



# WEST BENGAL STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED

(A Govt. of West Bengal Enterprise)

Office of the Chief Engineer: Procurement & Contracts Department  
Bidyt Bhaban (4<sup>th</sup> Floor) : Bidhannagar : Block-DJ, Sector-II, Kolkata-700 091

Phone No. 033-23197-375/399: / e-mail -procurementdept@wbasedcl.in

CIN- U40109WB2007SGC113473, website: [www.wbasedcl.in](http://www.wbasedcl.in)

## NOTICE INVITING TENDER

### NIT No.- P-06/2026-27/DTR/RC/PC-IV

Tenders are invited by the Chief Engineer, Procurement & Contracts Department, WBSEDCL, Vidyut Bhawan (4th Floor), Bidhannagar, Block-DJ, Sector-II, Kolkata-91 for Carrying out repair of damaged/defective Distribution Transformers of Stack/Wound Core Oil Type and Vacuum Pressure Impregnated (VPI) Dry Type on Rate Contract basis within the State of West Bengal, including supply of materials/spares as required for the said work, for a period of 2 (two) years with provision for further extension of 1 (one) year, subject to compliance with the terms and conditions of the contract.

Sl. No.	Description of Item	Estimated cost of procurement/work for a period of two years (Rs. in Cr.)(excluding GST) (Approx.)
1	Rate contract for repairing of Damaged/ Defective Distribution Transformers of different Type & Capacity.	Rs.275 Cr. (Two seventy five crore)
<b>Tender Fee: NIL</b>		
Price: The price is Variable as per PV Formula based on IEEMA with base date of <b>01/04/2026</b> .		
<b>Earnest Money Deposit:</b> 1. Earnest Money cum Security Deposit amounting to <b>Rs 5,00,000/- (Rupees Five lakh only)</b> shall have to be deposited by the participating bidders applied for the category DTR rating of 160 KVA and below (excluding station service); the EMD amounting to <b>Rs 6,00,000/- (Rupees Six lakh only)</b> shall have to be deposited by the participating bidders applied for the category DTR KVA rating up to 630 KVA, including station service as indicated in terms of the tender (for each unit). If an offer is submitted with inadequate Earnest Money cum security deposit, as mentioned above, the bid will not be opened. <b>Promotional bidders are required to submit the EMD in the form of Bank Guarantee only. Other details are mentioned inside this NIT.</b>		

#### Schedule of Dates for e-Tendering:

Sl. No.	Activity	Date & Time
1	Publishing Date	08.06.2026 at 11.00 Hrs
2	Document Download Start Date	08.06.2026 at 14.00 Hrs
3	Date of Pre-Bid Meeting	15.06.2026 at 11:00 Hrs
4	Bid Submission Start Date	17.06.2026 from 12.30 Hrs

5	<b>Bid Submission End Date</b>	<b>08.07.2026 up to 14:30 Hrs</b>
6	<b>Last Date of Physical Submission of EMD (for BG only)</b>	<b>09.07.2026 up to 16.00 Hrs</b>
7	<b>Technical Bid Opening Date</b>	<b>13.07.2026 at 11.00 Hrs</b>
8	<b>Financial Bid Opening Date</b>	<b>To be intimated after evaluation of Technical Proposal</b>

Intending bidders desirous of participating in the tender are to log on to the website <https://wbtenders.gov.in> for the tender. The tender can be searched by typing WBSedCL in the search engine provided in the website.

Bidders willing to take part in the process of e-tendering are required to obtain Digital Signature Certificate (DSC) in the name of person who will sign the tender, from any authorized Certifying Authority (CA) under CCA, Govt. of India (viz. nCode Solution, Safescrypt, e-Mudhra). DSC is given as a USB e-Token. After obtaining the Class 2 or Class 3 Digital Signature Certificate (DSC) from the approved Certifying Authority they are required to register the fact of possessing the Digital Signature Certificates through the registration system available in the website.

Tenders are to be submitted online and intending bidders are to download the tender documents from the website stated above, directly with the help of the e-Token provided. This is the only mode of collection of tender documents. Details of submission procedure are given in "Instructions to Bidders".

<b>Terms &amp; conditions of the Tender Notice:</b>				
1.	<b>Earnest Money cum Security Deposit (for each unit) individually along with the offer</b>			
	<b>Category A — Oil Type Transformers</b>			
	<b>Sub-Category</b>	<b>DTR Type</b>	<b>Eligible Bidder Type</b>	<b>Earnest Money Deposit</b>
	1	Upto 160 KVA Oil Type Transformer – Stack Core (excluding S/S)	Existing Vendors / Promotional	₹ 5 Lakh
	2	Upto 160 KVA Oil Type Transformer – Stack Core & Wound Core (excluding S/S)	Existing Vendors / Promotional	₹ 5 Lakh
	3	Upto 630 KVA Oil Type Transformer – Stack Core including S/S	Existing Vendors only	₹ 6 Lakh
	4	Upto 630 KVA Oil Type Transformer – Stack Core & Wound Core & Station Sation service	Existing Vendors only	₹ 6 Lakh

### Category B — Dry Type Transformers

Sub-Category	DTR Type	Eligible Bidder Type	Earnest Money Deposit
1	Upto 630 KVA Dry Type (VPI) Transformers	Existing Vendors enlisted under Category A (Sub-Category 3 or 4) / New Vendors	₹ 6 Lakh

Earnest Money cum Security Deposit shall be either payment through online mode (Net-banking through Payment Gateway or RTGS/NEFT Payment) or in the form of Bank Guaranty (BG) Valid for five years from the date of opening of the tender with a claim period of another six months subject to further extension if required. **Demand Draft (DD)/ Banker's Cheque (BC) towards submission of EMD will not be accepted. Partial payment through online mode and remaining submission through BG is also not allowed.**

**The Promotional bidders should submit the EMD cum SD amount as indicated above in the form of BG only, Earnest Money Deposit cum Security Deposit in any other form or amount will not be accepted for those new bidders.**

If the offer is submitted with **inadequate Earnest Money** as mentioned above, **the bid will not be opened.**

**A bidder chose to participate in only one sub-category of the tender. Participation in multiple sub-categories under Category A and Category B simultaneously is not permitted.**

2. **Following payment options are available for paying EMD amount through online mode:**

i. **Net-banking** through Payment Gateway.

ii. **RTGS/NEFT Payment:** On selection of RTGS/NEFT as the payment mode, the e-Procurement portal will show a pre-filled challan having the details to process RTGS/NEFT transaction. The bidder will print the challan and use the pre-filled information to make RTGS/NEFT payment using his bank account. Once the payment is made, the bidder will come back to the e-Procurement portal to continue the bidding process after expiry of a reasonable time to enable the RTGS/NEFT process to be completed.

In case actual EMD amount as per NIT is more than the one shown in E-tender Portal, bidders will have to opt for NEFT/RTGS mode (challan mode). In that case the total actual EMD amount is to be paid only through NEFT/RTGS mode (challan mode). Challan thus generated will contain the amount which has been mentioned in e-tender portal. However, for payment of actual amount calculated as per NIT, bidders shall strike through the amount in challan and manually put actual EMD amount while following due payment procedure at respective bank.

iii. **Submission of EMD through BG:** For submission of EMD in the form of BG, bidders will

	<p>have to opt for EMD Exemption in e-tender portal and upload scanned copy of BG in the EMD exemption document upload section. Bank Guarantee(BG) should be drawn on any scheduled Bank drawn as per the proforma of Bank Guarantee for Earnest Money, given with this Tender Document vide Annexure-IV, with initially valid for five years from the date of opening of the tender with a claim period of another six months subject to further extension, if required, in favour of West Bengal State Electricity Distribution Company Limited payable at Kolkata.</p> <p><b>Physical copy of BG shall be submitted at the office of tender inviting authority as per respective clauses of NIT.</b></p>
3.	<p>For submission of EMD/ Security Deposit in the Form of BG, the particulars of the Banker of Procurement &amp; Contracts Department, WBSSEDCL are given below:</p> <p>Bank Name: <b>Punjab National Bank</b>  Branch: <b>Mayukh Bhavan</b>  Cash Credit A/c No.: <b>1096250031709</b>  IFSC Code: <b>PUNB0109620</b>  MICR Code: <b>700024307</b></p>
4.	<p>EMD amount can be paid either in online mode or submitted through Bank Guarantee (BG) in full. <b><u>Partial payment through online mode and remaining submission through BG is not allowed.</u></b></p>
5.	<p><b>General Instructions for Online Payment:</b></p> <ol style="list-style-type: none"> <li>1. The bidder will have to mandatorily pay through Net-banking facility once Net-banking mode is opted for payment.</li> <li>2. Status of NEFT/RTGS payment through Challan for a bid may take time to be updated in 24 Hrs. (approx.). As such bidders opting to pay through NEFT/RTGS mode shall make payment well before 24 Hrs. to avoid any complicity. In case actual EMD amount as per NIT is more than the one shown in E-tender Portal, bidders will have to opt for NEFT/RTGS mode (challan mode). In that case the total actual EMD amount is to be paid only through NEFT/RTGS mode (challan mode). Challan thus generated will contain the amount which has been mentioned in e-tender portal. However, for payment of actual amount calculated as per NIT, bidders shall strike through the amount in challan and manually put actual EMD amount while following due payment procedure at respective bank.</li> <li>3. The bank account used for payment of EMD by the bidders shall be maintained operative until the completion of tendering process. All refunds will be made mandatorily to the Bank A/c from which the payment of EMD has been initiated.</li> </ol>
6.	<p><b>Refund/Settlement of EMD Amount:</b></p> <ol style="list-style-type: none"> <li>1. For unsuccessful bidders EMD amount submitted against the tender shall be refunded automatically (except EMD submitted in the form of BG), through an automated process, by NIC portal on receipt of updated status of any bid. If the EMD has been submitted in the form of BG, the unsuccessful tenderer(s) is/are to apply for the same</li> </ol>

	<p>to the Chief Engineer (Procurement &amp; Contracts), WBSEDCL, giving the reference of the NIT No., date of tender, amount and mode of Earnest Money deposited-complete in all respect for return of the same.</p> <p>2. For successful bid(s), EMD will be refunded from WBSEDCL authority only after expiry of the entire rate contract period and following due procedures.</p> <p>3. The bank account used for payment of EMD by the bidders shall be maintained operative during the entire rate contract period. All refunds will be made mandatorily to the Bank A/c from which the payment of EMD has been initiated.</p> <p>4. For any queries related to payments and refunds, bidders will have to communicate with ICICI Customer Support, viz, 033-40267512/13 since payment gateway facility used by E-tender portal is maintained by ICICI.</p>
7.	Successful bidder(s) shall have to mandatorily <b>create vendor id through WBSEDCL Vendor Corner</b> , if not created earlier.
8.	The tenderer or their duly authorized representative should attend the Pre-bid Meeting at the stipulated date and time.
9.	The bidder shall submit along with the offer necessary documents in support of their previous Experiences of same type of repairing work in WBSEDCL/Other Power Utilities/Other Govt. Departments in earlier occasions and financial capabilities.
10.	No agent is allowed to participate in the Tender. Original repairers will only be allowed in the tender.
11.	WBSEDCL reserves the right to take appropriate decisions in consideration of its financial interests. The provisions relating to Holiday Listing shall be governed by the Revised Purchase Policy & Procedure 2025, available on the WBSEDCL website.”
12.	If the offer is submitted without or inadequate Earnest Money, the bid will not be opened. In case of incomplete offer, the tender will be liable for rejection and Earnest Money Deposit will be forfeited.
13.	The offer shall remain valid for a minimum period of minimum 180 days from the next day of opening of the tender. However, WBSEDCL may, on the merit of case, request extension of validity of the offer for a further suitable period without any change in terms & conditions of the offer.
14.	Any evidence of unfair Trade Practices including over charging, price fixing, cartel etc. as defined in various statutes, will automatically disqualify the bidders.
15.	WBSEDCL is not bound to accept the lowest tender and reserves the right to cancel any or all the tenders unilaterally.
16.	Any bidder against whom FIR/Complaint presently/currently is lodged with Police by WBSEDCL shall not be eligible to participate in the bidding process.
17.	Other information as well as terms and conditions, which are not covered above, will be available in Instructions to Bidders, General Conditions of Contract of this tender and the Revised Purchase Policy of WBSEDCL with latest amendment and Office Order No.- 2524, dated- 25/09/2025 of the Director (HR), WBSEDCL.
18.	Existing enlisted Vendors of WBSEDCL shall also apply afresh for future enlistments.
19.	<p>Tenderers have to submit the following documents as <b>Pre-requisites</b>:</p> <p>a) Copy of Area/ Layout of Workshop approved by Govt. Authority with self</p>

	<p>attestation.</p> <p>b) Proof of Ownership/ Land Deed/ Rent Receipt.</p> <p>c) Company incorporation documents (CIN, MOA, AOA, LLP, Private, Partnership, and Proprietorship etc.)</p> <p>d) Valid Trade Licence for the factory/repairing workshop issued by the Corporation/Municipality/ Panchayet or any other Govt. authorities.</p> <p>e) Valid Electrical Supervisory License issued by the Directorate of Electricity, Govt. of West Bengal.</p> <p>f) MSME (Udyam registration Certificate)/Large scale industry document.</p> <p>g) Fire license.</p> <p>h) Waste disposal procedures (declaration with self certification required).</p> <p>i) Latest Electric Bill of the factory/ repairing Workshop.</p> <p>j) Valid Pollution Certificate (Consent to operate) issued by WBPCB.</p> <p>k) Past Performance Certificate / Order Executed for the last three years.</p> <p>l) Valid GST Registration Certificate.</p> <p>m) Valid PAN /IT clearance Certificate.</p> <p>n) PT Clearance Certificate or Recent of P-Tax Challan.</p> <p>o) Annual Turnover for last three financial years in the form of audited statement of profit &amp; loss.</p> <p>p) Details of available Testing Equipments/ Instruments as required in Schedule of Bid/ Technical Specification.</p> <p>q) Details of available Plant &amp; Machinery as required in Schedule of Bid/ Technical Specification.</p> <p>r) Details of Tools &amp; Tackles as required in Schedule of Bid/ Technical Specification.</p> <p>s) Copies of Valid Calibration Certificate of Testing Equipments/ Instruments.</p> <p>t) Drinking Water, Washroom for male/female and First Aid arrangement declaration with self certification required).</p> <p>u) Source of power supply with supporting documents.</p> <p>v) Declaration Sheet.</p> <p>w) Deviation Sheet.</p>
20.	All Tenderers shall ensure that all <b>pre-requisites</b> as mentioned above are duly fulfilled and submitted by them and if there be any deficiency regarding non-submission of any documents, WBSEDCL reserves the right to cancel the tender unilaterally.
21.	It is also to be noted that all necessary Certificate should remain valid during the process of Tender.
22.	It is to be mentioned that approachable road/ entrance to workshop/ factory should be kept maintained.
23.	The price should be quoted in percentages. The bidder may go through Annexure V for further reference.
24.	Any false statement/submission in the tender will lead to cancellation of tender without any further reference and the Earnest Money cum Security Deposit shall be forfeited.
25	It is to mention that if any clarification is required or any conflict of interpretation arises regarding the implementation of the terms of the NIT/PO, the same shall be governed by or

	superseded by the Revised Purchase Policy 2025 of WBSEDCL.
26.	<p>Any further information along with WBSEDCL's Revised Purchase Policy 2025 may be had from the website: <b>www.wbsecl.in</b> and the following office :</p> <p>Office of the Chief Engineer (Procurement &amp; Contracts), West Bengal State Electricity Distribution Company Limited, Vidyut Bhawan, 4th Floor, Bidhannagar, Kolkata - 700091. Phone No. 033-23197-375/399</p>

**Instructions to Bidders:**

1.0

**Tender Participation Conditions — Category-wise****Subject: Conditions of Participation for DTR (Distribution Transformer)****Repairing Tender****1.1 Category-wise Participation****Category A — Oil Type Transformers**

Sub-Category	DTR Type	Eligible Bidder Type	Earnest Money Deposit
1	Upto 160 KVA Oil Type Transformer – Stack Core (excluding S/S)	Existing Vendors / Promotional	₹ 5 Lakh
2	Upto 160 KVA Oil Type Transformer – Stack Core & Wound Core (excluding S/S)	Existing Vendors / Promotional	₹ 5 Lakh
3	Upto 630 KVA Oil Type Transformer – Stack Core including S/S	Existing Vendors only	₹ 6 Lakh
4	Upto 630 KVA Oil Type Transformer – Stack Core & Wound Core & Station Sation service	Existing Vendors only	₹ 6 Lakh

**Category B — Dry Type Transformers**

Sub-Category	DTR Type	Eligible Bidder Type	Earnest Money Deposit
1	Upto 630 KVA Dry Type (VPI) Transformers	Existing Vendors enlisted under Category A (Sub-Category 3 or 4) / New Vendors	₹ 6 Lakh

**1.2 Point-wise Conditions of Participation****Category A — Conditions**

- Sub-Category 1 (Upto 160 KVA, Stack Core):** Participation is open to Existing Vendors, Promotional Vendors. The required Earnest Money Deposit (EMD) is ₹ 5 Lakh.
- Sub-Category 2 (Upto 160 KVA, Stack Core & Wound Core):** Participation is open to Existing Vendors and Promotional Vendors. The required EMD is ₹ 5 Lakh.
- Sub-Category 3 (Upto 630 KVA, Stack Core & Station Service):** Participation is restricted to Existing Vendors only. New and Promotional Vendors are not eligible. The required EMD is ₹ 6 Lakh.

4. **Sub-Category 4 (Upto 630 KVA, Stack Core ,Wound Core & Staion Service):** Participation is restricted to Existing Vendors only. New and Promotional Vendors are not eligible. The required EMD is ₹ 6 Lakh.

### **Category B — Conditions**

1. **Sub-Category 1 (Upto 630 KVA, Dry Type VPI):** Participation is open to:
  - Existing Vendors who are already enlisted under Category A, Sub-Category 3 or 4, and
  - New Vendors applying for Category B directly, promotional vendors are not eligible.
2. The required EMD is ₹ 6 Lakh.

### **1.3 Classification of Bidders**

#### **1) Existing Vendor**

Existing bidders are those who are enlisted as per Office Order No. P&C/P-59/2023-24/DTR/RC/PC-IV/196 dated 23.08.2024 issued by CE, P&CD.

#### **2) New Vendor**

New vendors are Original Equipment Manufacturers (OEMs) or repairers who possess the required supply credentials for similar items supplied to Government Departments, Public Sector Undertakings (PSUs), or State Electricity Utilities within the last three years from the date of opening of the technical bid of this tender. The bidder must produce documentary evidence along with satisfactory performance certificates from the concerned organizations.

#### **3) Promotional Vendor**

Promotional vendors are Original Equipment Manufacturers (OEMs) or repairers who are not enlisted as per Office Order No. P&C/P-59/2023-24/DTR/RC/PC-IV/196 dated 23.08.2024 issued by CE, P&CD (Bidders who meet other techno-economic feasibility requirements as per the NIT may apply under the promotional category of Oil Type DTR, irrespective of their credentials).

### **1.4 Participation in Sub-Categories**

**A bidder chose to participate in only one sub-category of the tender. Participation in multiple sub-categories under Category A and Category B simultaneously is not permitted.**

#### **Example:1**

Suppose a promotional bidder applying for Sub-Category 1 of Category A (Oil Type Stack Core Transformer up to 160 kVA) cannot apply for Sub-Category 1 of Category B (Dry Type Transformer up to 630 kVA under new vendor). The bidder shall select either Sub-Category 1 of Category A (Oil Type Stack Core Transformer up to 160 kVA) or Sub-Category 1 of Category B (Dry Type Transformer up to 630 kVA) as per his convenience.

**Example:2**

If any existing vendor enlisted under Sub-Category 3 of Category A wishes to renew his enlistment and is also eligible to apply for Sub-Category 1 of Category B, he shall apply only for Sub-Category 1 of Category B, subject to fulfillment of the required eligibility criteria. However, the bidder's participation shall be considered under Sub-Category 3 of Category A by default for this tender.

**1.5 Overview**

- i) Original repairers / Manufactures of DTR will only be eligible in the tender.
- ii) Original Equipment Manufacturers (OEMs) or repairers who possess the required supply credentials for similar items supplied to Government Departments, Public Sector Undertakings (PSUs), or State Electricity Utilities within the last three years from the date of opening of the technical bid of this tender. The bidder must produce documentary evidence along with satisfactory performance certificates from the concerned organizations.
- iii) The performance certificate for the existing vendors is to be collected from all divisions for which they have received LOIs for the current rate contract and to be submitted at the time of submission of the bid.
- iv) **The price-bid of promotional bidder will not be opened and will not be considered for the purpose of evaluation of the instant tender.** The promotional vendor who have successfully qualified in the techno-commercial evaluation including factory inspection may appeal to the local distribution division of WBSEDCL for issuance of 05(Five) nos. defective transformers for repairing as a test case in order to ascertain their performance. The performance will be called satisfactory after completion of guarantee period of those repaired transformers. Those Promotional vendors will have to submit documentary evidence in line with the above for further enlistment as repairer in the existing Rate Contract subject to acceptance of existing rates of repairing.
- v) The new entrants who have successfully qualified in the techno-commercial evaluation including factory inspection and also given 05 Nos. defective DTR for repairing as a test case in order to ascertain their performances during the last tender i.e. NIT No.- P-59/2023-24/DTR/RC/PC-IV opened on 04.03.2024, should be considered as a regular/existing vendor in the upcoming tender upon submission of satisfactory performance report along with copy of order, challan, SRV etc. and also their price bid will be opened as regular/existing vendor after satisfactory techno-commercial evaluation.
- vi) **The factory inspection of the participants will be within discretion of WBSEDCL as in the case of regular/existing vendor.**
- vii) For all the cases, the performance certificates shall be recent one i.e. not earlier than six months from the date of opening of the tender.
- viii) Prior to submission of any offer against the tender, tenderers shall ensure that all pre-requisites as indicated in the Terms & conditions of the Tender Notice are fulfilled by

	<p>them. They shall also be technically and financially capable to carry out same work, if finalized with them for which necessary documentary evidence shall have to be furnished along with the tender. Summary statement vide Form-VI of average annual turnover for a period of last three financial years certified by the Auditor appointed under Companies Act'2013 should be submitted for enlistment. The bidders applying for enlistment shall have adequate average annual turnover for a period of last three preceding financial years.</p> <p>ix) Tender submitted will be summarily rejected if above pre-requisites and performance certificates are not submitted along with the offer and Earnest Money submitted shall be forfeited.</p>
2.0	<p><b>General guidance for e-Tendering :</b></p> <p>Instructions/Guidelines for electronic submission of the tenders have been mentioned below for assisting the bidders to participate in e-Tendering.</p>
3.0	<p><b>Registration of bidder :</b></p> <p>Any bidder willing to take part in the process of e-Tendering will have to be enrolled &amp; registered with the e-Procurement system, through logging on to <a href="https://wbtenders.gov.in">https://wbtenders.gov.in</a>.</p>
4.0	<p><b>Digital Signature certificate (DSC) :</b></p> <p>The Digital Signature Certificates (Class-II/III) both for signature and encryption shall have to be obtained by the users from certifying agency of service provider which is authorized by CCA (Controller of Certifying Authority) of Govt. of India. The bidders will have to obtain the Digital Signature Certificate from any certifying agency which is authorized by CCA (Controller of Certifying Authority) of Govt. of India traced up to the chain of trust to the root certificate of CCA.</p> <p>User ID and pass-word are strictly personal to each authorized user and non-transferable.</p>
5.0	<p>The bidder can search and download NIT &amp; Tender Documents electronically from the website mentioned in Clause-4 using the Digital Signature Certificate. This is the only mode of collection of Tender Documents.</p>
6.0	<p><b>Submission of Tenders :</b></p>
6.1	<p><b>General process of submission:</b></p> <p>Tenders are to be submitted online through the website <a href="https://wbtenders.gov.in">https://wbtenders.gov.in</a>. All the documents uploaded by the Tender Inviting Authority form an integral part of the contract. Tenderers are required to upload all the tender documents along with the other documents as asked for in the tender through the above website within the stipulated date and time as given in the Tender. Tenders are to be submitted in two folders - one is Technical Proposal and the other is Financial Proposal. The tenderer shall carefully go through the documents and prepare the required documents and upload the scanned documents in Portable Document Format (PDF) to the portal in the designated locations of Technical Bid.</p> <p>The bidder needs to download the Form/Annexure, fill up the particulars in the designated Cell and upload the same in the designated location of Technical Bid. The bidder needs to download the BOQ, fill up the rates of items in the BOQ in the designated Cell and upload the same in the designated location of Financial Bid.</p> <p>The documents uploaded shall be virus scanned and digitally signed using the Digital Signature Certificate (DSC). Tenderers should take note of all the addendum/corrigendum related to the tender and upload the latest documents as part of the tender.</p>

6.2

**Technical Proposal:**

The Technical Proposal shall contain scanned copies and/or declarations in the following standardized format sin two covers (folders).

**A. Statutory Cover:**

**a) To be submitted in “Drafts” folder:**

i. **Tender Fee:** Not Applicable.

ii. **Earnest Money Deposit (EMD):**

As prescribed in the terms and conditions of the NIT.

**b) To be submitted in “Annexures” folder:**

i) Application for Tender (vide Annexure -I).

ii) Price Schedule in unpriced condition (vide Annexure -II).

iii) Authenticated/signed copy of Annexure –III to Annexure –IV.

The bidders have to mention the information in the form of “Yes/No “only in respect of “Rate Quoted/Offered for the Items” in the Annexure -II.

**c) To be submitted in “NIT” folder:**

i. Notice Inviting Tender (NIT).

ii. Addenda/Corrigenda: if published

iii. Authenticated/signed copy of minutes of pre-bid meeting.

Note: Bidders are to keep track of all the Addendum/Corrigendum issued with a particular tender and upload all the above digitally signed along with the NIT. Tenders submitted without the Addendum/Corrigendum will be treated as informal and liable to be rejected.

**d) To be submitted in “Forms” folder:**

**i. Schedule of Bids:**

The bidder needs to download the form for “Schedule of Bids” (Vide Form-I), fill up the particulars in the designated Cell and upload the same in the designated location of Technical Bid. Submission of incomplete “Schedule of Bids” will render the tender liable to summary rejection.

ii. Declaration Sheet (vide Form-II), Deviation Sheet (vide Form-III) and Check List (vide Form-IV),

iii. Guaranteed Technical Particulars The bidder needs to download the form for “Guaranteed Technical Particulars” (Vide Form-V), fill up the particulars in the designated Cell and upload the same in the designated location of Technical Bid. Submission of incomplete “Guaranteed Technical Particulars” will render the tender liable to summary rejection.

iv. Summary statement (Vide Form-VI) of average annual turnover for a period of the last three financial years, certified by the Auditor appointed under Companies Act, 2013. In case the bidder is not a company, certificate of Tax Auditor may be submitted. Statement of orders executed during last three financial years (Vide Form-VII).

v. List of Type Test Reports carried out within five years as on date of bid submission (if applicable, Vide Form-VIII).

vi. Other declarations (Vide Form-IX,X,XI,& XII) to be submitted duly filled in along with Bid document.

vii. Format of Letter of Bid (vide Form-XIII).

viii. Format for Plant and Machinery (vide Form-XIV), format for specification of heat chamber, equipments/instruments, manpower (vide Form-XV to Form-XVII)

ix. The Techno-commercial requirements and commercial requirements (vide From-XVIII and From-XIX)

	<p><b>(Only downloaded copies of the above documents are to be uploaded, virus scanned and digitally signed by the bidder).</b></p> <p><b>Note: Tenders will be summarily rejected if any item in the statutory cover is missing.</b></p> <p><b>B. Non-Statutory Cover (My Document):</b></p> <p><b>i. Company Details:</b> Proof of Original Equipment Manufacturer/DTR Repairer.</p> <p><b>ii. Certificates:</b></p> <ol style="list-style-type: none"> <li>1) PAN Card details.</li> <li>2) Current Professional Tax(PT)submissionChalan.Applicationforsuchaddressedtothecompetent authority may also be considered.</li> <li>3) GSTIN registration certificate.</li> <li>4) Fire license.</li> <li>5) Land documents.</li> <li>6) Banker’s certificate regarding financial capability issued within last one year from the date of opening of tender.</li> <li>7) MSME Certificate, if any.</li> <li>8) Other document mentioned in <b>Terms &amp; conditions of the Tender Notice of point no. 19</b></li> </ol> <p><b>iii. Financial Info :</b> Annual turnover for a period of the last three financial years.</p> <p><b>iv. Credential:</b> Documents in support of similar type of repairing job under WBSEDCL / other Power Utilities / other Govt. Departments in earlier occasions within last three financial years as mentioned below:</p> <ol style="list-style-type: none"> <li>1) Purchase Orders, Inspection Offer letter, Dispatch Instructions, Signed Challans etc. for completing the work against a particular contract.</li> <li>2) Performance certificates i.r.o. same type of repairing job. The performance certificate for the existing vendors is to be collected from all divisions for which they have received LOIs for the current rate contract and to be submitted at the time of submission of the bid.</li> </ol> <p><b>v. Declaration :</b></p> <ol style="list-style-type: none"> <li>1) List of Orders in hand: The bidder shall submit the list of orders in his hand mentioning the order value to be executed within one year from the date of submission of bid. <b>Stock position of DTR rating-wise as on bid submission date</b> mentioning order reference to be furnished by the existing enlisted vendors of WBSEDCL.</li> <li>2) Others: Any other documents found necessary.</li> </ol> <p><b>Note : Failure of submission of any one of the above mentioned documents will render the tender liable to summary rejection.</b></p>
6.3	<p><b>Financial Proposal:</b></p> <p>The financial proposal should contain the following documents in one cover (folder). <b><u>Bill of Quantities (BOQ)</u></b></p> <p>The bidder is to quote the rate(percentage) in online through computer in the space marked</p>

	for quoting rate in the BOQ. (Only downloaded copies of the above documents are to be uploaded, virus scanned and digitally signed by the bidder). (for guidance please see Annexure V)																
7.0	<p><b>Submission of original copies of documents of Earnest Money Deposit (In case the bidder wants to choose EMD Exemption in e-tender portal and upload scanned copy of BG) :</b></p> <p>i. <b>Place of submission:</b> The original copies of the BG towards Earnest Money Deposit shall be submitted in the following office:  Office of the Chief Engineer,  Procurement &amp; Contracts Department,  West Bengal State Electricity Distribution Company Limited,  Bidyut Bhavan, 4<sup>th</sup> Floor, D-Block,  Bidhannagar, Kolkata – 700091.</p> <p>ii. <b>Time of submission:</b> The original copies of BG towards EMD shall be submitted in a sealed envelope in the office as stated above within the date and time as specified in the NIT. If the bidder fails to submit the original copies within the due date and time his tender will not be opened and his bid will stand rejected.</p>																
8.0	<p><b>Conditional and in complete tender :</b>  Conditional and incomplete tenders are liable to summary rejection.</p>																
9.0	<p><b>Validity of Tender and Offer :</b>  The offer against tender should remain valid for a minimum period of 180 days from the next day of opening of the tender. However, WBSEDCL may, on the merit of case, request for extension of validity of the offer for a further suitable period without any change in terms &amp; conditions of the offer.</p>																
10.0	<p><b>Earnest Money Deposit (EMD) :</b></p> <p><b>a) Earnest Money cum Security Deposit (for each unit) individually along with the offer</b></p> <p><b>Category A – Oil Type Transformers</b></p> <table border="1"> <thead> <tr> <th>Sub-Category</th> <th>DTR Type</th> <th>Eligible Bidder Type</th> <th>Earnest Money Deposit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Upto 160 KVA Oil Type Transformer – Stack Core (excluding S/S)</td> <td>Existing Vendors / New / Promotional</td> <td>₹ 5 Lakh</td> </tr> <tr> <td>2</td> <td>Upto 160 KVA Oil Type Transformer – Stack Core &amp; Wound Core (excluding S/S)</td> <td>Existing Vendors / New / Promotional</td> <td>₹ 5 Lakh</td> </tr> <tr> <td>3</td> <td>Upto 630 KVA Oil Type Transformer – Stack Core including S/S</td> <td>Existing Vendors only</td> <td>₹ 6 Lakh</td> </tr> </tbody> </table>	Sub-Category	DTR Type	Eligible Bidder Type	Earnest Money Deposit	1	Upto 160 KVA Oil Type Transformer – Stack Core (excluding S/S)	Existing Vendors / New / Promotional	₹ 5 Lakh	2	Upto 160 KVA Oil Type Transformer – Stack Core & Wound Core (excluding S/S)	Existing Vendors / New / Promotional	₹ 5 Lakh	3	Upto 630 KVA Oil Type Transformer – Stack Core including S/S	Existing Vendors only	₹ 6 Lakh
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<p><b>Category B — Dry Type Transformers</b></p> <table border="1" data-bbox="272 450 1508 667"> <thead> <tr> <th data-bbox="272 450 448 562">Sub-Category</th> <th data-bbox="448 450 783 562">DTR Type</th> <th data-bbox="783 450 1283 562">Eligible Bidder Type</th> <th data-bbox="1283 450 1508 562">Earnest Money Deposit</th> </tr> </thead> <tbody> <tr> <td data-bbox="272 562 448 667">1</td> <td data-bbox="448 562 783 667">Upto 630 KVA Dry Type (VPI) Transformers</td> <td data-bbox="783 562 1283 667">Existing Vendors enlisted under Category A (Sub-Category 3 or 4) / New Vendors</td> <td data-bbox="1283 562 1508 667">₹ 6 Lakh</td> </tr> </tbody> </table> <p><b>b)</b> Tenderers shall not claim any interest on Earnest Money Deposit.</p> <p><b>c)</b> Earnest money will be refunded to the unsuccessful Tenderers after finalization of the tender and in case of successful Tenderers, EMD will be refunded only after expiry of the entire rate contract period.</p> <p><b>d)</b> Earnest Money submitted will be liable to forfeiture,</p> <p>(i) If the successful tenderers fail to accept Purchase Order / LOI issued within the entire rate contract period.</p> <p>(ii) If any cartel is formed by the tenderer in their bids.</p>					Sub-Category	DTR Type	Eligible Bidder Type	Earnest Money Deposit	1	Upto 630 KVA Dry Type (VPI) Transformers	Existing Vendors enlisted under Category A (Sub-Category 3 or 4) / New Vendors	₹ 6 Lakh
Sub-Category	DTR Type	Eligible Bidder Type	Earnest Money Deposit									
1	Upto 630 KVA Dry Type (VPI) Transformers	Existing Vendors enlisted under Category A (Sub-Category 3 or 4) / New Vendors	₹ 6 Lakh									
11.0	<b>Opening and evaluation of tender:</b>											
11.1	<p><b>Opening of Technical Proposal:</b></p> <p>i. Technical proposals will be opened by the Tender Inviting Authority or his authorized representative electronically from the website stated above using their Digital Signature Certificate.</p> <p>ii. Technical proposals for those tenders whose original copies of BG towards tender EMD have been received will only be opened. Proposals corresponding to which the original copy of BG towards EMD has not been received will not be opened and will be rejected.</p> <p>iii. Intending tenderers may remain present if they so desire.</p> <p>iv. Cover (Folder) for Statutory Documents (vide Clause 6.2-A) will be opened first and if found in order, Cover (Folder) for Non-statutory Documents (vide Clause 6.2-B) will be opened. If there is any deficiency in the Statutory Documents, the tender will summarily be rejected.</p> <p>v. Decrypted (transformed into readable formats) documents of the Statutory and Non-statutory Covers will be downloaded for the purpose of evaluation.</p>											
11.2	<p><b>Techno-commercial Evaluation of Tender:</b></p> <p>i. While evaluation, the Tender Inviting Authority or his authorized representative may summon of the tenderers and seek clarification/information or additional documents or original hard copy of any of the documents already submitted and if these cannot be produced within the stipulated timeframe, their proposals will be liable for rejection.</p>											

	<p>ii. The summary list of tenderers, whose bids will be found techno-commercially eligible, will be uploaded in the web portals. Date of opening of financial bid will be intimated to the techno-commercially qualified tenderers.</p>
12.0	<p><b>Opening an evaluation of Financial Proposal:</b></p> <p>i. Financial proposals of the tenderers declared techno-commercially eligible, will be opened electronically by the Tender Inviting Authority from the web portal stated above on the prescribed date.</p> <p>ii. The encrypted copies will be decrypted and the rates will be read out to the bidders remaining present at that time.</p> <p>iii. After opening of the financial proposal the preliminary summary result containing inter- alia, name of bidders and the rates quoted by them will be uploaded.</p> <p>iv. The Tender Accepting Authority may ask any of the tenderer to submit analysis to justify the rate quoted by that tenderer.</p>
13.0	<p>Revision/withdrawal of Financial Proposal by the bidder after opening of Technical Proposal of the tender will not be allowed if it is not sought by the Tender Inviting Authority.</p>
14.0	<p>Lowest valid rate should normally be accepted. However, the Tender Accepting Authority does not bind himself to do so and reserves the right to reject any or all the tenders, for valid reasons.</p>
15.0	<p><b>Purchase Order:</b></p> <p>WBSEDCL will communicate acceptance of tender to the successful bidder by a rate contract order. The successful tenderer shall communicate the acceptance of the rate contract order.</p>
16.0	<p><b>Concession:</b></p> <p>No price preference will be allowed to any tenderer based on the size of the industry or its geographic location. Co-operative Society will not be considered with separate status.</p>
17.0	<p><b>Holiday Listing and Vendor Rating:</b></p> <p>Holiday Listing &amp; Vendor Rating will be applicable according to the “Holiday Listing &amp; Vendor Rating” policies of the <a href="#">Revised Purchase Policy 2025</a>, which is posted in website of WBSEDCL (<a href="http://www.wbsedcl.in">www.wbsedcl.in</a>).</p> <p>Performance of the bidders, who supplied materials/equipment to WBSEDCL previously, will be evaluated for their Vendor Rating according to the said Vendor Rating policy and their Vendor Rating will be taken into consideration at the time of evaluation of Technical and Financial Proposals of the tender.</p>
18.0	<p><b>Return of Earnest Money of the unsuccessful tenderer(s):</b></p> <p>Details of refund/settlement of EMD amount is mentioned in clause no: 6 of Terms &amp; conditions of the Tender Notice of this NIT.</p>

**GENERAL CONDITION OF CONTRACT : COMMERCIAL**

**1.0 VALIDITY OF TENDER AND OFFER:**

The offer against tender should remain valid for a minimum period of 180 days from the next day of opening of tender. However, WBSEDCL may, on the merit of the case, request extension of validity of the offer for a further suitable period without any change in terms & conditions of the offer.

**2.1 EARNEST MONEY CUM SECURITY DEPOSIT:**

**a) Category A — Oil Type Transformers**

Sub-Category	DTR Type	Eligible Bidder Type	Earnest Money Deposit
1	Upto 160 KVA Oil Type Transformer – Stack Core (excluding S/S)	Existing Vendors / New / Promotional	₹ 5 Lakh
2	Upto 160 KVA Oil Type Transformer – Stack Core & Wound Core (excluding S/S)	Existing Vendors / New / Promotional	₹ 5 Lakh
3	Upto 630 KVA Oil Type Transformer – Stack Core including S/S	Existing Vendors only	₹ 6 Lakh
4	Upto 630 KVA Oil Type Transformer – Stack Core & Wound Core & Station Sation service	Existing Vendors only	₹ 6 Lakh

**Category B — Dry Type Transformers**

Sub-Category	DTR Type	Eligible Bidder Type	Earnest Money Deposit
1	Upto 630 KVA Dry Type (VPI) Transformers	Existing Vendors enlisted under Category A (Sub-Category 3 or 4) / New Vendors	₹ 6 Lakh

b) Earnest Money cum Security Deposit shall be either payment through online mode(Net-banking through Payment Gateway or RTGS/NEFT Payment) or in the form of Bank Guaranty (BG) (Valid for five years from the date of opening of the tender with a claim period of another six months subject to further extension if required). **Demand Draft (DD)/ Banker'sCheque (BC) towards submission of EMD will not be accepted. Partial payment through online mode and remaining**

	<p><b>submission through BG is also not allowed.</b></p> <p>b) The permanent Bank Guarantee if any, as maintained in the name of WBSEDCL against existing Rate Contract Order / other works and not received back by the tenderer till date, will not be applicable.</p> <p>c) The Earnest Money cum Security Deposit will be released only after expiry of Rate Contract Order on successful completion of enlistment period of Rate Contract Order by the patty.</p> <p>d) No claim shall be made against the Company in respect of interest on the Deposit. The Deposit is liable to be forfeited in case of non-compliance of the Rate Contract Order or failure to complete delivery as per terms of the order within the scheduled delivery period.</p> <p>e) This Earnest Money cum Security Deposit will be released for unsuccessful bidders after finalization of Enlistments.</p>
2.2	<p><b>PHYSICAL INSPECTION OF FACTORY PREMISES :</b></p> <p>Physical inspection of works for qualified parties, also who are techno commercially acceptable on the basis of submitted documents, may be done by a central team to judge the Technical &amp; Techno-Commercial ability of the party. Necessary arrangements and equipments (duly calibrated) for conducting acceptance test as per IS, mentioned in technical specification and technical manpower will be the consideration for judgment of Technical ability and Open and Covered space and non technical staff strength will be the points of consideration for Techno-commercial ability for enlistment as a supplier of the material/repairer of DTR.</p> <p><b>For new / promotional or for those existing repairer who documented any change in their factory lay out, factory inspection is mandatory. For other existing repairer, factory inspection is optional i.e. under discretion of WBSEDCL.</b></p>
2.3	<p><b><u>ENLISTMENT :</u></b></p> <p>After successful Techno-Commercial Evaluation and successful physical inspection of factory premises, if required, as per the reports of the central inspection team, enlistment for a period of two years will be considered who are ready to accept all terms and conditions of the contract and accept the rates finally arrived through tender.</p> <p>The provision for further extension of 1 (one) year, subject to compliance with the terms and conditions of the contract.</p> <p>Repairers who will fulfill the criteria for installation of automatic motor operated and on site selectable speed control coil winding machine as mentioned in the Technical Specification will be Enlisted for repairing of wound core type DTR's.</p>
3.0	<p><b><u>INSURANCE POLICY :</u></b></p> <p>3.1 The Insurance Policy shall have to be made by the repairer for each Controlling Division against burglary, theft, fire &amp; damaged due to any other reasons whatever. Insurance Policy will be jointly in the name of WBSEDCL and repairer, principal insured being WBSEDCL, covering the risk of Defective/ Damaged/ Repaired Transformers while the transformers would be under the custody of repairer inclusive of both ways of transit, as under.</p> <p>(a) Covering risk during single way transit (Marine Insurance) for Rs 10,00,000/- (Rupees Ten Lakh only).</p>

	<p>(b) Covering risk during storage at the repairer works for burglary, damaged &amp; theft (Burglary Insurance) for Rs 10,00,000/- (Rupees Ten Lakh only), and</p> <p>(c) Covering risk during storage at the repairer works for Fire (Fire Insurance) for Rs 10,00,000/- (Rupees Ten Lakh only).</p> <p>3.2 The Insurance Policy (ies) shall remain valid for the entire course of repair. But as per provisions of the Insurance Company, the Policy may be obtained for an interim period of one year and the same must be renewed for the next term of another one year before expiry of the validity and so on.</p> <p>3.3 The Insurance Policy (ies) in original is/are to be submitted to the respective Controlling Officer(s) before lifting the Defective / Damaged Distribution Transformers from the site by the repairer.</p> <p>3.4 The Insurance Premium initially paid by the repairer in respect of Marine, Burglary and Fire will be reimbursed by the Company in due course on receipt of bill along with original policy documents and money receipt.</p> <p>3.5 The repairer should observe the claim formalities of the Insurance Company including lodging of FIRs with Police Authorities in the event of loss /damaged etc. of the transformers or goods while under the custody of the repairer and also provision of necessary security arrangement as stipulated in the insurance policy.</p> <p>3.6 For “to and fro” Marine insurance is to be done separately.</p>
4.0	<p><b><u>TERMS OF PAYMENT :</u></b> All payments will be made by the Controlling Officer in accordance with the following terms :</p>
4.1	<p>For this tender 90% payment along with 100 % taxes will be made within 45 (forty five) days in case of MSME Vendors (Micro &amp; Small Enterprise only) and for others, within 60 days from the date of receipt of 100% bill with all the above documents and balance 10% shall be kept as Security Deposit towards Performance Guarantee, which will be released after expiry of Guarantee period with satisfactory performance.-</p> <ul style="list-style-type: none"> <li>(i) Preliminary/final survey reports.</li> <li>(ii) Copy of detailed estimate on which formal order placed.</li> <li>(iii) Stage Inspection/final test reports.</li> <li>(iv) Guarantee Certificate incorporating Serial Number of all Transformers as per order.</li> <li>(v) Photo Copy of Insurance Coverage.</li> <li>(vi) Photo Copy of SORN and SRV reference.</li> <li>(vii) Store Return Note (if any material is returned to Store).</li> <li>(viii) Transformer Oil Consumption Statement showing details of receipt of new Transformer Oil.</li> <li>(ix) GST Registration No. / GSTIN document.</li> <li>(x) Latest MSME certificate (Udyam Addhar) if applicable.</li> <li>(xi) Payment shall be released by the Accounts Officer under the administrative control of the Controlling Officer.</li> </ul>
	<p>The above bill should be duly signed and endorsed by the Inspecting Officer not below the rank of Assistant Engineer prior to placement to the ordering authority for further action towards payment from his office.</p> <p>In case of any discrepancy in payment, vendor shall have to bring it to the notice of WBSEDCL within thirty days from the date of receipt of payment else the claim will not be entertained.</p> <p>For full and final settlement, invoices shall have to be submitted within 1(One) year from the date of completion of Project/Contract, beyond which, such claim may not be entertained.</p>

4.4	Tax invoice i.r.o. sale of scrap materials shall be issued to the repairer.
5.0	<p><b><u>CONTROLLING OFFICER :</u></b>  Divisional Manager/Regional Manager concerned will be the Controlling Officer of the work related to Oil type transformers and concerned Zonal managers will be the Controlling Officer of the work related to Dry type transformer. He will ascertain the status of defective Distribution Transformers lying under his jurisdiction and place LOI against Rate Contract Order. Controlling Officer will make necessary arrangement for the required quantity of Oil (new) for the Transformers under repair. He will depute his authorized representative(s) not below the rank of Assistant Engineer during preliminary/final survey/stage inspection/final testing in consultation with DE/SE of Testing Wings attached to different Distribution Zones/Regional Offices. He will confirm estimate and place Formal Order. Before handing over defective transformers to the repairer for repair, Controlling Officer shall ascertain submission of Insurance Policies by the repairer as per Clause-3.0 above. Controlling Officers are required to maintain data base for the repaired Transformers with following details :-</p> <ol style="list-style-type: none"> <li>(1) Name Plate Identification</li> <li>(2) Repairer's Name</li> <li>(3) Name of the testing Engineer of WBSEDCL</li> <li>(4) Date of Inspection &amp; Date of Installation</li> <li>(5) Date of failure</li> <li>(6) Location of Transformer.</li> </ol>
6.0	<p><b><u>PLACEMENT OF ORDER :</u></b>  Letter of Intent as well as Formal Order will be issued by the Controlling Officer concerned. A Specimen Copy of LOI &amp; Formal Order will be provided for their reference only. Formal Order shall be issued prior to the date of delivery of the repaired transformers.</p>
7.0	<p><b><u>STORING :</u></b>  After delivery of the transformer(s) to the repairers, proper storing and the safe custody of the equipment shall be their responsibilities. Storing outside premises shall not be allowed under any circumstances. Any loss of damage during the period of the equipment kept under their custody shall have to be made good by them as assessed by the Controlling Officer or his authorized representative.</p>
8.0	<p><b><u>LIMITATION</u></b> (For lifting of defective Transformers)  <b><u>Oil Type:</u></b>  The maximum number of transformers covered under each LOI shall be eight (8) per division for any individual vendor. A second LOI to the same vendor in a particular division shall be issued only after a gap of 45 days and upon successful completion of the previous LOI. Any deviation from this provision shall require approval of the concerned Zonal Manager (ZM).  At any point of time, a maximum of five (5) nos. of Guarantee Period DTRs may be held by any factory unit, considering all divisions together. The Controlling Officer shall obtain a stock statement of defective transformers held by the vendor, along with the progress of work carried out on such transformers under his division.  <b><u>Dry Type:</u></b>  The maximum number of transformers covered under each LOI shall be one (1) per Zone for any individual vendor. A second LOI to the same vendor in a particular Zone shall be issued only after successful completion of the previous LOI. Any deviation from this provision shall require approval</p>

	<p>of the concerned Chief Engineer of Distribution.</p> <p>At any point of time, a maximum of one (1) nos. of Guarantee Period DTRs may be held by any factory unit, considering all zones together. The Controlling Officer shall obtain a stock statement of defective transformers held by the vendor, along with the progress of work carried out on such transformers under his zone.</p>
9.0	<p><b><u>REPAIRS</u></b> :</p> <p>All repairs shall be carried out strictly in accordance with the technical specifications and direction of respective Controlling Officers.</p>
10.0	<p><b><u>DISPOSAL OF SCRAP</u></b> :</p> <p>Scrap Coils and other materials will not be received by the Company. The cost of the same will be adjusted from the bill; the rate will be as per value of scrap as published in the website <a href="https://www.mstcecommerce.com">https://www.mstcecommerce.com</a> as on previous month sale price / or price from latest available bulletin (maximum sale prices of items related with Aluminium, Brass &amp; Copper will be considered) and will be declared every in month from this end .<b>Inspection/Testing Engineers will determine the quantity of scrap coils and other materials at the time of preliminary/final survey and make them un-serviceable, so that there should not be any possibility for re-use of the same.</b> Other scrap materials viz. Bushings/Nuts and Bolts/Silica Gel Breather etc. are non-returnable in nature. GST will also be included as applicable.</p>
11.0	<p><b><u>INSPECTION</u></b> :</p>
11.1	<p>The successful repairer should notify the concerned Zonal Testing Unit/Regional Testing Unit with an intimation to the Controlling Officer well in advance about the readiness of the transformers being required at their Works with necessary Works Test Certificate along with a list of valid Calibration Certificates of testing equipments &amp; instruments, so that the DE/SE of concerned Zonal Testing Unit/Regional Testing Unit could finalize a shedule to carry out/witness the tests on mutually agreed date. The DE/SE of concerned Zonal Testing Unit/Regional Testing Unit reserves the right to reject either raw materials or repaired transformer(s) for those to be not complying with the requirements of the technical specifications.</p>
11.2	<p>The successful repairer shall extend all possible facilities for inspection and testing at any time during the course of repair and after offering of inspection and testing of the repaired transformer(s) for which no extra cost shall be charged.</p>
11.3	<p><b><u>RE-TESTING CHARGE:</u></b></p> <p>In case of failure to present the offered quantity of equipment / Materials during inspection (i.e. fake offer) or in case the materials/equipment of any offered lot fails during factory acceptance test, retesting charge will be claimed @ Rs. 50,000.00 plus GST as applicable for carrying out each subsequent inspection of that particular lot. The date of re-offer will be the date of submission of re-testing offer along with routine test certificate (RTC) &amp; copy of duplicate carbon receipt (D.C.R) against the re-testing charge.</p>
12.0	<p><b><u>COMPLETION PERIOD</u></b> :</p>
12.1	<p>The total repairing work against each LOI shall have to be completed within a definite time frame. If the repairer fails to receive the transformer within 3 (three) days from the date of placement of LOI/Order for repairing work, WBSEDCL reserve the right to cancel the LOI/Order without assigning any reason whatsoever and may take penal measure. The repairer cannot claim any damage i.e. necessary charges in this context.</p>

	It is desired that the work must be completed (date of delivery) within 45 days (the time frame at the part of the vendor) from the issuance of the LOI. LD may be imposed after 45 days at the discretion of the Nodal officer.
12.2	Date of completion of work will be reckoned as the date of delivery. In the event of failure in testing, the said lot/transformer(s) shall have to be re-offered for re-testing and date of completion shall be the date of re-offer of the said lot and/or transformer(s).
12.3	Repaired transformers could only be delivered to Stores within 7 days from the date of testing or 3 days from issuance of PO whichever is later, otherwise necessary liquidated damage shall be imposed accordingly as per Liquidated Damage Clause.
13.0	<b><u>LIQUIDATED DAMAGE :</u></b> The time of delivery (successful offer for inspection) of the equipment/materials are to be treated as an essence of the contract and the WBSEDCL reserves the right to repudiate the contract, if the equipment / materials are not offered for inspection within scheduled delivery period and physically delivered within stipulated period as per physical delivery clause. But the controlling officer, may at his discretion waive this condition and accept the material with imposition of liquidated damage @ 0.143% of the contract value of the works for each calendar day of delay, subjected to a maximum of 10% of the value of the particular lot and accept the goods beyond the stipulated period. Liquidated damage, if any involved, shall be recovered from the outstanding bills/ Bank Guarantee.
14.0	<b><u>PERFORMANCE GUARANTEE :</u></b> The all repaired oil-filled transformers, the guarantee period shall be one (1) year from the date of delivery (receipt at store).For repaired dry-type transformers, a guarantee period of three (3) years shall be applicable where coil replacement has been carried out; otherwise, repairs involving only maintenance works shall carry a guarantee period of one (1) year from the date of delivery (receipt at store).Any defect detected in the repairs within the said period shall have to be made good by the repairer free of cost within 30 days from the date of information given to the repairer. If the repairer fails to do so within the specified period, the cost of the transformer will be deducted from the pending bill(s), BG or cancellation of R/C Order(s) as deem fit. Guarantee Certificate to this effect has to be submitted against each repaired transformer. Repairer must have Licensed Supervisor having Workman Permit.
15.0	<b><u>RATE SCHEDULE :</u></b> The item wise price list for supply and labour items towards repairing of different type & capacity of DTR will be finalized.
16.0	<b><u>PRICE VARIATION :</u></b> IEEMA Formula will be applicable considering total involvement as whole for a complete transformer by multiplying factor, which will be declared in every month from this end.  Price variation shall be applicable for the month in which the LOI was issued. The multiplying factor for the month will be the latest available MF in which the LOI is placed on the party.  Price variation for standard transformers shall be considered for repairing of the defective transformers. The parameters related to CRGO Core & Transformer Oil shall not be taken into consideration for application of PV Formula.

	(Formula of Calculation enclosed- Annexure-III).
	GST as applicable will be paid to you extra. TDS under GST will be applicable.
17.0	<p><b><u>RAW MATERIALS :</u></b> Materials to be supplied by the Repairer should be strictly conforming to the Specification indicated in the tender. Company shall not take any responsibility for procurement of any raw materials from any of the Government/Semi-Government Agencies.</p>
18.0	<p><b><u>QUANTITY :</u></b> Number of defective/damaged transformers to be repaired per month depends on the capability, delivery performance and availability of defective transformers at site. Any decision in this regard of the Controlling Officer shall be final.</p>
19.0	<p><b><u>ACCEPTANCE OF ORDER :</u></b> The Company will communicate acceptance of tender to the successful bidders by a Formal Rate Contract Order. The successful bidders shall communicate the acceptance of the order, so as to reach the Chief Engineer (P&amp;C), WBSEDCL, within 10 (ten) days from the date of issue of the said Rate Contract Order, failing which the order shall be considered cancelled automatically.</p>
20.0	<p><b><u>RESERVATION :</u></b> Company reserves the right to deviate from any of the terms and conditions herein and to issue Rate Contract Orders amongst all successful bidders and/or reject any or all tenders without assigning any reason whatsoever and does not bind itself to accept the lowest tenders.</p>
21.0	<p><b><u>QUALITY ASSURANCE :</u></b> All measures to ensure quality of the repair work through adopting different standard procedure and practices shall have to be made.</p>
23.1	<p>Name of the districts in which the repairers desires to carry out repair work shall be indicated clearly in order of preference. Maximum number of districts shall be three and at every desired location, there shall be preferably separate establishment of their own with requisite facilities. Company's decision in regard to allotment of jurisdiction shall be final.</p>
24.0	<p><b><u>FORCE MAJEURE :</u></b> The repairer shall be under no liability, if they prevented from carrying out any of their obligations and reasons of war, invasion, act of foreign money, hostilities (whether war declared or not), riots, civil commotions, mutiny, insurrection, rebellion, revolution, accident, earthquake, fire, flood, Government Orders and/or restrictions (except Power Supply restriction), delay or inability to obtain materials due to import or other statutory restriction or other causes beyond the reasonable control of the repairer. However, such Force Majeure circumstances are to be intimated immediately and to be established subsequently with proper documents/proofs to the entire satisfaction of the Company.</p>
	<p><b><u>LEGAL JURISDICTION:</u></b> If any dispute or difference arises with respect to quality/quantity of the equipment/materials pertaining to this order or any other terms and conditions of the order including its execution, such dispute/difference shall be subject to settlement under the jurisdiction of Courts in Kolkata only.</p>

25.0	<p><b><u>AREA OF OPERATION:</u></b>  <b>Oil Type</b> - Considering smooth repairing as well as testing operations, the respective command area of each and every enlisted repairer is mentioned as below.</p> <p>a) The request for a change in area of operation for the existing vendor will be at the discretion of the tender committee; however, it should be adjacent to the factory location/Home district.</p> <p>b) In that District, where number of repairer found to be less than 3 (three) nos. the above rule is relaxed with command area within the respective Distribution Zones.</p> <p>c) The area of operation will be adjacent to the factory location/home district for promotional applicants (maximum three districts).</p> <p><b>Dry type</b> – Throughout the State of West Bengal under the jurisdiction of WBSEDCL.</p>
26.0	<p><b><u>TRANSPORTATION CHARGES:</u></b>  Transportation charges will be guided by Rate Contract of Transportation issued from P&amp;C Department with the following stipulations.</p> <p>a) In those district where number of DTR Repairers found to be less than three, Transportation Charges with a upper limit up to 200 KM (for “to and fro” journey) may be payable to those repairers who are located outside the districts.</p> <p>b) For other cases, total transportation charges (for to and fro journey) up to a maximum distance of 120 KM are payable.</p> <p>c) The numbers of repairers for wound core DTR is limited and in case no repairers are available within the said distance of 200 KM, the said upper limit of transportation charges (for “to and fro” journey) will be extended to a distance of the location of the nearest repairer available beyond 200 KM.</p>
27.0	<p><b><u>USE OF INSULATING PAPERS:</u></b>  All insulating papers used for DTR repairing will be preserved and used as per the guide line of manufacturers of insulating material.</p>
28.0	<p><b><u>CANCELLATION/TERMINATION OF ORDER :</u></b>  In case of successful repairers to take undue time for survey as well as repair work is found to be unsatisfactory, Rate Contract Orders may be terminated after giving one month’s notice and all defective transformers lying at their workshop shall be withdrawn from their custody for which the repairer shall not object. Company will have the right to forfeit the Security Deposit/Guarantee Money as submitted by the party with the Company.</p>
28.1	<p>This rate contract order shall be terminated in case it is found that repairers do not possess all pre-requisites / testing equipment during execution work at their works.</p>
29.0	<p><b><u>Promotional Order:</u></b>  In case of a promotional vendor, 5 nos. DTRs will be allotted from a selected division on a test-case basis as per the approved category. After successful completion of the repairing work and completion of the GP period, final enlistment will be granted. However, allotment shall be subject to the availability of defective transformers and other applicable aspects.</p>
30.0	<p><b><u>Reward to L1 Bidder:-</u></b>  The consolidated (composite) L1 bidder for ≤160 KVA stack core DTR (material and labour), not individual category, will be given an additional district of operation in accordance with his approved category. However, the additional district must be adjacent to his approved three districts. In case of a tie, the time of submission will be considered (the bidder who submitted first will be considered as L1).</p>

**TECHNICAL SPECIFICATION FOR REPAIRING OF DEFECTIVE/DAMAGED  
DISTRIBUTION TRANSFORMERS**

1.0

**SCOPE:**

This specification covers the technical requirements, pre-requisites, and procedures for repair of defective or damaged distribution transformers. The scope includes repair of dry-type Vacuum Pressure Impregnated (VPI) distribution transformers (DTRs) up to 630 KVA (voltage classes: 11/0.433 KV, 11/0.415 KV) capacity and oil-type distribution transformers of capacities 10/16/25/50/63/100/250/315/500/630 KVA (voltage classes: HT-11 , 6.6, 6 KV / LT- 0.433, 0.415 KV and 33/0.4 KV) by authorized repairing contractors/agencies at their workshops. (VPI dry-type transformers above 630 KVA, enlisted repairers up to 630 KVA dry-type transformers may be considered, after factory inspection, for carrying out repair work on a case-to-case basis.) (The following procedure is common for both dry type and oil type transformers; however, deviations are clearly mentioned at the relevant places.)

1.1

**Job Schedule**

The repairing job of transformers involves (i) Survey (both Preliminary and Final), (ii) Repair as per technical requirements with supply of spares, (iii) Stage Inspection, (iv) testing and to and fro transport from different site stores to Repairer's Workshop and back to site as follows:

1. The repairers will first be served with Letter of Intent (L.O.I.) for carrying out repairing work on defective/damaged transformers at a particular site.
2. On receipt of L.O.I. the repairers will have to complete commercial formalities like execution of Insurances, etc.
3. After completion of commercial formalities and joint preliminary survey along with the concerned Site Officer, the material will be lifted as per direction of the Site Officer.
4. At the time of lifting of the transformers from store, the defective Transformers will be sealed by the concerned Site Officer diagonally at the opposite corners of the top Cover.
5. The transformers after transported to their Works, an inspection call has to be given by the repairers to the Nodal Officer for final survey of the transformers. At the time of final survey, the seals of the transformers will be broken by the Nodal Officer or his representative and lifting of the core and windings of the transformers will have to be arranged by the repairers from the tank and thoroughly dismantled in presence of the Nodal Officer or his representative.
6. After completion final survey, the repairers will prepare an schedule & estimate for repairing works involved and submit the same to the Nodal Officer for approval. **The core loss of the transformer will be taken into consideration at the time of the final survey. Details are given later under the technical specification.** If the Nodal Officer is convinced about the financial viability of the works, he will communicate his consent to the repairer for making progress in the repairing works.
7. After getting clearance from the Nodal Officer, repairer will carry out repairing job with

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	<p>supply of spares/materials. During the progress of repairing, the repairer will call for stage inspection to the Nodal Officer. The Nodal Officer or his authorized representative will make necessary stage inspection to supervise the progress of work.</p> <p>8. The work for transformer Core and Coil assembly, and insulation materials will be performed as per the IS: 18284: 2023 (latest issue/amendment) &amp; other ISS (all as per latest issue/amendment) with specification mentioned in this technical specification or type / category mentioned in BOQ/ Annexure.</p> <p>9. The work for transformer Vacuum Impregnation Process like preparation and drying, impregnation cycle curing and Post-Processing and other processes will be performed as per the IS 11171 alongside IEC 60076-11 (latest issue/amendment) &amp; other ISS (all as per latest issue/amendment).</p> <p>10. The transformers will be tested as per IS: 18284: 2023 (latest issue/amendment) &amp; other ISS (all as per latest issue/amendment) along with requirements of WBSEDCL, details are given later under the technical specification. If the transformers pass successfully in all the routine tests necessary clearance will be issued to the repairers by the competent authority for transportation of the transformers by their own transport to the recommended locations/stores. The routine test is to be carried out in presence of representative of respective Zonal Testing or his authorized representative.</p> <p>11. If the transformer/transformers failed at the time of acceptance test the repairer is to be reoffer the transformer/transformers after necessary rectification. The LD and reoffer chargers will be applicable as per the NIT.</p> <p>12. All data such as the preliminary survey report, final survey report, stage inspection records, testing reports, etc., shall be preserved and handed over in both hard copy and soft copy for official purposes.</p>
2.0	<b>REQUIREMENTS:</b>
2.1	The repairing contractors shall have their own factory/workshop with sufficient covered space (minimum 2000 Sq Feet recommended) for storing transformers and carrying out their repair, and it is also mandatory to store transformers and their parts in a clean, covered area with easy accessibility.
2.2	The repairing Contractors shall have a team of Engineers/Supervisors/Skilled Labours with technical qualification and experience in the similar profession. They shall have also sufficient financial capability in carrying out the jobs. They shall also have Licensed Supervisor with requisite License from Govt. Authority.
2.3	<p><b>A. TESTING INSTRUMENTS:</b></p> <p>i) <b>Transformer Turns Ratio</b> measuring instruments with "Polarity checking facility" (Accuracy – 0.1% max. Allowed) : <b>1 No.</b></p> <p>ii) <b>DC Resistance</b> measuring instruments:</p> <p>a) <b>Digital Ohms Meter-</b> Having current range up to 10 Amps : <b>1 No.</b> (DC Resistance</p>

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measuring instruments having minimum current range up to 1 Amps. will also be accepted) (Preferably ELTEL or reputed make).

iii) **H V Power Frequency Testing Set:**

- a) Minimum 70/30 KV 150 mA AC with tripping arrangement (HV) : 1 No.
- b) Minimum 3 KV, 10 mA AC with tripping arrangement (LV) : 1 No.

iv) **Double Voltage double frequency Testing Set / Variable frequency drive: :1 No., which includes;**

- a) Motor Generator Set having minimum capacity 15 KVA, 866 Volts, 100 Hz.
- b) Intermediate transformers for step up voltage (if require for reach the voltage 866 Volts).
- c) Frequency Meter - 50 Hz, 433 Volts.
- d) Frequency Meter - 100 Hz, 1000 Volts.
- e) Volts Meter – AC, minimum 1000 Volts.
- f) Amps Meter – AC, 0 - 10 Amps - 3 Nos.
- g) Digital Tong Tester for measuring Current AC, Range of measurement- 3 mA, 30 mA 30 A & 300 A.
- h) Tripping Arrangement.
- i) 3 Phase Variac - minimum 20 Amps, 440 V.

**Variable frequency drive:**

In case a Variable Frequency Drive (VFD) is used, the instruments provided shall be adequate to carry out the High Frequency Induced Over-Voltage Test as per Bureau of Indian Standards IS 18284:2023, including amendments if any.

v) **Oil Testing Arrangement :1 No., which includes;**

- a) Minimum 80 KV BDV Test set with rate of rise of Voltage 2 KV /Sec.
- b) Acidity Test Kit.

vi) **Megger :**

- a) Minimum 2500 Volts - 5000 M. ohms : 1 No. (Digital for Dry type DTR)
- b) Minimum 500 Volts - 100 M. ohms : 1 No. (Digital for Dry type DTR)

vii) **Digital Power Analyzer** having 3 phase 4 wire measuring capacity (accuracy – 0.2 Class) AC Amps – 10 A, AC Voltage – 750 Volts : 1 No.

viii) **3.3 KV or Higher Class HT CT** required for DTR testing from 500 KVA onwards of Ratio – 50-25/5 Amps, Class of accuracy – 0.2, Burden-15 VA : 3 Nos.

ix) **3.3 KV/110 Volts Single Phase PT** required for testing of 33 KV Station Service Type Transformers, accuracy- Class – 0.2, 15 VA : 3 Nos.

x) **Intermediate Auto Transformers** for step up the supply voltage for measuring the Impedance Voltage and Current with 3 phase Variac - 28 Amps. up to 315 KVA & suitable higher rating up to 630 KVA : 1 No.

xi) **Digital Multimeter :1 No.**

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- xii) Thermometer (preferably Digital) 0-150 deg C: **2 Nos.**
- xiii) Clamp on ammeter (0 – 1000 A) **1 Nos.**
- xiv) Vernier Caliper Measurement range: 0 - 6"/ 0 - 150mm; Resolution: 0.01"/ 0.1mm; (Digital preferable) **2 Nos.**
- xv) Dial Thickness Gauge (Preferred for Soft Insulation measuring for thickness of nomax paper for dry type DTR, resolution usually **0.001 mm or 1 micron**) **1 Nos.**
- xvi) Pressure Gauge or Manometer .To measure and monitor the applied air pressure (generally up to 2kg/cm<sup>2</sup> range) (for dry type DTR) **1 Nos.**
- xvii) Measuring scale 1 meter (least count 1mm) **2 Nos.**
- xviii) Micro-meter Screw Gauge range: 0-25 mm Graduation: 0.01mm (Digital preferable) **2 Nos.**
- xix) Measuring tape 10 meter (least count 1mm) **2 Nos.**

**B. PLANT & MACHINERY/TOOLS & TACKELS :**

- i) Strip Covering Machine. : Minimum 1 No.
- ii) Wire Covering Machine. : Minimum 1 No.
- iii) Coil Winding Machine for H.T. : Minimum 1 No.
- iv) Coil Winding Machine for L.T. : Minimum 1 No.
- v) Paper Cutter Machine - minimum - 48". : Minimum 1 No.
- vi) Hand operated /Electrical Overhead Crane – 3 Tons : Minimum 1 No.  
(for oil type DTR) and 5 Tons( for dry type DTR)
- vii) Digital Weighing Machine - Capacity -1000 Kgs. : Minimum 1 No.
- viii) Digital Weighing Machine - Capacity -100 Kgs. : Minimum 1 No.
- ix) Dove tail Machine. : Minimum 1 No.
- x) Heat Chamber with the following specification. : Minimum 1 No.
  - a. Minimum size - 8' x 6' x 6' (for Dry type)  
And Minimum size - 6' x 6' x 5' (for Oil type)
  - b. Heating capacity rise up to 220<sup>0</sup>C (for Dry type)  
And Heating capacity rise up to 70<sup>0</sup>C (for Oil type)
  - c. Automatic temperature controller
  - d. Auto cutter system
  - e. Continuous Air circulation system
  - f. Closed type heater to protect direct heat on the job
  - g. Moisture removing valve
  - h. Storing capacity minimum 4 Nos. Job (for dry type) assorted size.  
And Storing capacity minimum 6 Nos. Job (for oil type) assorted size.
- xi) Oil filter Machine capacity minimum 150 Ltrs. Per hrs. : Minimum 1 No.
- xii) Power Driven coil Cutting tools. : Minimum 1 No.
- xiii) Drill Machine. : Minimum 1 No.
- xiv) Welding Machine. : Minimum 1 No.

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	<p>xv) Spray Painting Gun. : Minimum 1 No.</p> <p>xvi) Air Compressor / Hand Air Pump .To supply low air pressure inside the transformer enclosure/tank (for dry type DTR) : Minimum 1 Nos.</p> <p>xvii) For wound Core Transformer: Automatic motor operated and on site selectable speed control coil winding machine is required. This is a must criterion for repairing of Wound Core Transformer.</p> <p>xviii) Vacuum impregnation Chamber: will have to suitable of processing 630 KVA transformers (Dry type DTR). The vacuum pressure and filling material will be as per the current technical specification of WBSEDCL.</p> <p>xix) Other Zigs, Tools and Accessories.</p> <p>xx) Air Compressor / Hand Air Pump .To supply low air pressure inside the transformer enclosure/tank (for dry type DTR) 1 Nos.</p> <p>The instrument / equipment must have the valid test / calibration certificate from NABL, New Delhi, affiliated Laboratory / Govt. Approved Laboratory and made available during testing the Transformers. <b>The validity of calibration will be one year only from the date of last Calibration.</b></p>
3.0	<p><b><u>SURVEY:</u></b></p> <p>Survey will be carried out in three phases;</p> <p>(i) Preliminary Survey.</p> <p>(ii) Final Survey.</p> <p>(iii) Stage Inspection.</p>
3.1	<p><b><u>PRELIMINARY SURVEY:</u></b></p> <p>1. Preliminary Survey will be undertaken after issuance of LOI at Company's premises viz. Sub-Station or Divisional Stores / Zonal Stores in presence of Company's Representative who will be not below the rank of Assistant Engineer from the concerned Wing of WBSEDCL.</p> <p>2. Preliminary Survey includes the following :</p> <p><b><u>A. Physical Inspection of Outer Parts:</u></b></p> <p>At the time of preliminary survey, the condition of the following parts are to be verified by the Inspection authority at Company's stores and note down and signed in preliminary survey report and the same is to be deposited by the repairer in 5 (Five) copies. Preliminary survey contains the following heads:</p> <p>i) KVA, MAKE, Maker's Serial No., % of Impedance, Voltage Class, Year of Manufacturing.</p>

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- ii) Transformers lifted from.
- iii) L.O.I. No. / Others reference No. with Date.
- iv) Condition of HV / LV Bushing such as No. of Good / Damaged / Missing.
- v) Condition of HV / LV Studs such as No. of Good / Damaged / Missing.
- vi) Condition of Brass / Aluminum Nuts such as No. of Good / Damaged / Missing.
- vii) Condition of others Studs fittings such as No. of Good / Damaged / Missing.
- viii) Condition of Main Tank, Cover, Radiator, Tubes, Conservator tank such as Good/Damaged/ Missing or partly damaged/Missing.
- ix) Condition of Arcing Horns such as Good / Damaged /Missing.
- x) Condition of HT and LT Cable box.
- xi) Condition of CI / MS Clamp such as Good / Damaged /Missing.
- xii) Condition of MS Bolts, Nuts, washer such as Good /Damaged /Missing.
- xiii) Status/Availability of name, rating & property plate having Purchase Order No.
- xiv) Status/Availability and condition of RTD of dry type DTR.

**B. Physical Testing of the Transformers:**

- i) Measurement of Insulation - Resistance of HV and LV Windings by 2500 Volts Megger / 500 Volt Megger.
- ii) Continuity testing between HV, LV Windings.

**C. Others related Jobs:**

- i) Drain out of entire oil from the transformer under survey and segregation & storing of drained out oils as per visual inspection in different drums at respective WBSEDCL store is to be done as per direction of Site Engineer.
- ii) The quantity and quality of the old used transformer oil shall have to be ascertained and recorded in the Survey Report / Store Return Note.
- iii) Drain out old / used transformers oil shall be returned to stores in repairer's drum and number of drums supplied by the repairer should be recorded in the preliminary survey report.
- iv) Transformers Oil (only new or regenerated) will be issued to repairing contractors after the stage inspection.
- v) Transformers Oil in drums to be issued to the party will be tested in their presence for acidity and BDV as per relevant IS for determination of electrical strength of insulating oil. The limits for acidity and BDV will be guided by ARE: 1866-1988.
- vi) Transformers Oil filling shall be done by the repairer in presence of the WBSEDCL's representative not below the rank of Assistant Engineer. In that event, repairer is to inform the controlling officer regarding completeness & boxing-up.
- vii) Drum/Barrels in which Oil (new or reclaimed) shall be supplied by WBSEDCL, shall be

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adjusted with the repairer's drums/barrels returned to stores at the time of preliminary survey/lifting time and remaining drums/barrels shall not be taken back and the cost of the Barrel/Drum shall be recovered from the repairing bills. **Cost of non-returnable oil barrel will be realized from the vendor at the rate Rs. 250.00 +GST as applicable for each barrel.**

- viii) The rating & losses of transformers without Name Plate should be ascertained by its property plate & asset code. If nothing is found, the said transformer is to be sealed during preliminary survey. The rating of such transformers should be ascertained by the Inspecting Engineers with the technical assistance of technical staff and the same shall be indicated clearly on the flat surface of the main tank (No-Load, Load Loss & Rating) after due concurrence of respective DM & Zonal Testing and the same shall be recorded in preliminary survey report with oil capacity of the tank.

**3.2 FINAL SURVEY:**

**A.** Final survey will be held as soon as the defective transformers reach the Works of the repairers preferably within 7 (Seven) days. Actual assessment of damages in coil and its weight will be ascertained through Core opening. Necessary testing viz. continuity, resistance of HV & LV Coils etc. can also be measured during such survey in presence of WBSEDCL representative(s) not below the rank of Assistant Engineer(s) from Testing Unit and concerned Division.

**B. Procedure for carried out of Final Survey:**

1. Final survey to be carried out by the Zonal Testing Wing / Central Testing Wing / authorized representative of WBSEDCL, not below the rank of Assistant Engineer (called as Nodal Officer).
2. Joint final survey to be carried out by the Nodal officer in presence of technical persons of the repairer.
3. Nodal officer shall verify the transformers particulars with L.O.I. or Preliminary Survey Report or Gate Pass of the WBSEDCL Stores i.r.o. the rating as KVA, Make and Serial No. of the transformers lifted from side and allow to open the inner side of the transformers.
4. After opening the cover of the transformers tank, Nodal Officer shall verify the inner parts of the transformers including those which are included in preliminary survey such as inner part HV Bushing, LV Bushing, HV studs & LV studs. If any damaged not found at the time of Preliminary Survey the same to be included in final survey for replacement.
5. **The pre-repair no-load loss and pre-repair load loss shall be ascertained for all ratings of dry-type DTRs and oil-type DTRs.**

a) The losses may be taken from the nameplate where directly mentioned.

b) In case the nameplate is not available, the values shall be determined as per the chart provided later in this technical specification.

c) In case where the total loss at 50% and 100% loading is given in the name plate the total loss at 50% and 100% loading will be considered as Total loss Pre-repair(50%) and Total loss Pre-repair(100%) respectively.

If required the following formula may be used to evaluate individually ( load loss and no load

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loss, for dry type DTR Pre repair No-load loss is required to compare with No-Load loss observed with dummy windings. )

Let' s Consider:

- Total loss at 50% loading = A Watt.
- Total loss at 100% loading = B Watt.

Then

Pre-repair Load loss at 50% is ----  $(B-A) / 3$  Watt.

Pre-repair Load loss 100% loading-----  $4/3 X (B-A)$  Watt.

And Pre repair No-load loss-----  $(4XA - B) / 3$  Watt.

6. For all dry-type DTRs, no-load losses shall be mandatorily checked using dummy windings. Transformers may be repaired if the measured no-load losses are within +15% tolerance of the pre-repair no-load losses. In case of oil transformers, this check are not mandatory for the repairer, and the engineers of WBSEDCL may consider other parameters before giving the go-ahead signal, however it should fit the losses criteria as mentioned later under the technical specification, however WBSEDCL reserves the full right to ask for this test if any doubt arises regarding the no-load loss and limit will be within +15% of the pre-repair no-load losses.
7. In presence of Nodal Officer, parts of the transformers to be dismantled from the tank/enclosure with separation of core & coils (both HT & L T) and the details of the coils to be measured.
8. For L.T. Coils, the following measurement is necessary:
  - a. ID of the core limb
  - b. Core to core length
  - c. Length of the Core
  - d. ID of the L.T. Coils
  - e. OD of the L.T. Coils
  - f. Length of L.T. Coils
  - g. Turns of the L.T. Coils
  - h. Size of the L.T. Strips
  - i. Weight of L.T. per Coil
  - j. Thickness of insulation
9. For H.T. Coils, the following measurement is necessary:
  - a. ID of the H.T. Coils
  - b. OD of the H.T. Coils
  - c. Length of H.T. Coils
  - d. No. of Coils per limb
  - e. Size of the H.T. DPC /SE wires
  - f. Weight of H.T. per Coil
  - g. Thickness of insulation
10. If the proper gap between core to L T coils, L T coils to HT coils, HT coils to Tank/Enclosure is not found, the Nodal Officer shall inform to repairer to maintain the proper gap as per manufacturing design. If LT turns are found short at the time of final survey, replacement of LT to be done for proper LT turns to improve the testing results as per advice of the Nodal

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	<p>Officer.</p> <ol style="list-style-type: none"> <li>11. Repairer will fill up the results/observations in the WBSEDCL's prescribed format enclosed with the RC order, in four copies of which three numbers shall be retained by the repairer for preparation of estimate. The report should be jointly signed by the WBSEDCL's Representative and the repairer.</li> <li>12. The old part/total Copper or Aluminium HT Coils shall be cut and damaged by the Inspecting Officer(s) with the help of Power Driven Cutting tools.</li> <li>13. In case of dry type DTR, the total old HT and LT coils will be replaced. However, if the Inspecting Officer observes that minor repair work can resolve the issue, the work schedule will be prepared accordingly.</li> <li>14. The transformers without Name Plate should be verified during final survey. The rating of such transformers should be ascertained by the Inspecting Engineers with the technical assistance of Zonal Testing Unit and the same shall be indicated clearly on the flat surface of the main tank / enclosure.</li> <li>15. If rust is found in the bottom portion, bottom yoke of the core may be opened to assess the condition of laminations of the core. During Final Survey, if any doubt is found regarding Core assembly- No-Load loss of said core by "Dummy Winding" is to be carried out before according clearance for repairing of said Transformer and it will follow the point no 6 of this procedure.</li> </ol>
4.0	<p><b>ESTIMATE:</b></p> <p>Preliminary and final survey will constitute joint survey reports. Repairer will prepare and submit an estimate on the basis of the joint preliminary and final survey report with a copy of the same to the concerned Divisional Manager / Regional Manager / Zonal Manager within 7(seven) days from the date of completion of joint survey who in turn will confirm the estimate and place formal order in due course. The Formal Order will be placed after getting the following papers.</p> <p>(a) Insurance Copy (b) LOI Copy (c) Preliminary Survey Copy (d) Final Survey Copy (e) Photo copy of Stage (f) SIRN-Issue of Defective Transformer (g) Estimate Copy (h) oil statement.</p> <p>Financial viability of the repairing cost as 40% of the cost of the Transformer (.i.e (Material + labour) X MF – Scrap) shall be considered prior to placement of Formal Order and/or issue of confirmatory acceptance of the estimate - otherwise the transformer(s) shall be declared as condemned. The base rate of 16 KVA DTR may be considered for 10 KVA DTR for estimation purpose only, if the rate of 10 KVA is not mentioned in the current Cost Data of WBSEDCL.</p>
5.0	<p><b>HANDING OVER AND TRANSPORT:</b></p>
5.1	<p>The defective transformers without oil will be handed over to the repairer after preliminary survey.</p>
5.2	<p>The repairer shall have to make requisite Insurance for a particular Division as per Insurance Clause of Commercial Specifications which should remain valid for a period of one year with provision for further extension up to 2 (two) years.</p>
5.3	<p>Transportation charges will be guided by Rate Contract of Transportation issued from P&amp;C Department with the following stipulations.</p> <p>a) In those district where number of DTR Repairers found to be less than three, Transportation Charges with a upper limit up to 200 KM (for "to and fro" journey) may be payable to those repairers who are located outside the districts.</p>

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	<p>b) For other cases, total transportation charges (for to and fro journey) up to a maximum distance of 120 KM are payable.</p> <p>c) The numbers of repairers for wound core DTR is limited and in case no repairers are available within the said distance of 200 KM, the said upper limit of transportation charges (for "to and fro" journey) will be extended to a distance of the location of the nearest repairer available beyond 200 KM.</p> <p>d) d) At a time, not more than two truckloads of transformer and oil drums will be issued.</p>
6.0	<b><u>INSPECTION /STAGE INSPECTION:</u></b>
6.1	Company reserves the right to make stage inspection at the Works of the Party at any time during repairing. The stage inspection is mandatory of types of DTRS, <b>however, in cases of extreme urgency, the Zonal Manager holds the right to waive stage inspection.</b>
6.2	The repairer will have to offer one stage inspection before boxing up coil and core assembly. A team of WBSedcl Engineers (not below the rank of Assistant Engineer) normally from Zonal Testing Unit /Regional Testing Unit and concerned Division will check the quality of repairing jobs and certify that the repair works have been performed as per survey. Change of gasket, welding of tank/enclosure, conservator, radiator, core setting, change of stud and performance of filtered oil will be checked during this stage inspection. The data shall be recorded in a format similar to that of the final survey for comparison.
7.0	<b><u>POST REPAIR TEST FOR TRANSFORMERS:</u></b>
7.1	The repairer should notify the concerned Divisional Engineer / Superintending Engineer of Zonal Testing Unit and Controlling Officer well in advance about the readiness of the transformers with test certificate after drying out, final assembly and oil filling along with necessary factory work, so that the concerned DE/SE of Zonal Testing Unit can arrange program for testing of complete transformers with oil on mutually agreed date in consultation with Controlling Officer.
7.2	The Inspecting Engineers-DE/SE of concerned Zone/Testing Unit reserve the right to reject either raw materials or finished assembly found to be not complying with the requirement of the specifications or not as per joint survey report.
7.3	The transformer which will pass the tests will be sealed with Plastic Seal at diagonally opposite corners of the Transformer Top Cover.
7.4	The date of delivery will be within 7 days from the date of testing or 3 days from issuance of PO whichever is later.
7.5	The following tests will be done by the Inspecting Engineers. All measuring instruments/equipments of the repairer must have valid calibration certificates (validity of calibration- one year):
7.6	<p><b><u>TESTS.</u></b></p> <p>i) Ratio check, ii) TTR, phase relation iii) Polarity check, iv) winding resistance, v) insulation resistance vi) Separate source voltage withstand test, vii) Induced over voltage withstand test, viii) Core loss (No load loss) test ix) Load loss test x) Measurement of Dielectric Strength of Transformer Oil xi) Measurement of Acidity of Transformers Oil xii) Polarization Index test (for dry type DTRs).</p> <p><b>A. <u>Insulation Resistance and Di-Electric Strength test</u></b></p>

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This test is usually performed to obtain three different winding insulation resistance values--a) High voltage to low voltage, b) High voltage to ground, c) Low voltage to ground. Duration of the test will be one minute.

**Insulation Test Voltages**

Sl No	Winding Voltage Class(kV)	Insulation Test Voltage (dc)
1	Upto 1.1	1000
2	3.3—11	2500
3	22--33	5000

**Recommended Minimum Insulation Resistance (Dry and oil type DTR)**

Sl No	Winding Voltage Class(kV)	Insulation Resistance Dry type (M-Ohm)	Insulation Resistance Oil type (M-Ohm)
1	Upto 1.1	600	100
2	3.3	1000	1000
3	6.6	1500	1500
4	11	2000	2000
5	22-33	3000	3000

**B. Winding resistance test**

To obtain accurate results, this test is usually performed using a winding resistance bridge. On a new or rewound transformer, this information can be used to determine the copper or load losses that will occur in the transformer and separate them from eddy current losses in the winding. This test can also be used to detect faulty joints of tap switch contacts with the winding. Note that when measuring the resistance of the LV winding on large transformers, it can take several minutes for the measurement equipment to reach a stable value. At the same time, oil temperature and also the winding temperature oil temperature and also the winding temperature should be measured. The resistance value can be corrected to a common temperature using the relationship:

$$R_{ref} = R_t \times (T_{ref} + 235) / (T_t + 235) \text{ ---- for copper}$$

$$R_{ref} = R_t \times (T_{ref} + 225) / (T_t + 225) \text{ ---- for Aluminium}$$

Where,

Ref=reference temperature;

T=test temperature at which the values were obtained.

As there is no proper guide line in the IS specification - the results will be different for

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different make transformers as per their design. So, DC resistance value will be different for different make transformers even of same make transformers of different year of manufacturing (If the design is different). For testing purpose only result will be recorded, but it will be verified that phase to phase DC resistance must not vary for more than 5 to 10% between them. DC resistance is to be measured through 4 (Four) terminal digital Ohm-Meter.

**C. Measurement of Voltage ratio of Transformer Turns Ratio (TTR) Test**

Low-voltage ac is applied to the low-voltage winding of the transformer, and the voltage induced in the high-voltage winding is measured through test set reference transformers and a null meter. Using the TTR test set one can determine the polarity of the transformer Phase relations, and turn ratio. Measurements should be taken on all taps. The maximum variation of the measured value is 0.5 percent.

\* For additional information, please refer to IS 18284:2023.

**D. Polarity Test**

This test can usually be performed with the TTR meter. Alternatively, low amplitude AC voltage source and voltmeter can be used.

\* For additional information, please refer to IS 18284:2023.

**E. Phase Sequence Test**

This test is used to determine the phase relationships between the HV and LV windings. It is particularly useful after a transformer has been rewound and connected following disassembly in the premises. A low amplitude (120 V or less) three-phase ac voltage is applied to HV windings. The voltage between the remaining terminals are then measured and recorded. The magnitudes are then compared to the expected magnitudes based on overlaying the phase relation diagrams from the name-plate and calculation the phase relation sum of the voltages being measured.

\* For additional information, please refer to IS 18284:2023.

**F. No-Load Loss Test**

No Load Loss to be measured at rated voltage with rated frequency at LV side with a connection of three phase four wire method. The supply voltage should be 433 Volts at LV side for 11 /0.433 KV transformers if the frequency stands at 50 Hz. The supply voltage should be varied in respect of frequency. In this respect, repairer shall have the suitable arrangement for applying the rated voltage through auto/ intermediate transformers.

Line frequency	No load voltage should be
51.00 Hz	441.66 Volts.
50.50 Hz	437.33 Volts.
50.00 Hz	433.00 Volts.

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49.50 Hz	428.67 Volts.
49.00 Hz	424.34 Volts.

- i) **NO Load Loss Pre-repair will be as per the name plate.**  
ii) In case where the no load loss figure is not specified in rating plate or without name plate the transformer NO Load Loss Pre-repair are given below, these are for Dry type and Oil type Transformers.

Rating of Transformers (For KVA)	NO Load Loss Pre-repair (In Watt )
10	60
16	80
25	100
63	180
100	260
160	293
250	620
315	800
500	1080
630	1200
1000	

- iii) In case where the total loss at 50% and 100% loading is given in the name plate the total loss at 50% and 100% loading will be considered as Total loss Pre-repair(50%) and Total loss Pre-repair(100%) respectively.

**G. Load Loss Test and Impedance Test (Strictly to be measured through Digital Power Analyzer)**

During lifting of DTR from WBSEDCL store, the status/availability of name, rating & property plate shall be recorded for each transformer as reference. Attempt may be taken to obtain the ordered no load and load loss figure from the original purchase order as noted in the property plate of the defective DTR where available.

This test is carried out to determine the losses within a transformer due to the resistance of the HV and LV windings. Once again, the energizing source should have balanced voltages, and the waveform should be sinusoidal. If these two criteria are met, the measurement can then easily be made with Digital Power Analyzer. The usual method is to short circuit the LV winding on the 100 percent tap until rated current is achieved. The winding temperature should be recorded at this time. The reference temperature used for determining copper losses is 75 degree C.

- ii) **Load Loss Pre-repair will be as per the name plate.**  
ii) In case where the load loss figure is not specified in the rating plate or without a nameplate, the transformer load loss pre-repair is given below; these are for Dry type and Oil type Transformers.

Rating of Transformers	Load loss Pre-repair	Percentage
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For KVA	( In Watts)	Impedance
10 Aluminum	360	4.5+/-10%
16 Aluminum	475	4.5+/-10%
25 Aluminum	685	4.5+/-10%
63 Aluminum	1235	4.5+/-10%
100 Aluminum	1760	4.5+/-10%
160 Aluminum	1908	4.5+/-10%
250 Copper	3700	4.5+/-10%
315 Copper	4600	4.5+/-10%
500 Copper	6400 (for old design)	4.5+/-10%
630 Copper	5440	4.5+/-10%

iii) In case where the total loss at 50% and 100% loading is given in the nameplate the total loss at 50% and 100% loading will be considered as Total loss Pre-repair(50%) and Total loss Pre-repair(100%) respectively.

**Percentage impedance (%Z) = (Impedance Voltage/Rated voltage) X 100**

Percentage impedance should be recorded at repairing Name plate.

After repair, the total losses shall be measured and the same shall not exceed the total losses (pre-repair) by more than 10 percent that is,

**a) Total Losses<sub>Post-repair</sub> ≤ 110 percent (that is 1.10) X Total Losses<sub>Pre-repair</sub>**

**b) Total Losses<sub>Pre-repair</sub> = No Load losses<sub>Pre-repair</sub> + Load losses<sub>Pre-repair</sub>**

**c) Total Losses<sub>Post-repair</sub> = No Load losses<sub>Post-repair</sub> + Load losses<sub>Post-repair</sub>**

In case where the total loss at 50% and 100% loading is given in the nameplate the equation "a" mentioned above shall have to comply for both 50% and 100% loading.

**H. Separate Source Voltage Withstand Test**

A 50 HZ single-phase ac supply is connected to the HB and LV windings separately. The winding under test has all terminals shorted together. The other winding terminals are also shorted and connected to the ground. The 50 HZ source should be suitably sized to provide the necessary charging current for the transformer being tested, and the waveform should be purely sinusoidal. The test voltage is raised to the test value at a slow, controlled rate. It should, however, not be so slow as

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to unnecessarily extend the test period. Usually, the above criterion can be met if the voltage is raised to 75 percent of the test value ( as specified in the table) in 5 seconds t 10 seconds and the rate of rise from there on is 2 percent to 3 percent of the test value per second. The test value is maintained decreased after that time. The equipment is deemed to have passed the test if the test voltage is maintained for the **one-minute period without any disruptive discharge**.

Transformer voltage KV (rms.)	Separate source AC with stand voltage KV (rms.) (Test voltage)
$\leq 1.1$	3
11	28
33	70

\* For additional information, please refer to IS 2026 (Part 3) : 2009.

### **I. High frequency Induced Over-Voltage test**

This test is used to verify the integrity of the turn-to- turn insulation in three phase transformer, as well as phase-to-phase insulation in three-phase transformers. It may also be used in place of the 50Hz high potential test for graded insulation system. The test is carried out at high frequency to reduce the exciting current required to energize the transformer. The applied voltage will be twice to its rated voltage. The value of the observation time will have to be derived from the equation given below:

**Observation time in second= (7200/frequency applied).**

For 100 Hz the observation time will be 72 second.

The voltage will be 866 volts ( LT 433 volt system) at the LT side and HT side will remain open.  
The voltage will be 830 volts ( LT 415 volt system) at the LT side and HT side will remain open.

### **J. Measurement of Dielectric Strength of Transformer Oil (Mandatory test Oil type DTR):**

As per IS specification the average dielectric strength of the transformers oil should be 30 KV at 2.5 mm gap in 6 (six) average figures /results with a rise of 2 KV /Sec in 30 minutes for new/regenerated transformers oil.

### **K. Measurement of Acidity of Transformers Oil as per relevant (Mandatory test Oil type DTR):**

As the repairers are not involve the reclamation process, the acidity of the transformers oil to be measured at the time of lifting of the transformers oil from stores and at the time of testing of the transformers - which will be same or better result at the time of testing. As per IS specification acidity of the transformers oil should be 0.3 mg of KOH /gm (Maximum).

\* For additional information, please refer to IS 1866- 1988.

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	<p><b><u>L. Polarization Index Test (for Dry type DTR)</u></b></p> <p>This is an extension of the one-minute insulation resistance test. The same dc voltage used for the one-minute test is applied for a period of 10 minutes. Resistance measurements are recorded after one minute and 10 minute. The polarization index is the ratio of the 10 minute resistance to the one minute resistance. The equipment value below 1.5 will not be accepted.</p> <p><b>PI= R (After 10 min) / R (After 1 min).</b></p>
7.7	<p>Company's Testing Engineer/Inspecting Engineer will sign the test report as per pro-forma enclosed provided with the RC order and give dispatch clearance after successful completion of above tests and physical checking of other external elements such as painting, change of Bushing/Stud/Gasket etc and RTD (<b>Resistance Temperature Detector</b>) for dry type DTRs. as per joint survey report. They will periodically visit the Repairer's Works and make random checking. They may check repaired transformers at delivery points as well. If any abnormality found during periodic checking, a caution letter shall be issued to the repairer and if such abnormality is found on two consecutive occasions, the issuance of LOI may be suspended.</p>
7.8	<p>Engineers of Distribution Testing under the CE (DTD) shall visit any repairers workshop at any time throughout West Bengal and they may retest/dismantle and see the internal condition of tested transformers, tested by the Zonal Testing/Circle Testing and declare the same defective if found not in order even if the same was accepted by the Zonal Testing/Controlling Officer. A testing fee of Rs. 500.00 per transformers shall be paid to the repairer if the transformer under test passes necessary tests. No payment shall however be made for failed transformers taken for inspection. If any repaired and test passed transformers found not acceptable during inspection, the whole lot of the repaired transformers of WBSEDCL lying at the workshop of the repairer shall be declared rejected. Testing after re-repair of such rejected lot shall be done by the DTD Wing only. A caution letter shall be issued to the repairer if such abnormality is found on two consecutive occasions; the issuance of LOI may be suspended.</p>
8.0	<p><b><u>PAINTING:</u></b></p> <p>After testing and re-assembly of transformer, it should be painted if asked for in the joint Survey Report. Before painting, external surface of the transformer should be properly cleaned by abrasive paper/wire brushing and then double coat of dark admiral Grey Paint is to be applied over prime coat of anticorrosive Red Oxide painted externally as per ISS: 104/1979 from Zinc Cromet, priming, brushing and ready mixed paint. For internal painting anti-oxidant &amp; oil resistant paint is to be used. Requisite time to be given for total drying up of internal painting before boxing-up.</p>
9.0	<p><b><u>TRANSFORMER OIL:</u></b></p>
9.1	<p>New/regenerated oil will be handed over to the repairer in drums for filling in the repaired transformers. Only filtration charges of oil with 2% wastage of new/regenerated oil will be permitted.</p>

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9.2	Any additional quantity of oil, if required, shall be arranged by the Controlling Officer. Transformer oil supplied as new or regenerated shall be properly filtered before filling.
9.3	Controlling Officer will ascertain the Transformers oil requirement allowing permissible wastage.
9.4	Transformer after filtration should meet the requirement of IS Amendment to IS: 1866/1983: Code of practice for maintenance and Supervision of mineral insulating oil in equipment before energisation. Oil samples will be collected from transformers ready for testing. If required electrical characteristics of oil sample will be done as per IS.
10.0	<b><u>ELECTRICAL TESTING SAFETY CONSIDERATIONS:</u></b>
11	<b><u>SALVAGED MATERIALS:</u></b> Salvaged materials e.g. Scrap, Copper Wires & Strips and Scrap Studs HT/LT Brass / Aluminium are to be retained by the repairers. Recovery for the above salvaged material will be made in rupees as per value of scrap published in WBSEDCL website month wise, accordance with the terms of the GCC/NIT.
12	<b><u>MARKING:</u></b>
12.1	The repairer shall fix a Name Plate of their Firm on a Base Plate to be placed close by the side of the original Name Plate. The Base Plate is to be properly mounted and permanently welded with the body of the Transformer Tank by any suitable arrangement. The Base Plate is to be made of M. S. material 2.5 mm thick and should measure 6" x 4". The Name Plate should be of anodized Aluminium of 1 (one) mm thick and measure 4" x 2". The Name Plate is to be fixed on the Base Plate by Machine Screws and welded.
12.2	The Name Plate fixed by the repairer should indicate the following particulars. The particulars are to be punch-marked. The general lettering should be etched on Aluminium Plate and anodized. <ul style="list-style-type: none"> <li>a. Name of the Repairer's Firm with address.</li> <li>b. Name of the Store where from received.</li> <li>c. Make/Maker's Serial No.</li> <li>d. Voltage Ratio.</li> <li>e. KVA Rating.</li> <li>f. Date of Test.</li> <li>g. Measured No Load &amp; Load Loss.</li> <li>h. Period of warrantee.</li> </ul> <p>In case the asset code is not available on the tank/enclosure, the repairer shall provide and affix a suitable metal plate for marking the asset code as per the following specification. The asset code shall be issued by the concerned controlling officer.</p> <p>a)Front size of letters shall be 28 .i.e 7 mm X 5 mm. b) Letters shall be distinctly engraved by cold punch. c) Plate size will be 80 mm X 30 mm d) Electrical run welded be through its perimeter. e) Plate shall be 3mm thick mild steel. f) The plate shall be welded on the transformer tank visible position and height.</p>
12.3	No transformer will be received from the repairer if the particulars are not incorporated in the Repairer Name Plate as mentioned above.

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13.0	<p><b>SAFETY:</b>  <b>The factory must fulfill all safety requirements as per IS 18284:2023 (latest issue/amendments) throughout the enlistment period.</b></p>
14.1	<p>In general:</p> <ol style="list-style-type: none"> <li>a. The work of repairing against each LOI shall have to be completed within a definite time frame.</li> <li>b. The time schedule for completion of work will be given with the LOI for acceptance by the repairers.</li> <li>c. The repairers shall have to lift of DTR within 3 (Three) days from the date of issuance of the LOI.</li> <li>d. Transformers should be handed over with SIRN from the respective stores.</li> <li>e. Joint Inspection call, for final survey will have to be given within 3 (Three) days from the day on which the transformers are transported to the Works of the repairer.</li> <li>f. The final estimate will have to be submitted by the repairer to the Nodal Officer within (seven) days from the date of the final survey.</li> <li>g. The commencement of the work shall be reckoned from the date of confirmation of the estimate by the Nodal Officer. The Nodal Officer will approve the estimate or give a written clearance for the start of the work.</li> <li>h. The offer for stage will be within 15 days from the date of approval of the estimate by the nodal officer.</li> <li>i. The required transformer oil will have to be handed over after stage inspection. The call for final testing for oil type transformer will be done within 7 days after receiving the transformer oil, in case of dry type transformer the call for final testing will be done within 7 days of stage inspection.</li> <li>j. The date of delivery will be within 7 days from the date of testing or 3 days from issuance of PO whichever is later.</li> <li>k. In the event of a failure in testing, the repairer will have to make a fresh offer for testing. The repairer will be given 20 (twenty) calendar days from the date of the first testing during which a re-offer for testing will have to be made. If there is delay in making of offer for related transformers within the specified period, penalty may be imposed as per rule.</li> <li>l. Considering the above time schedule with a tolerance of 3 days, the work must be completed (date of delivery) within 45 days (the time frame at the part of the vendor) from the issuance of the LOI. LD may be imposed after 45 days at the discretion of the Nodal officer.</li> <li>m. In the event of failure in testing, the repairer will have to make a fresh offer for testing. The repairer will be given 20 (twenty) calendar days from the date of 1st testing during which re-offer for testing will have to be made. If there is delay in making of offer for related transformers within the specified period, penalty may be imposed as per rule.</li> </ol>
14.2	<p><b>For Issue of LOI:</b></p> <ol style="list-style-type: none"> <li>a. Every Controlling Officer will maintain a register for issue of LOI.</li> <li>b. Controlling Officer should enroll the name of the repairers who are enlisted for repairing of</li> </ol>

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	<p>distribution transformers under his Division / Zone.</p> <p>c. Controlling Officer will issue the LOI to the repairer in serial basis as per availability of defective transformers in his stores.</p> <p>d. This serial should be rearranged depending upon the execution time and the failure rates of the previous order/orders. (for limitation please see GCC)</p>
14.3	<p><b><u>For Final Survey/Stage Inspection/Testing Date:</u></b></p> <p>a. Testing Engineer / Controlling Officer will maintain a register for allotment of a date for final survey / stage inspection / final testing to the repairer as per first in first out basis.</p> <p>b. Testing Engineer will enroll the name of the repairers in the register - who have applied for final survey / stage inspection / final testing for repairing of distribution transformers under his testing unit.</p> <p>c. Testing Engineer will allot the date for final survey / stage inspection / final testing as per availability of date at his office to the repairers - so that every repairer can get the date as per serial basis. For issue of transformer oil every controlling officer will maintain a register for issuance of transformer oil to the repairers as per first in first out basis.</p> <p>d. The testing offer shall be submitted along with successful routine test reports for all tests.</p>
15.0	<p><b><u>For Payment of Repairing Bill:</u></b></p> <p>a. Every Controlling Officer/Accounts Section will maintain a Bill register for necessary payment of repairing bills as per norms of the Company as per serial basis.</p> <p>b. For Guarantee Period transformers every Controlling Officer will maintain a register for guarantee period failure transformers.</p> <p>c. Controlling Officer will enroll the KVA / MAKE and SERIAL NUMBER of the transformers failed within guarantee period, so that all the transformers failed within guarantee period must be repaired by the repairer in free of cost.</p> <p>d. Controlling Officer will inform through letter regarding failure of the said transformers to the repairer for necessary repairing purpose.</p> <p>e. If the repairer fail to repair the said transformers within 30 (Thirty) days from the date of information given to them – Controlling Officer is entitled to deduct the repairing cost of those particular transformers from his bills or from his security deposit bills.</p>

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16.0 **Specifications to be followed:**

The following IS specifications with current amendment, if any, to be made available during inspections:

- a) IS: 18284: 2023 (latest issue/amendment)
- b) IS-2026: (Part-11):2021.
- c) IS 11171
- d) IEC 60076: 2018
- e) IS-3639: 1966 for Fittings and Accessories.
- f) IS-2099: 1986 and IS-3347: 1979 for Bushings & Bushing Fittings.
- g) IS-104: 1979: for Zinc Chrome, Priming, Brushing & Ready Mixed Paint.
- h) IS: 19 (Part-I to X)- 1980: Copper.
- i) IS : 10810 (Part- 0 to 3).
- j) IS: 7404 (Part-I & II): For Paper Covered-Cum-Conductor.
- k) IS : 1923 : Cotton Tape 1973.
- l) IS: 9335: 1984 (Part-1 & 2): For Crepe Paper.

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*AK* 27/04/26

*Prady* 27/04/2026

*R* 27/04/2026

*Ghosh* 27/04/26

*S* 27/04/26