

The contract shall be splitted maximum between **two contractors** as illustrated below:

P	L1	L2	TOTAL
1	100	-	100
2	60	40	100

Where P is the accepted number of qualified responses.

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1.	The distribution shall be done on the acceptance given by the bidder(s) to the L1 price counter offered to them. In case, none of the bidders accepts the counter offer (L2 to Lh), the entire work order will be awarded to lowest bidder.
	GENERAL TERMS AND CONDITIONS OF ENQUIRY (JHS2055C R02)

### **UPLOADED IN SPERATE FILE -PAGE NO 01 TO 14**

(To be signed by contractor and submitted along with bid.)

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#### **ANNEXURE "V"**

#### **Self-Declaration**

- 1. I / We have not been found guilty by a Court of law in India for any crimes of fraud, dishonesty or moral turpitude.
- 2. I / We are not been blacklisted/under hold/banned or delisted by BHEL Jhansi or any Unit/office of BHEL or any other organization, before or till, on the date of tender opening.
- 3. I / We shall not be influenced by anyone in deployment of labour, for this contract.
- 4. I/We will deploy persons preferably with experience developed in BHEL Jhansi, for this contract.

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- 5. I/ We will ensure that the manpower deployed for this contract shall be competent to carry out the assigned task.
- 6. I / We shall deploy manpower after acceptance of the Head of the Executing Department.
- 7. I / We agree that BHEL shall reserve the right to reject any labour deployed if found not having the requisite documents, proficiency, experience, etc for the relevant task, or if found involved in any misconduct.
- 8. I / We undertake that we shall pay minimum wages to the labour employed by us for this contract, and also undertake to abide by all statutory and regulatory requirements, as also to the references, terms and conditions mentioned in the tender document, while carrying out work at BHEL Jhansi.

(Signature of the Contractor with Name. Designation & Seal)

Note: On Rs. 100/- Stamp paper.

#### Blank Price Bid-JS 146 Annexure-"X"

	Price Bid				
SL No.	ACTIVITY	UOM	Tentative hours /Job	RATE PER Hour	
Α	В	С	D	E	
1	Manufacturing of 3 phase frt loco trfr (6531 KVA / 7775 KVA / 9035 KVA)	HR	536		
2	Manufacturing of IGBT MEMU trfr (1276 KVA / 1578 KVA)	HR	332	Quoted rate	
3	Manufacturing of 5400 KVA trfr- WAG-7	HR	441	per hour	
4	Manufacturing of ESP transformer	HR	122	•	
5	Manufacturing of DTT (0-1000KVA)	HR	164		
6	Manufacturing of DTT (1001-2500KVA)	HR	212		

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7	Manufacturing of DTT (2501-10000KVA)	HR	313	
8	Manufacturing of DTT (ABOVE 10000 KVA)	HR	424	
9	Manufacturing of 24/36/66 KV CT	HR	84	
10	Manufacturing of 132 KV CT	HR	113	
11	Manufacturing of 220 KV CT	HR	149	
12	Manufacturing of 132 KV VT	HR	76	
13	Manufacturing of 220 KV VT	HR	112	
14	Manufacturing of Bushing/turret CT for PT	HR	36	
15	Manufacturing of Static ring for PT	HR	70	
16	Manufacturing of Dovetail strips for PT	HR	144	
17	Manufacturing of Angle ring for PT	HR	14	
18	HV Coil winding ESP	HR	28	
19	Crepe Paper Tube for PT	HR	0.13	
20	Operation of process plants and oil filtration plants	HR	19584	
21	Site repairs	HR	2000	

<sup>\*</sup> Total operation Hrs

#### Note:-

- 1. Bidders to quote rate per Hour (exclusive of GST / other Govt. taxes as applicable) in column E.
- 2. Payment shall be made as per annexure M within 30 days from the date of bill subject to submission of complete documents in all respect on handing over the respective job to CQX.
- 3. Splitting of Jobs among successful bidders shall be as per tender documents.
- 4. Evaluation of the lowest one bidder shall be on lowest rate per hour basis (Column E).
- 5. Measurement Books shall be maintained Job sl.no/set no. wise, work order wise, Hours consumed duly certified as per annexure F.
- 6. Penalty Clause: Any delay in execution as per measurement book attributable to contractor shall attract penalty @0.5% per week for delayed job and maximum up to the ceiling of 10 % respective job value.

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#### **Instructions to Bidders**

- 1. Bidders have to download the excel sheet in .xls format and fill the value in column E only (on computer) before taking print out of the price bid.
- 2. All the other cells of excel sheet are locked and non-editable.
- 3. Bidders must not fill the price bid manually after taking print out, else the price bid shall be rejected.
- 4. After filling the price bid and taking print out, bidder has to sign (with seal) at the designated place on the price bid.
- 5. Price bid have to kept in separate sealed envelope with tender name and tender no. written on the top of it.
- 6. For job contract/Job Card Basis, bid lower than 80% of estimated Technical hour rate/total estimated value as mentioned in NIT shall be rejected.
- 7. Generally Approximate 15% skilled worker, 43% Semi skilled worker & 42% unskilled workers required in Non-power transformers manufacturing.
- 8. Wages shall be pay to labours as per above percentage.
- 9. Records of contractor shall be verified with details records of workers in concern manufacturing shop.

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#### Annexure M

Sl. No.	PAYMENT TERMS OF SPECIAL TRANSFORMERS	
1	PAYMENT TERMS OF 3-PHASE FREIGHT TRFR (6531 KVA/7775 KVA/9035 KVA)	
	A ativity/Milastones	Technology
1.1	Activity/Milestones  Core building of LOT	<i>hr(s)</i> 77.6
1.1	Core building of SOD	12
1.3	Core building of GOD	12
1.3	Core to Coil Assy & E/F Mounting	46
1.4	Compartment Fitting	32
1.6	TG Assly	112
1.7	Servicing	12.8
1.8	Tanking & Cover Mounting	23.2
1.9	SOD Core-Coil Assly & TG	64.8
1.10	GOD Core-Coil Assly & TG	58
1.11	SOD & GOD Coil Winding	57.6
1.12	Oil Pressure, Pinking & Painting	28
1.13	Total	536
2	PAYMENT TERMS OF IGBT MEMU TRFR (1276 KVA / 1578 KVA)	330
2.1	Core Building & Assembly	25.6
2.2	Core to Coil Assy & E/F Mounting	67.2
2.3	TG, Tank Preparation & Tanking	147.2
2.4	Wiring	64
2.5	Oil Pressure, Pinking & Painting	28
2.6	Total	332
3	PAYMENT TERMS OF 5400 KVA FREIGHT TRFR	002
3.1	Core Building & Assembly	58.56
3.2	Core to Coil Assy & E/F Mounting	163.24
3.3	TG, Tank Preparation & Tanking	174.4
3.4	Final Tightening / Wiring	4.8
3.5	Oil Pressure, Pinking & Painting	40
3.6	Total	441
4	PAYMENT TERMS OF ESP TRFR	
4.1	Core Assembly of ESP, ACR and E/F Tightening	8.8
4.2	LV/ACR Coil winding & ACR strips	26.8
4.3	Static ring, dovetail blocks & cables	12
4.4	ACR/SSD card assembly & engraving of R & D plate, Cable work, ACR assy	6
4.5	Core coil assembly, TG Assembly & resistor board assembly	16
4.6	Tanking, Cover mounting, Conservator assembly, M.box Assy, Servicing & case fitting	16.8
4.7	Pinking & oil bed work	35.6
4.8	Total	122
5	PAYMENT TERMS OF DTT (0-1000 KVA)	
5.1	Core Assembly and Resin Glass Curing	44

5.2	Core -Coil Assembly, E/F wiring	56.8
5.3	TG Assembly	16.8
5.4	Enclosure Assembly, Wiring & roller Assembly	46.4
5.5	Total	164
6	PAYMENT TERMS OF DTT (1001-2500 KVA)	
6.1	Core Assembly and Resin Glass Curing	70.9
6.2	Core -Coil Assembly, E/F wiring	62.9
6.3	TG Assembly	28.0
6.4	Enclosure Assembly, Wiring & roller Assembly	50.1
6.5	Total	212
7	PAYMENT TERMS OF DTT (2501-10000 KVA)	
7.1	Core Assembly and Resin Glass Curing	126
7.2	Core -Coil Assembly, E/F wiring	79
7.3	TG Assembly	46.6
7.4	Enclosure Assembly, Wiring & roller Assembly	61.4
7.5	Total	313
8	PAYMENT TERMS OF DTT (10001 KVA & Above)	
8.1	Core Assembly and Resin Glass Curing	152.8
8.2	Core -Coil Assembly, E/F wiring	92
8.3	TG Assembly	101.6
8.4	Enclosure Assembly, Wiring & roller Assembly	77.6
8.5	Total	424
9	PAYMENT TERMS OF 24/36/66 kV CURRENT TRFR (CT)	
9.1	Ring Core CT winding & final work	28.8
9.2	Flaring	25.6
9.3	Assembly	9.6
9.4	Pinking & oil bed work	20
9.5	Total	84
10	PAYMENT TERMS OF 132kV CURRENT TRFR (CT)	
10.1	Ring Core CT winding & final work	19.2
10.2	Primary tube bending & taping	55.2
10.3	Assembly	14.6
10.4	Pinking & oil bed work	24
10.5	Total	113
11	PAYMENT TERMS OF 220kV CURRENT TRFR (CT)	
11.1	Ring Core CT winding & final work	25.6
11.2	Primary tube bending & taping	84.8
11.3	Assembly	13
11.4	Pinking & oil bed work	25.6
11.5	Total	149
12	PAYMENT TERMS OF 132kV VOLTAGE TRFR (VT)	
12.1	VT winding	21.6
12.2	Flaring	21.6
12.3	Assembly	9.2

12.4	Pinking & oil bed work	23.6
12.5	Total	76
13	PAYMENT TERMS OF 220kV VOLTAGE TRFR (VT)	
13.1	VT winding	40
13.2	Flaring	30.4
13.3	Assembly	16
13.4	Pinking & oil bed work	25.6
12.5	Total	112
	PAYMENT TERMS OF POWER TRFR (PT) ITEMS	
14	Bushing/Turret CT Preparation per set of Power Trfr	36
15	Static Ring Preparation per set of PowerTrfr	70
16	Dove tail Strips per set of Power Trfr	144
17	Angle Ring per set of Power Trfr	14
18	HV Coil winding ESP per job.	28
19	Crepe Paper Tube for power transformer	0.13
	PAYMENT TERMS OF PROCESS PLANT AND OIL FILTRATION PLANT	
20	Technical hrs basis	1
	PAYMENT TERMS OF REPAIR/RECTIFICATION OF JOBS/TRFR	
21	Technical hrs basis	1



## BHARAT HEAVY ELECTRICALS LIMITED: JHANSI (Human Resource Management)

From: Gaurav Sahu	To:	All GMs/AGMs/HODs
Engineer (HR)		

Ref: HR/CLC/MW-05/25

Date: 27.02.2025

### Sub: Minimum Wage Rates

On the aforesaid subject, as a result of DA revision, the wage rates as applicable for Engineering Industries in Uttar Pradesh employing more than 50 workmen, shall now be as follows: -

Category	Wage rate per day
SW	622.08 (Rs. Six Hundred Twenty Two & Eight Paise)
SSW	570.24 (Rs. Five Hundred Seventy & Twenty Four Paise)
USW	518.40 (Rs. Five Hundred Eighteen & Forty Paise)

The above rates shall be applicable in BHEL, Jhansi w.e.f. 01 February 2025 to 31 July 2025.

Gaurav Sahu)

#### Regarding conflict of interest of bidders-

"A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

- a) they have controlling partner (s) in common; or
- b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; or
- c) they have the same legal representative/agent for purposes of this bid; or
- d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder; or
- e) Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from one bidding manufacturer in more than one bid; or

- f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorise only one agent/dealer. There can be only one bid from the following:
  - 1. The principal manufacturer directly or through one Indian agent on his behalf; and
  - 2. Indian/foreign agent on behalf of only one principal;

or

- g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid; or
- h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business."