

## Maharashtra State Electricity Distribution Co. Ltd.

Tender Details		17-03-2021 04:08:04
Tender Code	MMD/T-HTM2-01/0321	
Tender Type	Procurement Tender	
Type Of Bid	Two Bid	
Description	The scope of work under this tender is for design, engineering (wherever applicable), manufacture, inspection & testing before dispatch, packing and supply of Dist. Transformer Test Set Up fully Automatic as specified in Annexure-D / Technical Specifications, at various destination sites / stores Centers of the Purchaser in Maharashtra.	
Estimated Cost (In Lakhs)	616	
Basis of prices	Firm Price Basis	
Tender Validity	120	
Delivery Requirement (In Months)	6	
Tender on rate contract basis	NO	
Tender Fee (In INR)	10000	
GST In INR (@18% on Tender Fee: SAC	1800	
Total Tender Fee Amount including GST in INR.	11800	
Contact	NARENDRA DEVENDRA NARAYANE , 8879328083 ,cemmcsedcl@gmail.com	
Pre-Qualifying Req	As per Clause II of Section-I of Tender Documents MMD/T-HTM2-01/0321	
Budget Type	NA	
Scheme Code	null	
Scheme Name		
Department	Material Management Cell	
Office Type	HO	
Location Type	Corporate Office	
Designation	Executive Engineer(Distribution)	
Pre-Bid Meeting Address	OFFICE OF THE CHIEF ENGINEER, Maharashtra State Electricity Distribution Co. Ltd. Material Management Department, Plot No. G-9, "Prakashgad" First floor, Prof. A.K. Marg, Bandra (E), Mumbai – 400 051.	
Bid Opening Address	OFFICE OF THE CHIEF ENGINEER, Maharashtra State Electricity Distribution Co. Ltd. Material Management Department, Plot No. G-9, "Prakashgad" First floor, Prof. A.K. Marg, Bandra (E), Mumbai – 400 051.	

Version No	1
Call for Deviation	YES
Is Annexure C1 Applicable	YES
Is Manufacturer Applicable	YES
Is Trader Applicable	YES
Minimum % of Offered Quantity	20
Is Power Supplier Applicable	NO
Tender Sale Start Date	17-03-2021 17:00
Tender Sale End Date	08-04-2021 11:00
Bid Start Date	17-03-2021 18:00
Bid End Date	08-04-2021 15:00
Pre-Bid Meeting Date	26-03-2021 15:00
Techno-Commercial Bid opening on	08-04-2021 15:30
Price Bid opening on	Will be declared later
Annexure C1 Opening Date	Will be declared later
Winner Selection Date	17-03-2021 15:51



MATERIAL MANAGEMENT DEPARTMENT  
 MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD.  
 Tender No. MMD/T-HTM2-01/0321  
 Date:

## **BID NOTICE**

The Chief Engineer, Material Management Department (MMD), on behalf of Maharashtra State Electricity Distribution Company Limited (the Purchaser), hereby invites sealed bids from eligible bidders for procurement of Distribution Transformer Test set up. Entire bidding document is available online on <https://etender.mahadiscom.in/eatApp/> as per date indicated below. Any changes in the Bid Schedule, corrigendum etc. shall also be notified via MSEDCL's website. Prospective bidders are therefore requested to regularly check the website for any updates.

**Tender No. MMD/T-HTM2-01/0321**

**Estimated Tender Cost: 6.16 Crores**

**Tender Fee:** Rs. 10,000.00 + 18% GST

The bidder should submit non-refundable Bid Fee of Rs. 10,000.00 + 18% GST paid through online payment only, prior to the dead line for submission of bids as per the procedure led by the MSEDCL.

**Earnest Money Deposit:** The bid must be accompanied with EMD @ 0.50% (Half Percent) value of the offered quantity of the tender in the form of BG as per the Annexure-M enclosed with tender documents having validity of 120 days from opening of tender. Interest shall not be allowed on EMD.

The scanned copy of the online payment receipt / Demand Drafts / BG should be uploaded (in e-tendering) and the Demand Drafts should be submitted to this office on or before submission date and time.

Calendar of Events Event	Date and Time
Begin Sale of Bid Document	17.03.2021
Date and time of submission of Bids	08.04.2021 at 15:00 hrs
Date and time of Bid Opening	08.04.2021 at 15:30 hrs
Date and time of Pre bid meeting	26.03.2021 at 15:00 hrs

**THE CHIEF ENGINEER**  
**Maharashtra State Electricity Distribution Co. Ltd.**  
**Material Management Department,**  
**Plot No. G-9, "Prakashgad" First floor, Prof. A.K. Marg,**  
**Bandra (E), Mumbai - 400 051.**  
**E-mail- [cemmcmsedcl@mahadiscom.in](mailto:cemmcmsedcl@mahadiscom.in)**

**MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD.**

**TENDER FOR**

**Procurement of Dist. Transformer Test Set Up fully Automatic**

**Tender No: MMD/T-HTM2-01/0321**



**OFFICE OF THE CHIEF ENGINEER,  
Maharashtra State Electricity Distribution Co. Ltd.  
Material Management Department,  
Plot No. G-9, "Prakashgad" First floor, Prof. A.K. Marg,  
Bandra (E), Mumbai – 400 051.  
E-mail- [cemmcmsedcl@mahadiscom.in](mailto:cemmcmsedcl@mahadiscom.in)  
[cemmcmsedcl@gmail.com](mailto:cemmcmsedcl@gmail.com)**

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**SECTION-I**

**INVITATION TO TENDER AND INSTRUCTION TO BIDDERS**

**TENDER FORM (NOT TRANSFERABLE)**

**(TO BE SUBMITTED ONLINE DULY FILLED IN AND DIGITALLY SIGNED)**

To be submitted online not later than the date mentioned in the tender details. For participating in tender opening, the bidder can login at the specified time and date of opening of the tender, if he desires so.

The bidder is requested to quote his lowest rates F.O.R. destination for the supply of materials. The material is required at various places in the State of Maharashtra. The tender documents duly filled-in and digitally signed, are to be submitted online before due time & date of the submission of tender in prescribed form.

The modifications made to the terms & conditions shall applicable to this tender only.

**FOR CHIEF ENGINEER (M.M.DEPARTMENT)**



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INSTRUCTIONS TO THE BIDDERS

**I SCOPE OF WORK:**

The scope of work under this tender is for design, engineering (wherever applicable), manufacture, inspection & testing before dispatch, packing and supply of Dist. Transformer Test Set Up fully Automatic as specified in Annexure-D / Technical Specifications, at various destination sites / stores Centers of the Purchaser in Maharashtra. The quantity for procurement is as below.

Sr. No.	Item Description	Qty. in Nos.
01	Dist. Transformer Test Set Up fully Automatic	06

The Actual Quantity of the testing equipment that will be procured may vary depending upon the site requirement. The Quantity mentioned as above against various capacities can undergo change. However, the Minimum Assured Quantity for procurement shall be 50% of the total tendered quantity as mentioned above.

The list of various destination sites / stores Centers of the Purchaser is enclosed as Annexure K.

**II Qualifying Requirements:**

1. The bidder shall be an original manufacturer / sole authorized dealer / accredited representative of manufacturer of the tendered item. In case of dealers / authorized representative, an authorization letter for quoting in this tender with mentioned tender no. shall be obtained from original manufacturer & shall be submitted along with this bid.
2. In case the bidder is not an original manufacturer, the operating experience of the bidder shall be more than 5 years for supplying and providing after sales support of similar or better equipment to NABL Accredited Laboratories / Transformer Manufacturing Companies/Govt. Depts. /Power Utilities in India or Aboard.
3. The bidder should submit minimum 5 Job Completion Certificates for Transformer manufacturer or Utility Projects.
4. The manufacturer must have experience of minimum five years in Micro Controller Based automation in the field of Transformer Testing & Integration for supply of similar or better equipment to National / International Accredited Laboratories/Govt. Depts. /Transformer Manufacturers or Power Utilities. The manufacturer shall enclose necessary purchase order copies along with their bid to prove the same.
5. The bidder shall submit satisfactory performance report copies of supplying automatic transformer testing and report generating software from recognized NABL Accredited Laboratories/Govt. Depts./ Transformer manufacturers that the same has given trouble free service. Bid submitted without the performance letters from NABL accredited laboratories shall be treated non responsive.
6. The Bidder shall have successfully executed as a prime contractor at least three (3) contracts involving supply, installation, testing and commissioning of fully

automatic transformer test bench, within the last five (5) years as of the last date of opening of tender. Out of the above 3 contracts, two (2) contracts must have been executed outside bidders home country.

7. Average Annual Turnover – The minimum Average annual turnover of last three financial years of the bidder shall be 30% of the offered value. The bidder has to submit the annual turnover certificate of the company of last three financial years.
8. **Tests: Calibration Reports/Test Certificate:** The tenderer shall furnish detailed type test reports of the offered instrument for all the tests as per relevant standards. All the type tests shall be carried out at laboratories which are accredited by the National/International Accreditation Board for Testing and Calibration Laboratories (NABL) of Government of India and other countries to prove that the instruments offered meet the requirements of this specification. These tests should have been carried out within 5 years prior to the date of opening of the tender. The offer without type test report shall not be considered for further evaluation. The type test report shall be submitted along with the offer. Type Test Reports conducted in manufacturers own laboratory and certified by testing institute shall not be acceptable. Other stipulations in respect of Tests shall be as per Cl. No.9 of Technical specifications.
9. The bidder or their principals / manufacturer shall have the necessary minimum testing facilities for carrying out various acceptance and routine tests. A list of machinery / equipment and testing facility available at their Works shall also be furnished along with the offer.
10. The bidder should have a valid ISO 9001 & ISO 14001 certification.
11. The bidder shall declare that the bidder or their principals have not ever been black listed / defaulter by any utility / ESCOMs /Distribution Company / Laboratories / Any department of State Government or Central Government on record of poor performance such as not properly completing the contract, inordinate delays in supply completion, not supplying the items as per commitment of contract etc.
12. Bidder or their principals shall have fully equipped technical support office / laboratory for facilities of testing, calibration, adjustment, diagnosis and repair of equipment in India itself. Bidder or their principals shall have technical support staff posted in India for technical support after sale.
13. The Bidder or their principals shall have their own service centers and trained engineers dedicated for trouble shooting and technical support permanently posted in India. The bidder shall enclose necessary proof that the firm / the manufacturer / the principal the bidder is participating for, has necessary facility to adjust and calibrate the offered measuring units within the country. The list of Plant and Machinery, tools and tackles to carry out services shall be submitted along with the offer.
14. The offers of Indian subsidiary company, whose parent company is located abroad fulfilling the qualifying requirements as above, shall be considered provided the Indian participant subsidiary company fulfils the minimum experience of five years of supply or manufacturing of similar or better equipment to National /

International accredited laboratories or power utilities. However, the conditions of turnover and supply of minimum quantity of similar or better equipment to National / International accredited laboratories or power utilities as brought out elsewhere in tender documents can be fulfilled by the parent company located abroad on behalf of their Indian subsidiary company. The parent company shall furnish undertaking for accepting responsibility for supplying quality equipments as per MSEDCL'S specifications and execution of the contract on behalf of its India based subsidiary unit who has participated in the tender in Annexure U-I.

15. Following Documents should be submitted by the bidder along with the bid.

- BIS License and BEE certification as per clause no XIV. –Not applicable.
- The quantity offered for the supply of Dist. Transformer Test Set Up fully Automatic in the prescribed format as per schedule 'C'.
- Documentary evidence showing annual turnover of last 3 years, certified by Chartered Accountant for preceding three financial years.
- Copies of orders executed by the bidder, and the Certificate from the purchaser with regards to successful execution of the order for preceding three financial years.
- List of orders in hand.
- Documentary evidence (for e.g. SSI/NSIC Certificate) for manufacturing capacity to cover the quantity offered by the bidder and considering orders in hand.
- List of in house manufacturing and testing facilities as well as quality control set up.
- Certificate from Chartered Accountant for not having controlling stake in more than one entity as per clause no VII.
- Type test certificates/Calibration Certificate from NABL accredited lab such as CPRI/ERDA valid for a period of five years.

### III PRICES:

- (i) Prices are acceptable only on F.O.R. destination basis inclusive of Goods and Service Tax (GST for brevity) i.e. Integrated GST (IGST) for outside State / Central GST+ State GST (CGST+SGST) for within State, risk in transit, freight showing the break-up as desired in the Annexure 'B'. It shall be noted that quotations not conforming to F.O.R. destination basis inclusive of IGST/(CGST+SGST) etc. and to the unit as specified in Annexure 'B', shall be rejected even though the bidder's offer may be lowest. The bidder shall quote Ex-Works Price and element of freight and insurance along with applicable rate of IGST/(CGST+SGST). The F.O.R. destination price i.e. up to site or the Store Centre of the purchaser as the case may be inclusive of IGST/(CGST+SGST), risk in transit and freight will be programmatically calculated. While raising the invoices, however, IGST/(CGST+SGST) should be shown separately in the invoice raised.
- (ii) For each of the items quoted, bidder shall specify offered quantity. However, the offered quantity shall not be less than 20% of the advertised quantity (Advertised quantity means the quantity required as indicated in Annexure 'B' / Price Bid) so as to deliver the said

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quantity within the delivery requirement of the Purchaser as indicated in the tender documents.

#### **IV TAXES:**

- (i) The Purchaser shall be registered under Goods and Service Tax Act and should comply with all the statutory compliance requirements of GST Law diligently.
- (ii) It is imperative for the bidder to indicate the amount of IGST/(CGST+SGST) included in their price while giving the break-up of F.O.R. destination price in Annexure 'B', failing which, the offer will be treated as ambiguous and will be rejected as per the provisions of clause X of tender form.
- (iii) After awarding the contract, the supplier shall not charge any additional amount towards GST; during the currency of contract except statutory variation by Central / State Government in normal (full) rate of integrated GST. In case the GST is decreased than the rate indicated in the price bid, the benefits of the reduction in the GST shall be passed on to the purchaser. The increase in the GST rate due to increase in turnover during the contractual delivery period shall not be charged to the purchaser.
- (iv) Necessary documentary evidence for the GST claimed shall be submitted along with the bills.

#### **V BASIS OF PRICES:**

The bidder shall quote the prices on **firm price basis** as has been specifically brought out in the Tender Details. For any deviation in this regard, the offer shall be summarily rejected.

#### **VI PRICE VARIATION (wherever applicable):**

The price variation shall be admissible as per the price variation formula specified in Annexure - 'G' of this tender. No deviation shall be acceptable in the price variation formula. For any deviation, the offer shall be summarily rejected.

In case supplies are effected within the delivery period of lot, the "date of delivery" for PV purpose is the date on which the material is notified as being ready for inspection or actual date of receipt of material at stores whichever is less.

In case, supplies are effected after delivery period of lot, but within contractual period , the date of delivery for PV purpose would be the date on which the material is ready for inspection or delivery date of lot or actual date of supply on which the PV is less.

For quantity supplied beyond contractual delivery period , negative price variation and statutory variations shall be applicable. However, the positive price variation and statutory variations for quantity supplied beyond contractual delivery period shall not be allowed except where such delay in delivery is attributed to MSEDCL.

#### **VII DELIVERY:**

- (i) Bidder is requested to quote delivery F.O.R. DESTINATION only & only in the unit of the item specified in Annexure 'B' i.e. if the quantity is in sets or in tones or in numbers or in kilometers or in coils, the rate of delivery shall only be in the same unit.

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- (ii) It is mandatory on the part of the tenderer to quote the delivery on monthly basis. If the offered delivery is indicated on quarterly basis, then the delivery would be counted proportionately in three equal installments per month for liabilities of the contract including payment of price variation and levy of liquidated damages.
  - (iii) Size mix for the purpose of delivery, when delivery is quoted in assorted items, shall be determined by the Purchaser while issuing the A/T or dispatch instructions and will be binding on the bidder. The Purchaser will also have the liberty of modifying the size mix for the purpose of delivery, even after the A/T is issued.
  - (iv) Offer shall be rejected if the equated monthly delivery schedule and rate of delivery per month is not indicated.
  - (v) The delivery period to be submitted by the bidder for the offered quantity shall be in equated monthly lots from the date of LoA.
  - (vi) Bidder to submit the equated monthly lot schedule in following format.

Material description	Offered qty.	1 <sup>st</sup> month qty.	....	n <sup>th</sup> month qty.

- (vii) The scheduled delivery period is 6 months from the letter of award.
- (viii) MSEDCL may issue dispatch instructions as per requirement. The quantity demanded per consignee could be less than or equal to monthly lot specified in contract. Wherever as per demands, the quantity to be supplied to a consignee in a particular month is less than monthly lot quantity; the said quantity will be treated as lot quantity for the purpose of delivery and payment.
- (ix) MSEDCL may instruct the supplier to withhold entire or part of monthly supply of material for a specified period by giving two months advance instruction.
- (x) Time being the essence of contract, the supplier shall strictly maintain monthly delivery schedule.

The bidder is advised to get their type tests & drawing approval immediately after placement of LoA/AT so that the material is received by the purchaser well within the committed delivery period. If there is any delay in delivery of material as per schedule, the undelivered quantity as per schedule can be diverted to other good performing bidder.

**VIII OFFERING THE MATERIAL:**

- (A) The bidder may offer the material as per MSEDCL standard technical specifications as per Annexure-D. In case the material is being offered as per MSEDCL Standard Technical Specifications, the bidder does not have to fill the entire guaranteed technical particular (GTP). The bidder shall only submit the consent in this regard as given in Annexure-E and submit the type test reports & drawings for approval of

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MSEDCL. However; the bidders, who do not want to offer the material as per MSEDCL Standard Technical Specifications and have deviations in lieu of Indian Standards, will have to fill the entire GTP.

- (B) The person / entity should not have controlling stake in more than one entity applied for the tender / bid. **Necessary certificate duly certified by Chartered Accountant to this effect shall be submitted along with the tender documents.**
- (C) Factory address, from which the bidder intends to supply the material against the tender, shall be as indicated in the latest approved on line vendor registration form on e-tendering through which the vendor is submitting the offer.
- (D) The bidder shall offer the rates, taxes as applicable for the factory location indicated in his latest approved on line vendor registration form on e-tendering through which he is submitting his offer.
- (E) If the bidder intends to supply the materials from approved multiple factory locations in addition to the factory from which the bidder has submitted the offer; the bidder has to indicate the location and quantity offered from each location in the format "A"  
The F.O.R.D. rate shall remain same for all the multiple locations. The bidder shall indemnify MSEDCL for any consequences arising due to supply from approved multiple locations.

Sr. No.	Name of approved factory location	Address of factory location	Quantity offered
(1)			
(2)			
Further, I/we ..... hereby indemnify MSEDCL for any consequences arising due to supply of offered material from approved multiple locations.			
Seal & signature of bidder			

## IX CONFLICT OF INTEREST

A bidder may be considered to have a conflict of interest with one or more parties in a bidding process if they:

- Have controlling shareholders in common; or
- Receive or have received any direct or indirect subsidy from any of them; or
- Have the same legal representative for purposes of a bid; or
- Have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on a bid of another bidder, or influence the decisions of the purchaser regarding the bidding process.

Bidders found to be in conflict of interest, shall be disqualified.

## X QUOTATION:

- Bidder shall quote his rate per unit specified in Annexure 'B' / Price Bid in figures.
- Bidder's printed terms and conditions will not be considered as forming part of the tender.

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(iii) For each of the items quoted, bidder shall specify offered quantity. However, the offered quantity shall not be less than 20% of the advertised quantity (Advertised quantity means the quantity required as indicated in Annexure 'B' / Price Bid) so as to deliver the said quantity within the delivery requirement of the Purchaser as indicated in the tender documents failing which the offer shall not be acceptable.

**XI AMBIGUITY IN QUOTATION:**

The bidder is requested to please make a note that in case of ambiguous terms in respect of offered quantity in Annexure- B and schedule 'C', F.O.R. condition, GST, basis of price (i.e. firm / variable) or if the blanks are left out in the offer, the item / tender shall be rejected.

**XII FILLING IN OF ANNEXURE:**

The bidder is requested to ensure that the comments against each and every item / clause of Annexure shall be clearly filled in and answered. Any item/clause shall not be left blank or unanswered. If any item /clause is not applicable, the "Not Applicable (N.A.)" checkbox shall be selected.

**XIII ADDITIONS/ALTERATIONS PROHIBITED:**

The bidder shall not make any additions, alterations or changes in the Tender Form and the Conditions of Tender & Supply (Annexure 'A') including the description of material mentioned in Annexure 'B'. They should quote rate for the material described or click the checkbox 'Not quoted' against each of the item in Annexure 'B' / Price Bid.

**XIV B.I.S. LICENCE AND BEE CERTIFICATE : (IF APPLICABLE)**

A scanned copy of valid BIS License (full Copy) & BEE certifications for offered items ratings duly sealed & signed must be uploaded and submitted along with offer, failing which, the offer shall be rejected.

In case the validity of the BIS license is expiring before date of submission of tender, necessary documentary proof of having applied for renewal of validity of the BIS license must be uploaded while submitting the bid. The renewed copy of the BIS License shall be submitted before commencement of supply.

However, valid BIS license scan copy of offered material must be submitted by the qualifying bidders before commencement of supply, failing which their order will be cancelled with financial liability on supplier.

**XV MANDATORY REQUIREMENT OF SUBMISSION OF OFFER:**

The offer shall be submitted online duly filled in; attaching all the required documents, completed in all respects and should be digitally signed.

**XVI SUBMISSION OF DRAWING & BILL OF MATERIAL:**

The bidder shall submit the drawings and bill of material conforming to the tender specification wherever applicable. In such cases, the offer without the drawings and bill of material shall not be evaluated and considered. The drawings and bill of material submitted along with the bid shall not be considered for evaluation of the offer but the drawings and bill of material of the successful bidder shall be scrutinized when the Purchaser decides to accept such bid. It may, however, be noted that Purchaser's action

of evaluation of the tendered bid would not mean approval of the drawings and bill of material submitted along with the tender bid.

The bidder shall depute his authorized representative for discussion on the drawings, either immediately on hearing from the Purchaser or after receipt of Letter of Award. The formalities like submission of drawings, bill of material etc. and getting the same approved by the Purchaser shall be completed by the successful bidder within TEN DAYS from the date of Letter of Award of the contract. The approval to drawings complete in all respects mentioned in technical specifications (Annexure-D) will be accorded within SEVEN working days thereafter. Any delay in this regard shall lead to cancellation of the Letter of Award at the risk and cost of the bidder. The supplies against the contract shall conform to the approved detailed drawings / bill of material and the detailed technical specifications.

**XVII NAME OF AUTHORIZED REPRESENTATIVE:**

The digital certificate shall be in the name of person authorized by the firm. In case, the digital certificate is compromised or the person holding the digital certificate is no longer authorized to digitally sign the tender, it is the responsibility of the bidder to revoke this certificate and obtain the fresh certificate. While submitting the bids online only valid digital certificate shall be used. The vendors are requested to check the validity of digital signature and prior to the expiry date & they are requested to get their Digital signature key validated before expiry of the same. MSEDCL shall not be responsible for Non-submission of any of the Bids (Techno Commercial Bid, Deviation Bid, Price Bid, Annexure - C-1) by vendors due to expired/Invalid Digital signature.

The bidder is responsible for all the contractual liabilities and responsibilities thereof.

In case the bidder authorizes the representative to deal on behalf of the bidder, the name and address of such person should be informed to the purchaser. The bidder shall submit the power of Attorney in favor of representative duly executed before the Notary. In the absence of the Power of Attorney, the purchaser shall not deal with the representative.

**XVIII -(A) OFFER OF MICRO & SMALL ENTERPRISES AND OTHER UNITS:**

The bidder registered with Directorate of Industries of Government of Maharashtra for manufacturing the items tendered / offered and those who have attached valid certificate at the time of vendor registration shall be considered for concessions applicable and procurement of reserved items as per GoM G.R. dtd. 30-10-2015 amended up to date. These benefits shall be available only to those items approved during the registration process and subsequent updates in registration up to the submission of this tender.

Based on concession of Central Government's Micro & Small Enterprises office order dtd. 23-03-2012, 241 items are being kept reserved. As per above reservation of items 100% reserved items to be purchased from Micro & Small Enterprises out of which 20% reserved items to be purchased from S.C./S.T. enterprises. Reservation is applicable for a limited period unless & until re- examined. If Micro & Small Enterprises participated in the tender and the tendered item is not reserved, then 20 % order with L-1 rate to be given to Micro & Small Enterprises and out of this 20%, 4% to be given to S.C./S.T. enterprises.



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If there are any specific Government Directives such as reservation of items for units in Maharashtra, non-eligibility of preference to SSI units etc. for particular items, price and purchase preference etc. the same would be applicable irrespective of the fact that it has not been specifically incorporated in the tender notice and/or tender documents.

**(B) PREFERENCE TO INDUSTRIAL UNITS LOCATED IN MAHARASHTRA AND OFFERS BY MATCHING RATES WITH LOWEST ACCEPTABLE BIDDER**

**The lowest acceptable rate will be the unit rate worked out without considering IGST/(CGST+SGST) as applicable and the same rate will be considered as applicable to the respective bidder who has agreed to accept order at lowest acceptable rate.**

- 1) If the lowest acceptable rate received against the tender is from a bidder outside Maharashtra, then they shall be considered for order up to 50% of Purchaser's requirement and if industrial units located in Maharashtra are agreeable to accept order at such lowest acceptable rate, such industrial unit in Maharashtra shall be considered for order up to 50% of Purchaser's requirement by matching their rates with lowest acceptable unit rates exclusive of IGST/(CGST+SGST).

However, if industrial units located in Maharashtra are not agree to accept order at such lowest acceptable rate, then full supply order shall be placed on bidders outside Maharashtra. The Purchaser reserves the right to distribute the quantity among Bidders after matching their rates with the rate of lowest acceptable bidder.

Further, it is to note if the bidder registered outside Maharashtra submitted offer and given address of Maharashtra will be considered as bidder from Maharashtra only if offered the rate with (CGST+SGST).

- 2) The bidders who are not eligible under the above clauses can also give their confirmation to accept order at the lowest acceptable rate received against the tender. They could be considered for this entitlement only after allocating quantities of Maharashtra State Industrial units as per the provisions stated at (1) above, in the order of merit as per price ranking for the balance quantity remained to be procured. The Maharashtra State Industrial units who are not eligible for the purchase preference as above could also be considered for this preference under this clause in the order of merit of their prices. Other bidders shall be considered for the order by matching their rates with the rate of lowest acceptable bidder after allocating reasonable quantities first to the industrial units of Maharashtra eligible under Clause 5(a) and 5(b) of Annexure 'C-1'.

The lowest acceptable rate is known only on the date of decision by the Competent Authority, hence the lowest acceptable rates of the tender cannot be declared in advance, however lowest acceptable rate of the tender would be equal to or more than the lowest rate received in the tender.

The confirmation for acceptance of the order at the lowest acceptable rate indicated as above shall be given in the format as per Annexure 'C-1' of the tender documents. The same should be submitted online on or before the due time and date of submission of Annexure 'C-1'. The confirmation shall be opened online on due time and date of opening of Annexure 'C-1'. Schedule for submission and opening of Annexure 'C-1' shall be communicated separately by e-mail and on the website.

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 Though confirmation in Annexure 'C-1' as above is called from all the qualified bidders, the bidders, who quoted rates within the range of 5% in comparison with the lowest acceptable rates, shall only be considered and their Annexure 'C-1' will be opened on the date and time intimated subsequently in the presence of bidders who chose to be present. Provided, however, that the Annexure 'C-1' of the bidders, who have quoted above the range of 5% in comparison with the lowest acceptable rates, shall also be considered in case the aforesaid bidders within the range of 5% are unable to fulfill the quantity requirement. In that case also, the date of opening of Annexure 'C-1' will be intimated to the bidders

In the above confirmation, if the bidder indicates any rate, then the confirmation given by the bidder will not be considered as valid.

Above confirmation for the quantity less than as indicated in Clause X (iii) of Instructions to the bidder shall not be acceptable.

The prices indicated in the original offer shall not be considered as valid once offer for acceptance of order by matching rates is given. In the event of withdrawal of offer by matching rates within the validity period, the entire offer against the tender shall become invalid and shall be summarily rejected and the earnest money paid by the bidder shall be forfeited.

The lowest acceptable tenderer would be considered for awarding order for quantity subject to his capacity and capability as under.

**Trial Order:** Minimum 10% but limited up to 20% of tendered quantity.

**Regular Order:** Minimum 40% of tendered quantity.

Any balance quantity remained after allocation as mentioned above, will be allocated amongst the one or more bidders who have matched with Lowest Acceptable Tenderer, subject to their capacities and restricted to maximum 3 bidders over L-1.

Wherein

**Trial order** means the firm who have not supplied tender item to any Government / Semi-Government Electricity Dist. Utility / SEB or MSEDCL during preceding five years. &

**Regular order:** The firm who have supplied minimum two orders of tender items to any Government / Semi-Government electricity Dist. Utility / SEBs or MSEDCL during preceding five years during preceding five years.

If matching rate offer is not available, 100% quantity will be allotted to L-1 bidder subject to capacity & capability to supply total quantity.

However, if the above conditions are not getting fulfilled in tender, then quantity allocation will be at the sole discretion of MSEDCL.

#### **XIX EARNEST MONEY DEPOSIT (EMD):**

The bidder should pay the Earnest Money @ 0.50% (Half Percent) value of the offered quantity of Tender in the form of BG as per the Annexure-M enclosed with tender documents having validity of 120 days from opening of tender. Interest shall not be

allowed on EMD. EMD shall be forfeited (i) in case the bidder withdraws the tender / offer during the validity period (ii) in case the bidder fails to pay the performance deposit if the contract is awarded.

However, bidders from the following categories are exempted from payment of earnest money deposit.

- 1) All Government and semi Government institutions under Govt. of Maharashtra and Zilla Parishad in Maharashtra and fully owned undertaking of any State Govt. and Govt. of India only for the items manufactured by such institutions.
- 2) Micro and Small Enterprises registered under Micro, Small and Medium Enterprises Development Act-2006 only for the items mentioned in their permanent registration certificate at the time of vendor registration.
- 3) The bidder registered with N.S.I.C. and those who have attached valid N.S.I.C. Registration Certificate for the items mentioned in their permanent registration certificate at the time of vendor registration.

The benefits mentioned in (1) to (3) above shall be available only to those items approved during the registration process and subsequent updates in registration up to the date of submission of this tender.

Exempted bidders should upload a latest valid certificate issued by any approved body of 'Ministry of Small & Medium Enterprises' (MSME) such as 'National Small Industries Corporation' (NSIC) or 'District Industries Centre' (DIC) for EMD exemption.

## **XX SIGNING OF THE TENDER DOCUMENTS:**

Offer shall be submitted along with the tender documents and duly filled in with all Sections / Annexures / Appendixes / Schedules etc. The offer shall be signed with valid digital signature.

## **XXI SUBMISSION / SUPERSCRIBING OF THE TENDER DOCUMENTS:**

The offer is to be submitted as follows.

### **(a) Online Submission:**

- (i) Techno-Commercial Bid (Part-I): This part shall contain all technical and commercial aspects of the bid and documents supporting the same except the Price Bid.

**The bidder is requested to please make a note that in case of the Price Bid (Part-II) is submitted instead of Techno-Commercial Bid in Part-I or submitted Price Bid (Part-II) along with Techno-Commercial Bid in Part-I, the offer shall be rejected.**

- (ii) Price Bid (Part-II)

This part shall contain only the Price Bid strictly in the prescribed format, i.e. Annexure 'B'.

### **(b) Offline Submission:**

Physical submission of documents (Part-III)

Envelope for this part shall contain documents like Type Test Reports, Drawings, Bill of Material, Catalogues etc. wherever applicable as per technical specification and they shall be scanned and these scanned documents to be taken into PDF format on CD media (2

sets) and are to be submitted to EE (HTM-2) in the office of Chief Engineer, Material Management Dept. in sealed envelope on or before due date & time of submission.

**METHOD OF SUBMISSION OF PART-III AND THEIR OPENING:**

This envelope shall be individually sealed and shall be super scribed with the name and address of bidders and the following information before posting or delivering the same:

- i. Tender No.
- ii. Due date and time of submission.
- iii. Due date and time of opening.

Envelope as above shall be submitted on or before the prescribed due date and time of submission and shall be opened on due date and time of opening as prescribed.

In case of bidders whose techno-commercial bid is acceptable, their Price Bids will be opened at a later date. This date shall be intimated to such bidders separately.

**XXII TIMELY SUBMISSION OF OFFER:**

- (a) The bid is to be submitted online on or before due date and time of submission to the Purchaser at website.
- (b) It is advisable to submit the digitally signed offer sufficiently in advance of due date and time so as to avoid last minute congestion of network / server.
- (c) Offer received after the due date and time of submission shall not be accepted.
- (d) In case, the due date of opening of tender happens to be holiday, the offer shall be opened on the next working day at the same time.

**XXIII PURCHASERS RIGHT:**

The Purchaser reserves the right to reject any offer without assigning any reason whatsoever.

**XXIV DISREGARD OF TENDER CONDITIONS:**

Tender containing any deviations / additions / alterations / changes in the conditions of the tender and supply as stated in Annexure 'A', 'B', 'C-I', 'D', 'E', 'G' and schedule 'C' shall not be acceptable.

The bidder having digitally signed all the tender documents indicates any deviations / additions / alterations / changes in the covering letter, unrelated annexures and schedules of the offer or elsewhere, the same shall be ignored and the offer shall be treated as meeting with all specified tender conditions.

**XXV PROHIBITION FOR POST TENDER CORRESPONDENCE:**

The Bidder should note that no correspondence shall be entertained or considered after the due date and time of submission of tender unless otherwise sought by the Purchaser.

**XXVI RIGHT TO ORDER OUT QUANTITY IN VARIANCE TO OFFERED QUANTITY:**

The Purchaser reserves the right to order out / procure any quantity in excess of the offered quantity with mutual consent. The quantity specified may be for dispatch to one destination or several places.

**XXVII ACCEPTANCE OF TENDER:**

The Purchaser does not bind itself to accept the lowest or any tender; neither will any reasons be assigned for the rejection of any tender or part of tender. It is also not binding on the Purchaser to disclose any analysis report on tender/samples. The bidder on his part binds himself to supply any item or items selected from his offer in part or whole at the option of the Purchaser.

**XXVIII NOTIFICATION OF AWARD:**

Notification of Award of contract will be made by a letter of Award, to be sent by registered post or given by hand, to the successful bidder by the Purchaser. It could also be made by e-mail or by Fax to be confirmed in writing by registered post to the successful bidder by the Purchaser.

Acceptance of the same to be conveyed within 3 working days by the supplier.

**XXIX EARNEST MONEY OF UNSUCCESSFUL BIDDER:**

Earnest money deposit shall be returned to the unsuccessful bidder by RTGS within 7 (seven) working days after the tender has been decided and on submission of receipt of E.M.D. payment to the G.M. (F&A-SB), MSEDCL, Prakashgad, Prof. A.K. Marg, Bandra (East), Mumbai -400051. Earnest money deposit in the form of BG will be returned to the unsuccessful bidder within 7 (seven) working days by Chief Engineer, Material management Dept. after the tender has been decided.

**XXX VALIDITY OF OFFERS:**

The bidder shall keep the offer valid for acceptance up to and including last date of calendar month, covering the date of completion of 120 days (one hundred and Twenty days) from the date of opening of the tender and shall also agree to extend the period of validity required by the Purchaser. The bidder shall not be allowed to modify or change the conditions of the tender while extending the period of validity.

**XXXI DECLARATION FROM BIDDER:**

In order to ensure participation of reliable and honest bidders / contractors / vendors, etc. the bidder shall submit the declaration along with the bid in Annexure-I

**XXXII CORRUPT OR FRAUDULENT PRACTICES:**

The Maharashtra State Electricity Distribution Company Ltd. and the State require that bidders / suppliers / contractors observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, MSEDCL:

(a) defines for the purposes of this provision, the terms set forth below as follows:

- (i) "corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; and
- (ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among bidders (prior to or after bid

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submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.

- (b) will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded an MSEDCL contract if at any time it determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, an MSEDCL contract.

#### **XXXIII INFLUENCE:**

Any efforts by the bidders to influence the owner during evaluation process before order placement will be rejected. Similarly deviation in the term of payments, penalty, performance deposit, delivery period will be treated as non-responsive quotation / offer and will not be considered for evaluation /order placement.

Bidder shall submit the undertaking certifying that they have not approached any one for undue influence.

#### **XXXIV TENDER FEES EXEMPTION:**

Tender fee to be paid at the time of uploading / online submission of the tender. Bidders from the following categories are exempted from payment of Tender fees:

- 1) All Government and semi Government institutions under Govt. of Maharashtra and Zilla Parishad in Maharashtra and fully owned undertaking of any State Govt. and Govt. of India only for the items manufactured by such institutions.
- 2) Micro and Small Enterprises registered under Micro, Small and Medium Enterprises Development Act-2006 only for the items mentioned in their permanent registration certificate at the time of vendor registration.
- 3) The bidder registered with N.S.I.C. and those who have attached valid N.S.I.C. Registration Certificate at the time of vendor registration.

The benefits mentioned in (1) to (3) above shall be available only to those items approved during the registration process and subsequent updates in registration up to the date of submission of this tender.

The tender fee paid against the particular tender shall not be refunded / transferred /adjusted at all.

#### **XXXV PRE-BID MEETING:**

- 1) The bidder or its official representative is invited to attend pre-bid meeting(s) which will take place at the place, date and time designated in the Bidding Data.
- 2) The purpose of the pre-bid meeting(s) will be to present the salient features of the bidding documents to the bidders, including the bid submittal requirements, the Conditions of Contract (including payment terms and conditions), the technical features of the project, and to clarify issues and to answer questions on any matter that may be raised by the bidders.
- 3) The bidder is advised to visit the Site and study the bid document thoroughly, and is requested to submit any questions in writing or by fax, to reach the Employer not later than one week before the pre-bid meeting.

Minutes of the meetings, including the text of the questions raised and the responses given will be transmitted without delay to all the prospective bidders through the website <https://etender.mahadiscom.in/eatApp/>. Any modification of the bidding documents listed which may become necessary as a result of the pre-bid meetings shall be made by the Purchaser exclusively through the issue of an Addendum pursuant to Clause and not through the minutes of the pre-bid meetings.

- 4) Non attendance at the pre-bid meeting will not be a cause for disqualification of a bidder. Nevertheless, senior representatives of the bidders are strongly encouraged to participate in the pre-bid meeting to help ensure that they fully understand the key concerns of the Employer and the Employer's requirements.

#### **XXXVI CLARIFICATION ON DEVIATIONS:**

The purchaser, if necessary, shall obtain clarifications on deviations within 2 working days by requesting for such information from any or all the bidders in writing, as may be necessary.

The same should be submitted online on or before the due time and date of submission of Deviation Bid. The clarification shall be opened online on due time and date of opening of Deviation Bid.

The Schedule for submission and opening of Deviation Bid shall be communicated by auto generated e-mail of the e-tender website.

#### **CERTIFICATE:**

I/We agree to supply the materials at the rates herein tendered by me/us subject to the conditions of tender and supply in Annexure 'A' of this tender which I/We have carefully read and which I/we have thoroughly understood and to which I/we agree. I/we hereby agree to keep this offer open up to the date mentioned in tender details and shall be bound by communication of acceptance dispatched within the validity period.

Seal & Signature of bidder

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(SECTION II)

## ANNEXURE 'A'

## CONDITIONS OF TENDER AND SUPPLY

**1. EFFECT OF CONTRACT:**

The contract shall be considered as having come in to force and shall be in operation for a period of 6 months from the date of Notification of Award. The bidder whose offer is accepted is hereinafter called "the supplier".

**2. QUALITY OF SUPPLIES:**

All materials supplied shall be strictly as per specification laid down by MSEDCL and in accordance with the approved standard Guaranteed Technical Particulars (GTP), drawings and type test reports.

**3. MATERIAL AND COMPONENTS:**

The material and components not specifically stated in this specification but which are necessary for satisfactory operation of the equipment / items specified, shall be deemed to be included unless specifically excluded and shall be supplied without any extra cost.

**4. ACCEPTANCE OF SUPPLIES / INSPECTION:**

- i) The supplier shall normally offer at a time, the entire quantity required to be delivered every month as per the delivery schedule indicated at Annexure 'B' of A/T for the purpose of inspection by the Purchaser.

Time being the essence of contract; the supplier shall strictly maintain the monthly delivery schedule.

- ii) Materials shall be inspected by the Purchaser's Executive Engineer / or the representative authorized by the Purchaser before dispatch. An intimation in the prescribed Proforma about the date on which materials shall be ready for inspection, indicating quantity, shall have to be given to the Executive Engineer / or the representative authorized by the Purchaser before dispatch so as to reach him 10 working days in advance, failing which, the supplier shall be responsible for delay in delivery on account of inspection.

The intimation in the prescribed proforma (Inspection call) shall be forwarded on e-mail id [cemmcmsedcl@mahadiscom.in](mailto:cemmcmsedcl@mahadiscom.in) & [cemmcmsedcl@gmail.com](mailto:cemmcmsedcl@gmail.com). Inspection calls sent on any other e-mail id than specified above, shall not be entertained and the supplier shall be responsible for delay in delivery on account of inspection.

On receipt of such intimation, the materials shall be inspected within 10 working days. The materials shall be dispatched only after inspection and approval of same by the Inspector. The inspection approval letter shall be valid for a period of 30 days from the date of issue of letter to enable the supplier pack the material and arrange transportation thereof so that material should be reached at the respective consignee within scheduled delivery period.

After this period of 30 days, the validity of this inspection approval letter will lapse. If the material is not reached within scheduled delivery period to respective consignees, the approval of purchaser is to be sought by the supplier for revalidation of inspection approval letter at the sole discretion of MSEDCL.



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For quantity supplied beyond contractual delivery period, negative price variation and statutory variations shall be applicable. However, the positive price variation and statutory variations for quantity supplied beyond contractual delivery period shall not be allowed unless the delayed delivery is attributed to MSEDCL.

- iii) The supplier shall notify the names of the consignees as per DI, to whom the inspected lot would be dispatched. The supplier shall get the copies of inspection approval letter together with witness certificate duly signed by the concerned Inspecting Officer IN BLUE INK only and also mention reference or inspection approval letter on the challan / invoice, failing which any delay occurred in getting the S.R. Notes from the consignees would be solely to supplier's account. The inspection report shall be filled in online on the same day by the Inspector from the site on MSEDCL web portal after the inspection.
- iv) Factory address, from which the bidder has to supply the material, shall be as indicated in the latest approved on line vendor registration form on e-tendering through which the bidder has submitted the offer.
- v) The supplier shall offer inspection call intimation of readiness of material as per the monthly schedule only. In the event, during the inspection by the Purchaser's Inspecting Officer, if it is observed that the quantity actually offered for inspection is less than the quantity indicated for inspection in the inspection call, the Purchaser shall be entitled to recover from the supplier, the actual expenses incurred for arranging the inspection, and the supplier shall not dispute the amount to be recovered.
- vi) The supplier shall submit the test certificates / reports from any NABL approved laboratory or the laboratory of his own for the respective quantity of material, before dispatch. The material shall not be dispatched unless and until the test certificates are approved by the Purchaser.
- vii) All the necessary help shall be extended by the supplier to the authorized representative of the Purchaser to carry out testing of equipment / materials.
- viii) MSEDCL may issue the dispatch instructions (DI) to deliver the ordered quantity to the bidders in Maharashtra within same districts of factory location of the supplier. However, it will not be binding on the MSEDCL; supplier has to deliver the material in other districts as per MSEDCL requirement. Further outside Maharashtra bidders have to deliver the material as per MSEDCL requirement to the designated consignee.
- ix) MSEDCL on its sole discretion may get material inspected and tested by third party NABL lab.

#### **5. RIGHT TO CARRY OUT INSPECTION DURING MANUFACTURING:**

The Purchaser at its option, will inspect the material ordered during its process of manufacturing including the inspection of raw materials and will request the supplier to carry out such tests as may be necessary to ensure proper quality of the material. The samples of components of the material shall be subject to quality check by the inspecting officer during manufacturing.

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**6. RIGHT TO REVISE DESPATCH INSTRUCTIONS, DELIVERY SCHEDULE AND TO DEFER SUPPLIES:**

- i) The Purchaser reserves its right to revise the dispatch instructions issued along with the order, at the time of giving final clearance for dispatch after inspection of the material. If such change in destination is not intimated at the time of inspection approval or waiver of inspection, The supplier shall dispatch the material as per the dispatch instruction in accordance with A/T. indicated by him in the inspection call letter.
- ii) The Purchaser reserves its right to change the delivery schedule of the contract either by reducing the monthly lot up to 60% of the agreed lot or by increasing the same up to 120% of the agreed lot with prior two months' notice and the Purchaser shall not be liable to pay any compensation/damages on account of such change in delivery schedule.
- iii) The Purchaser reserves its right to defer the balance supply to be received against the order by giving two months' notice for a maximum period of 6 months. In such an event, the delivery period for the deferred material shall be deemed to be extended proportionate to the period of deferment and the Purchaser shall not be liable to pay any compensation/ damages on account of such deferment of deliveries.

**7. TOLERANCE IN QUANTITY TO BE SUPPLIED**

Variation in quantity to be supplied against confirmed order shall be permissible upto **FIVE PERCENT ITEM PER CONSIGNEE** limited up to order quantity.

**8. WAGON LOADS / TRUCK LOADS:**

Quantity to be dispatched to consignee should be minimum in two full truck loads and may be part load as per the Purchaser's requirements may not necessarily be in full wagon load / truck load and may be part load as per the Purchaser's requirement.

**9. ROAD TRANSPORT:**

In case the supplier prefers to dispatch the materials by road transport at his risk and cost and without any extra cost to the Purchaser, the materials shall be accepted only during office hours on working days. The supplier should ensure that the goods reach the stores in first half so as to arrange their unloading during office hours, failing which, the Purchaser shall not be liable for delay in unloading and for inconvenience caused to the transport contractor in the form of detention etc. Unloading at stores shall be arranged by the consignee.

**10. DESPATCH INTIMATION:**

The supplier shall inform by e-mail to the consignee details of dispatch along with e-way bill receipt in hard & soft format giving RR / LR No., Wagon / Truck No., Type of wagon, craneable consignment or otherwise, total value of consignment, etc. to facilitate the consignee to arrange for clearance of goods on [cemmcmsedcl@mahadiscom.in](mailto:cemmcmsedcl@mahadiscom.in) or [cemmcmsedcl@gmail.com](mailto:cemmcmsedcl@gmail.com).

**11. BILL OF MATERIALS:**

The supplier shall furnish bill of materials for each type of equipment / material offered which should be consistent with the drawing, specification and guaranteed technical particulars. The copies of the bill of materials should always be enclosed along with the bill submitted by the supplier for payment wherein he should specifically mention the materials / components dispatched out of the bill of materials, if the equipment is not sent in totality. Where the equipment / material to be supplied consist of more than one

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component, the supplier claiming payment for equipment / materials shall certify that all components of the equipment / material have been supplied in full for the quantity indicated in the invoice. Part payment shall not be allowed.

**12. PACKING LIST:**

Each package shall contain, in waterproof cover, the detailed list indicating the order reference, date, list of content and reference to the approved bill of materials. Each item contained in the package shall be described sufficiently to enable identification of the quantity, weight etc. There should not be any alteration in the packing list incorporated in the order, soft copy of the packing list should be sent to all the consignees and hard copy to G.M. (F&A-SB) should be enclosed with the bills along with other documents.

**13. REPLACEMENT OF GOODS LOST, BROKEN OR DAMAGED:**

Notwithstanding anything herein contained, the supplier undertakes to be responsible for the safe arrival of the materials in good condition and without any loss or damage at the final destination and until the same be actually delivered to and received by the Purchaser at its stores or other place of final destination and for this purpose, materials carried by railways or other carrier shall be deemed to be so carried at the risk of the supplier. In case of transit damage / shortages, the payment shall be made only for the quantity received in good and working condition and the consignee shall lodge claims with carriers and transfer the same to the supplier with all necessary documents for settlement of the same with carriers at the supplier's end. The transit damages / shortages / losses reported by the consignee shall be repaired / replaced by the supplier duly inspected, free of cost, within one month from the date of such intimation of breakages / shortages / losses without waiting for settlement of the claims from carrier or insurance co. etc.

**14. REPLACEMENT OF REJECTED MATERIALS:**

If, on inspection at the final destination, the Purchaser discovers any loss in the materials supplied or that they are received in damaged condition or that in the opinion of the Purchaser, they are not of the contracted quality or specification, the Purchaser shall be entitled (notwithstanding that the property in the materials shall have passed on to the Purchaser) to refuse to accept or reject the materials altogether and claim damages or cancel the contract and buy its requirements from any of its suppliers stipulating earliest possible delivery and in accordance with its tender system against the supplier and recover the damages if any, from the supplier from any outstanding sums that may be due to the supplier from the Purchaser against this contract or against any of the contract entered into with the supplier, without prejudice to other rights and remedies available to it in law and reserving always to itself the right to forfeit the performance deposit placed by the supplier for the due fulfillment of the contract.

In case the stores / materials are found not in accordance with the prescribed specifications and / or the approved sample, the same will be rejected and the supplier shall replace the rejected stores / materials free of cost within one month from the date of intimation. The replacement of goods shall also have to be got inspected as per inspection clause. Further if the stores / equipment supplied becomes incomplete on account of either rejection or short supply of its components, the complete cost of the stores / equipment shall be recovered from supplier's bills without notice.

**15. MATERIAL DESPATCHED AND PROGRAMME:**

A statement as under indicating dispatches effected during every month shall be furnished to this office along with the programme of manufacturing / dispatches during the following two months. In the event of no dispatch, the statement shall contain nil information.

MONTHLY STATEMENT:

- I. Name of Supplier:
- II. Reporting Month:

Sr. No.	A/T No.	Material	Item No. as Per A/T	Consignee	RR/LR Delivery Challan No. With date	Date of Actual Receipt of Material	Qty. Dispatched Between 26 <sup>th</sup> of Preceding month and 25 <sup>th</sup> of the Reporting month	Programme of supply during the next 2 months
1	2	3	4	5	6	7	8	9

Consolidated details of the above information shall be furnished to office of the Chief Engineer (M.M.Dept.) after completing the supplies of a particular order. The copy of this consolidated information shall invariably be forwarded to the respective consignees, failing which; security deposit paid against the contract shall not be released.

**16. MATERIAL RECEIPT & SUBMISSION OF BILLS AT CONSIGNEE:**

On receipt of material at destination of consignee as per DI, Additional Executive Engineer (MM Dept.) of respective store should ensure the receipt of material in good & healthy condition. While receiving the material, store in charge should ensure the receipt of material as per Dispatch Instructions issued by MM Dept. Further, the store in charge should ensure the receipt of original & scan copies of following documents:

- a) Tax invoice.
- b) Detailed packing list.
- c) Bill of Material.
- d) Delivery challan.
- e) E-way bill receipt.
- f) Dispatch document (RR/LR).

On confirmation & validity of above documents, store in charge will generate Provisional SR Note through ERP system immediately for receipt of material at stores thereof.

Where required by the Purchaser, the successful bidder must send the operation and maintenance manuals, test certificates, drawings etc. for the material ordered. These should be sent immediately after dispatch of material and a statement to that effect should be made in the invoice.

After successful RST of supplied each lot, store in charge will generate final SR note through ERP system within 7 working days from receipt of material at stores.

## 17. PAYMENT OF BILLS:

### (a) Terms of payment:

- a. The Bidder shall be paid 100% payment within 60 days from the date of receipt of material in good condition, against Stores Receipt Notes (S.R. Notes) issued by the concerned consignee.
- b. However, in respect of only those entities which qualify for 45 days payment period under the Micro, Small and Medium Enterprises Development Act, 2006, 100% payment of the Contract price will be paid within 45 days from the date of receipt of material at Consignee Store in good condition, against Stores Receipt Notes (S.R. Notes) issued by the concerned consignee.
- c. In respect of Micro, Small and Medium Enterprises, best efforts will be made for payment within 45 days from date of submission of invoice along with requisite documents after the delivery of entire lot. However, no claim for interest will be entertained in case of delay in payment beyond 45 days. The Micro, Small and Medium Enterprises who are ready to accept this payment term may only quote. No dispute in this regard will be entertained. After completion of order, the claims of whatsoever nature lodged after 30 days from the last date of payment will not be entertained.
- d. The payment shall be effected by A/C payee cheques / RTGS. Following documents as required in terms of order, will have to be forwarded to the G.M. (F&A-SB), Maharashtra State Electricity Distribution Co. Ltd., Prakashgad, Station Road, Bandra (East), Mumbai - 400 051 along with bills in triplicate to facilitate payment with a copy to the Chief Engineer of respective Zone.
  - (i) Invoice (on the basis of rates accepted as per A/T) issued in accordance with the provisions of GST Invoice Rules.
  - (ii) Supplementary Invoice / Bill for price variation claim if applicable with the relevant documents in support of P.V. claim.
  - (iii) Inspection and Test Certificate approval.
  - (iv) E Way Bill
  - (v) Copy of Acceptance letter of Permanent Bank Guarantee / Security Deposit Certificate.
  - (vi) Packing list.
  - (vii) Approved Bill of Material.
  - (viii) Certificate of having dispatched Operation & Maintenance Manual, copies of Test Certificates and approved drawings / Bill of Material to consignees wherever applicable.

The supplier shall forward the original R.R. / L.R. direct to the consignee along with relevant documents. The original bill shall be forwarded to The G.M. (F&A-SB), MSEDCL, Prakashgad, Bandra (E) and marked ORIGINAL. The bill should indicate the GST registration no. and date held by him under the GST Law. The Purchaser shall not

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be responsible for delay in payment of bills if the supplier fails to comply with any of the above requirements.

Supplier's copy of S.R. Note will be forwarded by the consignees through their respective Common Stores for supplier's record towards acknowledgement of receipt of material. Accounts copy of S.R. Note will be forwarded by the respective Common Stores to G.M. (F&A-SB) for payment.

Wherever the payment is to be effected against Material Receipt Intimation (MRI) and if the supplier fails to forward the documents such as inspection report, bill of materials, approved drawings, etc. wherever required along with the invoice to the respective consignees and no payment shall be made against the said MRI.

The whole of the first lot as well as monthly lot when delivered in installments, the date of delivery and due date of payment will be counted after the receipt of the entire lot.

Any amount more than Rs. One Lakh can be transferred to the bank Account of the supplier electronically. For this RTGS (Real Time Gross Settlement) provision, following information is to be furnished by the bidder in the required documents of the online offer.

1. Name of the Company
2. Name of the Bank & Branch with address where the amount is to be transferred.
3. Current Account Number (15 digits)
4. RTGS No. / (IFSC Code ) ( Indian Financial Security Code)
5. MICR Code of the Bank
6. Company's email ID
7. Contact Name & Telephone No.

#### **18. TAXES:**

(A) Notwithstanding the fact that contract price is inclusive of GST:

(i) GST shall be paid at actual on the basis of due date of delivery or actual date of supply whichever is lower against documentary evidence.

(ii) Variation in GST on bought out items shall not be entertained.

(B) Structural changes in and due to 'Input Tax Credit' Scheme: -

(i) In the event of any structural change occurred in the Input Tax Credit Scheme after the date of submission of the tender till the currency of the contract, the benefit out of such change shall be passed on to the purchaser.

(ii) In the event of 'Input Tax Credit' being extended by the GST Law which were otherwise ineligible for claiming Input tax credit thereof, the seller should advise the purchaser about the additional benefits accrued or any variation thereof, through a letter containing such details and computation within such time as may be agreed between both the parties i.e. Supplier & MSEDCL.

**19. DEDUCTION:**

Any amount or amounts which become payable by the supplier to the purchaser under a particular contract, shall be deducted by the purchaser from any amount/amounts due or becoming due to the supplier under the same or any other contract and shall be adjusted against dues to the Purchaser.

**20. GUARANTEE:**

Material offered shall be guaranteed for a period of 66 months from the date of receipt at consignee's stores Centre or 60 months from the date of commissioning, whichever is earlier. In case of failure of material within the above guarantee period, tenderer shall make available other new conditioned / repaired material, free of cost at stores for replacement within 45 days from the date of intimation from stores and lift the failed Dist. Transformer Test Set Up fully automatic for repair rejected material after replacement. For this purpose, bidder shall maintain spare stock in adequate quantity of ordered ratings of Dist. Transformer Test Set Up. If the defective material is not replaced / repaired within the specified period as above, the Maharashtra State Electricity Distribution Company Ltd. shall retain an equivalent end cost of material plus 15% supervision charges from any of the bills of the supplier or encashing available performance bank guarantee submitted against guarantee period or through any available sources, till the return of the equipment. No interest will be paid on the amount so retained / recovered. In case of material / item not returned duly repaired within 45 days, penalty shall be imposed @ 0.5% per week or part thereof maximum up to 10% of the cost of undelivered material / equipment beyond specified time limit. In case of material / item not returned duly repaired within 5 months, total cost of the material / item along with penalty will be adjusted / recovered from the pending bills of the supplier or encashing available performance bank guarantee submitted against guarantee period or through any available sources with MSEDCL.

The clause itself shall be the notice to the supplier about encashment of PBG to adhere to the timelines.

The outage period, i.e. the period from the date of failure till unit is repaired / replaced shall not be counted for arriving at the guarantee period.

Further, in case of repeated failures of equipments / material, the Purchaser reserves the right to debar / disqualify the supplier for future tenders / orders irrespective of grounds for debarring in MSEDCL debar policy.

**21. LIFTING OF REJECTED/DAMAGED MATERIALS FROM STORES:**

- (a) On failure to replace or repair the transit damaged or rejected material/rejected in RST within one month from the date of intimation as required under tender, it shall be deemed to have concluded that such material is finally rejected. The damaged / rejected material shall be lifted by the supplier within 30 days from the date of receipt of notice to that effect from the concerned consignee on reimbursement to the Purchaser of the cost of the material / equipment, if any, already paid in terms of payment clause in the contract and actual expenses incurred by the consignee towards handling, demurrage / wharfage / undercharges, freight, insurance premium etc. The Purchaser shall not be responsible in any case for the loss, destruction, damage, deterioration of the material after expiry of the said 30 days period.

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- (b) If the supplier fails to lift the material within this period, the material will remain with the Purchaser at the cost and risk of the supplier. Supplier shall, therefore, be liable to pay ground rent @ 0.1% (Plus GST as may be applicable) per day of purchase cost of the material to be lifted from the date of intimation of rejection till the actual date of lifting.
- (c) The Purchaser will give 7 days' notice for lifting of rejected material and if not lifted, will be also free to Scrap / dispose of such material, after the period of said 37 days, by Public auction/Tender notice/Destruction as may be deemed fit and storage charges @ 0.1 % (Plus GST as may be applicable) per day of purchase cost will be recovered from the date of intimation of rejection of materials till the date of realization of the sale amount/physical removal of the material besides the actual expenses incurred as referred to at (a) above. The amount received from the sale of scrap/rejected material will be adjusted in the penalty.

Notwithstanding what is contended in the foregoing clauses, the supplier shall be liable to pay the Purchaser the cost and expenses incurred by the Purchaser, if any, including ground rent and the same shall be appropriated and recovered from the sale proceeds.

## **22. LIQUIDATED DAMAGES FOR LATE DELIVERY:**

In case the materials are not delivered within the period stipulated in the order, the supplier shall be liable to pay at the discretion of the competent authority of the Purchaser, the liquidated damages to the Purchaser @ 1% per week or part of week on the value of delayed material / unexecuted quantity plus taxes as applicable, if any on the price subject to a maximum of cumulative ceiling of 10% reckoned on the contract value of such complete portion or section of the plant, equipment or material delayed and also the portion supplied which could not be brought into commission due to any part thereof not having been delivered in time. In addition to above if bidder fails to supply the material within contractual delivery period continuously for 3 lots, then the order shall be liable for cancellation.

Due consideration may be given in the levy of liquidated damages for reasons absolutely beyond the control of the supplier, for which documentary evidence shall be produced to the satisfaction of the competent authority of the Purchaser.

The Purchaser shall be entitled to deduct/recover the amount of liquidated damages from the current bill payable to the supplier or any other amount due or payable to him against this or any other contract.

For computing the liquidated damages for delayed supplies, the date of railway receipt or the date of receipt of materials at stores in case of road transport, shall be the date of delivery.

In case the Purchaser does not arrange for inspection of material within 10 days from the date of receipt of inspection call in its office wherever applicable, the period of more than 10 days will not be considered for levy of liquidated damages. For computing the period taken for inspection in such cases, the relevant date mentioned in the inspection certificate issued by the inspecting officer would be considered.

## **23. ORDER PLACED ON TIME PREFERENCE BASIS (WHEREVER APPLICABLE):**

In case of order on time preference basis (i.e. orders given at higher rate on delivery period considerations only) if order is given at higher rate of L-2 (or L-3 etc.), then the payment at higher rates will be made provided the firm makes supplies within the stipulated time period. In case of delay in supplies, the payment will be made at the rates offered by L-1. In addition,



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 Clause No. 21 above for Liquidated Damages for late delivery will also be applicable. However, the quantity allocation for order under this clause shall be at the sole discretion of MSEDCL & the specified quantity allocation for this tender will not be applicable in this case.

**24. FORCE MAJEURE CLAUSE:**

If, at any time, during the continuance of this contract the performance in whole or in part by either party of any obligation under this contract shall be prevented or delayed by reason of any war, hostility, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restriction, strikes, lock-outs or acts of God (hereinafter referred to as "events"), provided notice of happening of any such eventuality is given by either party to the other within 21 days from the date of occurrence thereof, neither party shall by reason of such event, be entitled to terminate this contract nor shall either party have any claim for damages against the other in respect of such non-performance or delay in performance; and deliveries under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, and the decision of the purchasing officer as to whether the deliveries have been so resumed or not, shall be final and conclusive, provided further that if the performance in whole or part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 60 days, either party may at its option terminate the contract PROVIDED ALSO that if the contract is terminated under this clause, the purchaser shall be at liberty take over from the contract at a price to be fixed by the purchasing Officer which shall be final all unused, undamaged and acceptable materials, bought out components and stores in course of manufacture in the possession of the contractor at the time of such termination or such portion thereof as the purchaser may deem fit accepting such material, bought out components and stores as the contractor may with the concurrence of the purchaser elect to retain.

**25. ACCEPTANCE OF LOWER FORD RATE OFFERED IN SUBSEQUENT TENDER :**

During contractual delivery period of supply , the quoted rates with PV / without PV shall remain the same , however for same specification of material if the rates will receive lower in another subsequent tender in extended period of contract then it is binding on the supplier to supply the same material at lower rate for balance quantity of material i.e. in case if price bid of next subsequent tender of similar technical specification is opened and FORD rate found lower than the ongoing contracts this FORD rate shall be made applicable for the balance quantity beyond contractual delivery period. Further the purchaser reserves the right to allow the supplier to deliver the quantity or otherwise beyond the contractual delivery period.

However other stipulations of clause No. 23 of Section-II i.e. Annexure-A will remain unchanged.

**26. PERFORMANCE OF CONTRACT:**

The Purchaser will not be in any way liable for non-performance either in whole or in part of any contract or for any delay in performance thereof in consequence of strikes, shortage, non-availability of raw materials, combination of labour or workmen or lockout, breakdown or accident to machinery or accidents of whatever nature, failure on the part of the railways to supply sufficient wagons to carry essential raw materials etc. and finished products from the stores, subject to the provision and stipulation made in condition No. 21 as stated above i.e. Liquidated damages for late delivery.

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**27. CONTRACT PERFORMANCE DEPOSIT:**

27.1 The supplier will have to furnish contract performance deposit as per Annexure - N in the form of unconditional & irrevocable BG within 15 days from the date of issue of LoA, as mentioned in Clause 26.2.

27.2 The contract performance deposit shall be an amount equal to 5% of the contract value in two installments.

**First performance deposit shall be equal to 2.5% of the contract value in the form of unconditional & irrevocable BG within 15 days from the date of issue of LoA & second performance deposit shall be equal to 2.5% of the contract value in the form of unconditional & irrevocable BG within 15 days after 6 months from the date of issue of LoA.**

**In case contract period is less than or 6 months, the supplier will have to furnish 1st installment equal to 2.5% of the contract value in the form of unconditional & irrevocable BG within 15 days from the date of issue of LoA & second performance deposit equal to 2.5% of the contract value in the form of unconditional & irrevocable BG before 2 months from the expiry of contract period.**

27.3 B.G. shall be valid for a period of 90 days beyond guarantee period of the last lot of the equipment.

27.4 The contract performance deposit shall be refunded within 90 days from the date of expiry of the guarantee period of the equipment supplied. The purchaser shall not be liable to pay any interest or compensation to the contractor for retaining the deposit after the end of the said period.

**28. POWER OF ATTORNEY:**

It will be obligatory on the supplier to communicate the revocation of Power of Attorney, if any, after submission of offer till the execution of contract failing which the act/s & action done by the agent/representative shall be deemed to be the valid act/s & action of the bidder/supplier.

**29. SETTLEMENT OF DISPUTE:**

Permanent Dispute Resolution Committee (PDRC) comprises of Chief Engineer (MM Dept), one member of Accounts Department and representative of supplier will resolve the dispute arise if any.

**30. JURISDICTION:**

Any disputes or difference arising under, out of or in connection with this tender or contract if concluded, shall be subject to the exclusive jurisdiction of the "Courts" in Mumbai.

**31. TERMINATION OF CONTRACT**

- 1) The decision of the Purchaser shall be final as regards the acceptability of the stores supplied by the supplier and the Purchaser shall not be required to give any reason in writing or otherwise at any time for the rejection of the stores/materials.
- 2) In case the contractor/supplier fails to deliver the stores/material or any consignment thereof within the contracted period of delivery or in case the stores/materials are found not in accordance with the prescribed specification and the performance of

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the supplied material is not found satisfactory, the Purchaser shall exercise in discretionary power either,

a) to purchase from elsewhere, after giving 15 days due notice to the contractor, at the risk of contractor, such stores/material not so delivered or other of similar description, without cancelling the contract in respect of consignment not yet due for delivery,

OR

b) to cancel the contract reserving Purchaser's right to recover damages Plus GST as may be applicable.

c) notwithstanding that the powers under (a) and (b) referred above are in addition to the rights and remedy available to the Purchaser under the General Law of India relating to contract.

d) Purchaser reserves right to recover damages against risk purchase or 10% value of non-supplied material plus applicable taxes, if any whichever is higher.

In the event of risk purchase of stores of similar description, the option of the Purchaser shall be final. In the event of action taken under (a) or (b) above, the supplier shall be liable for any loss which the Purchaser may sustain on that account but the supplier shall not be entitled to any saving on such purchases made against default.

3) Further contract can be terminated in case of sub-standard /poor quality material.

### **32. DEBAR OF MANUFACTURER FROM PARTICIPATION IN TENDERS OF MSEDCL:**

The Policy & Procedure for Debarring of Agency from Business Dealings with MSEDCL is provided on MSEDCL website link (<https://www.mahadiscom.in/supplier/wp-content/uploads/2018/06/Final-Booklet-Single-Page.pdf>) and forms the parts of tender document.

In case of failure on part of successful Bidder at any stage of tendering and execution, the Bidder may be debarred as per MSEDCL debar policy.

### **33. TAX DEDUCTED AT SOURCE:**

The purchaser shall deduct tax at source in accordance with the provisions of the laws as and when the same is notified.

**ANNEXURE - "B"**

**QUANTITY, PRICE AND DELIVERY PERIOD**

**ANNEXURE - "B" to be submitted online against commercial bid; attached separately**

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**ANNEXURE 'C-I'**

**[To be submitted later on as per as per Clause XVIII(B) of Instructions]**  
**CONFIRMATION FOR ACCEPTING ORDER BY MATCHING RATES WITH LOWEST  
ACCEPTABLE BIDDER**

**APPLICABLE FOR INDUSTRIAL UNITS FROM MAHARASHTRA ONLY** Marketing Assistance and Purchase Preference to the units from Maharashtra (refer Clause XVIII of Instructions to Bidders):-

1. In case your unit is located in Maharashtra and the  
**(a)** lowest acceptable rate received against the tender is from the unit outside Maharashtra, please confirm whether you are agreeable to accept order at that lowest acceptable rate limited to 50% (fifty percent) of our requirement. ....

**APPLICABLE FOR ALL BIDDERS INCLUDING THOSE  
ELIGIBLE UNDER THE ABOVE CLAUSES:**

1. Please confirm whether you are agreeable to accept  
**(b)** order at the lowest acceptable rate received against the tender. ....

[Industrial units from Maharashtra can give option under 1(b) above for balance quantity]

Note:-

1. If the bidder gives the above confirmation for the quantity less than as indicated in Clause X(iii) of the Instructions to the Bidders, then the above confirmation shall not be acceptable.
2. Bidders may confirm matching for one or more items originally tendered.
3. Any withdrawal of confirmation for order by matching rate within validity of offer will render the entire offer invalid and shall be summarily rejected and Earnest Money Deposit shall stand forfeited.
4. A bidder will not be entitled to the benefit of offers by matching rates and will not be considered for orders if his original offer is rejected on the ground of ambiguity or because of not accepting/noncompliance of the terms & conditions of the tender.
5. In the above confirmation, if the bidder indicates any rate, then the above confirmation given by the bidder will not be considered as valid.

**ANNEXURE- 'D'**

**TECHNICAL SPECIFICATION FOR DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
AUTOMATIC**

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**ANNEXURE-E**  
**(On bidders' letter head)**

**CONSENT FOR SUPPLYING THE MATERIAL AS PER MSEDCL STANDARD TECHNICAL SPECIFICATIONS.**

I/We, ..... have understood and checked the tender documents for supply of Dist. Transformer Test Set Up Fully Automatic and have not found any errors in them.

We have submitted price bids for Tender No. MMD/T-HTM2-01/0321 for supply of Dist. Transformer Test Set Up Fully Automatic.

We hereby declare and confirm that we accept the MSEDCL STANDARD TECHNICAL SPECIFICATIONS and agree to supply the material as per these STANDARD TECHNICAL SPECIFICATIONS if we are awarded the supply order.

**In view of above, I/we have not filled the online GTP.**

I/we am/ are enclosing the Type Test Report details covering all the type tests as per relevant IS as below.

Sr. No.	Details of Tests as per IS:.....	Calibration report/ Type Test Report No. & Date
(1)		
(2)		

Yours faithfully,

Signature & Seal of company,

In the capacity of duly authorized to sign bids for and on behalf of

Address:

**Annexure-F**

**Not Applicable**



Annexure – G  
Price variation clause

**Not Applicable**

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**Annexure - H**

**GUARANTEED TECHNICAL PARTICULARS**

**As indicated in E-Tendering GTP Parameter**

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## Annexure- I

(On supplier's Letter Head)

I, ..... certify that,

- a. The business dealings with our firm / agency M/s..... have not been debarred by any Ministry of GoI / GoM / state owned electricity distribution utility and still in force.
  
- b. The Directors, Proprietors, Partners, Employee(s) or owner of our firm / agency M/s..... have not been either jointly or severally guilty of malpractices in relation to its business dealings with the Government or MSEDCL during the last five years.

I hereby certify that I am duly authorized representative of M/s.----- whose name appears above my signature.

Bidders Name:

Authorized representative's signature:

Authorized representative's Name:

Seal of the company

Name and address of the Bidder

Date:

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## Annexure- J

(On MSEDCL Letter Head)

Dispatch Instructions

BY R. P. A. D. / ORD. POST /E-MAIL

(SAP CONTRACT No: -----)

To,

M/s. -----

Email: -----

Sub: Supply of ----- against A/T No. ----- dt. -----

Ref: Final Inspection Call letter No. ----- dt. -----.

(I.W. Regn. No. ----- dt. -----)

Your readiness of material letter no. .... dtd.....

Dear Sir,

With reference to the above, you are requested to dispatch ..... Dist. Transformer Test Set Up fully automatic as given below:

Sr. No.	Consigned to	Meant for Circle	Meant Zone for	Qty. in Nos.

Further, you are requested to contact concerned S.E. (O&M) Circle / E.E. (O&M) Division / Addl. E.E. (MM Section) before dispatching / unloading the above material.

This is issued without prejudice to all other terms and conditions of the order.

Yours faithfully,

Chief Engineer (M M Dept.)

Copy f.w.cs. to: The C.E., MSEDCL, -----.

Copy to:

The G.M. (F & A – SB), MSEDCL, Mumbai.

The E.E. (IW), MSEDCL, Mumbai.

The E.E. (O & M Division), MSEDCL, -----

The Addl.E.E. (MM Section), MSEDCL, -----

## Annexure- K

## List of Stores

Sr. No.	Name of Stores	Address
1	Common Stores Ahmednagar	Nagar-Pune Road, Opp. Arti Hotel, Kedgaon, Ahmednagar.
2	Common Stores Airoli	Power House, Thane-Belapur Road, Airoli, Navi Mumbai.
3	Common Stores Akola	Major Store Babhulgaon NH No 6 Akola.
4	Common Stores Amravati	Major Store MSEDCL Power House, Mulshi Road, Amravati.
5	Common Stores Aurangabad	MIDC Plot No. J-13, Opp. Garware Stadium, Naregaon Phata, Chikhalthana, Aurangabad.
6	Common Stores Beed	Near 132 kV Sub-station, Idgah Nagar, Nalvandi Naka, Beed.
7	Common Stores Chandrapur	Near Vidyut Bhavan, Bagala Chaowk, Babu Peth, Chandrapur.
8	Common Stores Jalgaon	Old MIDC Area, Behind Ajanta Lawns, Ajanta Road, Aurangabad Highway, Jalgaon.
9	Common Stores Kalyan (Netivali)	MIDC Phase 1, Near Tata Power House, Kalyan - Dombivali Road
10	Common Stores Kamptee	Maldhakka Godown, Behind Railway Station Kamatee, Nagpur.
11	Common Stores Khamgaon	Manav Dharm Bld. Near 132 kV Sub-Station, Shegaon Road, Khamgaon, Dist. Buldhana.
12	Common Stores Kolhapur	Kaneri Math Road, A/P Gokulshirgaon, Tal. Karveer, Dist. Kolhapur.
13	Common Stores Kudal	Malwan Road, MIDC Pinguli-Nerur, Kudal, Sidhudurg.
14	Common Stores Latur	MIDC Plot No. P-21/P, In Front of Kirti Gold Oil Mill, Latur.
15	Common Stores Mulshi	Phursungi-Saswad Road, Near Overhead Bridge, Mulshi/ Phursungi, Dist. Pune.
16	Common Stores Nanded	Taroda Naka Main Road, Nanded.
17	Common Stores Nashik	Aringale Plot, Hanuman Nagar, Jail Road, Juna Saykheda Road, Panchak, Nasik.
18	Common Stores Osmanabad	Near MSEDCL Rest House, Tuljapur Road, Osmanabad.
19	Common Stores Palghar	Near 33/11 kV Sub-Station, MSEB Coloney, Boisar Road, Palghar.
20	Common Stores Parabhani	Old Power House Jintur Road, Parbhani.
21	Common Stores Ratnagiri	MIDC Area Mirjole, Kuwarbav, Ratnagiri.
22	Common Stores Sangli	Near Walchand Engineering College, Vishram Baug, Sangli.
23	Common Stores Satara	A/P Satara, Tal. Koregaon, Dist. Satara.
24	Common Stores Solapur	Plot No P-4, MIDC Chincholi, Behind Post Office, Solapur
25	Common Stores Tumsar	Near Power House, Nakaq Dongari Road, Old Bus Stop, Tumser, Bhandara.
26	Common Stores Yavatmal	MIDC Lohara, Yavatmal.

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**BANK GUARANTEE FORMAT**

**EARNEST MONEY DEPOSIT BANK GUARANTEE AGAINST TENDER**

B.G. No. & DATE:

The Bank of \_\_\_\_\_(full address of Branch) hereby agree unequivocally and unconditionally to pay, at Mumbai within 48 hours, on demand in writing from the MAHARASHTRA STATE ELECTRICITY DISTRIBUTUION CO. LTD. (name of the company formerly known as M.S.E.B.) on behalf of M/s \_\_\_\_\_(Address as per MSEDCL REGISTRATION) who have tendered and/or contracted or may tender or contract hereafter for supply of materials. Equipments or services to the MAHARASHTRA STATE ELECTRICITY DISTRIBUTUION CO. LTD. against Tender No. ----- dated ----- total value of Tender is Rs. -----

This agreement shall be valid and binding on this Bank up to and including validity (date) and shall not be terminable by notice or any change in the constitution of the Bank or the firm of contractors or any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made given conceded or agreed with or without our knowledge or consent by or between parties to the said within written contract. The validity of this Bank Guarantee will be extended by us for the further period of six months, one month prior to its present validity period at the request of MAHARASHTRA STATE ELECTRICITY DISTRIBUTUION CO. LTD.(name of the company formerly known as M.S.E.B.).

In case of any dispute arising out or it connection with the extension or encashment of Bank Guarantee, the Courts in Mumbai will have jurisdiction.

Our liability under this Guarantee is restricted to Rs.-----/- (Rupees----- only). Our Guarantee shall remain in force until (date). Unless a suit or action to enforce a claim under the guarantee is filed against us within six months from the aforesaid date, all your rights under the said guarantee shall be forfeited and we shall be relieved and discharged from all liability there under.

Place:

Date:

Sign-----

For-----

(Banker's Rubber Seal & Bank Code No. of signatory)

Please note that:

1. The value of non-judicial stamp paper for this Bank Guarantee is Rs.200/- should be purchased in the name of Guarantor Bank.
2. The Bank Guarantee should be furnished from any Scheduled Bank/Nationalized Bank.
3. Please state the full and complete postal address of the Bank undertaken the guarantee.
4. The Bank Guarantee may be valid as per terms and condition of A.T.
5. B.G. should be submitted along with covering letter of Bank.

## ANNEXURE – N

## BANK GUARANTEE FORMAT

## FORM OF BANK GUARANTEE FOR THE PERFORMANCE OF THE EQUIPMENT

B.G. No. & Date:

This deed of Guarantee is made this .....day of.....  
By.....branch having at H.O. at..... (here in after called "the Surety" which expression shall where the context so admits include its permitted assign ) in favour of MAHARASHTRA STATE ELECTRICITY DISTRIBUTUION COMPANY LTD. (name of the company formerly known as M.S.E.B. ) being a government company formed as per the provisions of the Maharashtra Electricity Reforms Transfer Scheme. 2005 having its registration no. U40109 MH 2005 SGC 153645 (here in after called the "Creditor" which expression shall include its permitted assigns). WHERE AS M/s. (Name of Party)..... (Postal address as per A/T) have entered into a contract to supply (Name of Material) to the MAHARASHTRA STATE ELECTRICITY DISTRIBUTUION COMPANY LTD. (Name of the Company formerly known as M.S.E.B.). vide contract No. ....dtd.....on the terms and conditions in the said contract. (here in after for brevity sake called "the said contract").

In accordance with terms of the said contract, the creditor has agreed to pay to M/s.....(Name of Party)..... the said sum representing the 5% of the total contract price for the Rs...../- and WHEREAS M/s. .... (Name of Party).....is required under the terms of contract to furnish a Bank Guarantee for Rs...../- (Rupees:.....Only) the said sum representing the 5 % .....price as given in the said contract.

The surety as he requests of M/s. ....(Name of Party).... has agreed to give this guarantee.

NOW THEREFORE THIS DEED WITNESS AS FOLLOWS:

1. In consideration of the creditor agreeing to make to the debtor at Mumbai the payment of Rs..... (Rupees.....only) being the value of 10% of the total contract .....price as given in the said contract on supplying the complete material as per the contract by the debtor failing which the surety does undertake to pay to the creditor on demand such amount of amounts as the surety may be called upon to pay not exceeding in the aggregate sum of Rs. ..../- (Rupees.....only).
2. The surety hereby guarantee to the creditor the due performance and observance by the debtor of the terms and conditions of the contract.
3. The surety also agrees that it shall not during the currency of the guarantee herein given or during the period of its execution revoke the same even by giving notice to the creditor.
4. On account of the non-fulfillment of the contractual obligation by the debtor or in case the surety or contractor do not renew this guarantee bond as herein provided, the surety will on simple demand from the creditor, pay at Mumbai the creditor, the sum of Rs.....(Rupees ..... only) as indicated under clause -1 above, without demure and without the creditor to invoke any legal remedy that may be available to them to compel the surety to pay the same even if the debtor consider such demand of the creditor unjustified.
5. The surety agrees and declares that notwithstanding anything contained in Section 133 to 135 of the Indian Contract Act 1872 (IX of 1972) or any other rule of law or equity in the view of any variance in the terms of the said contract shall not operate as a discharge of

his obligations hereunder or shall any composition made by the creditor with debtor in respect of any breach of the terms and conditions of the said contract operate as a discharge of the surety's obligation and surety further expressly agrees and declares that though as between the creditor and surety, the surety shall be liable for sum payable or falling due hereunder equally with the debtor and the surety save as otherwise herein provided hereby waives all his rights which he might as guarantor be entitled to claim and enforce.

- 6. The decision of the creditor that any sum has become payable shall be final and binding on the surety.
- 7. The guarantee shall come into force on supply of material shall remain in force till the end of .....(date) ....The surety, at the request of the creditor shall extend the validity of the Bank Guarantee for a further period of 12 months, one month prior to its present validity period.
- 8. In case of any dispute arising out of or in connection with the extension or encashment of the Bank Guarantee, the courts in Mumbai will have the jurisdiction.
- 9. The guarantee herein contained shall not be effected, by the change in the constitution of the surety or the debtor.
- 10. Our liability under this guarantee is restricted to Rs. ....(Rupees.....only) and our guarantee shall remain in force until (Date....) unless a claim under this guarantee is lodged with us within six months from the date of expiry of guarantee i.e. on or before ..(date)...all your rights under this guarantee shall be forfeited and we shall be relieved and discharged from all our liabilities there under.

IN WITNESS WHERE OF THE surety has executed this deed in presence of

Place: Signature.....

Date: for.....

(Banker's Rubber Seal & Code No. of signatory)

Witnessed (2 witness is required from bank only)

1) Name & Address

Signature

2) Name & Address

Signature

Please Note:

- 1. The value of non-judicial stamp paper for this bank guarantee is Rs. 200/- should be purchased in the name of Guaranteed Bank.
- 2. The bank guarantee should be furnished from any Scheduled bank
- 3. Please state the full and complete postal address of the bank undertaking the guarantee.
- 4. B.G. may be valid as per terms of A/T including guarantee period of material.
- 5. B.G. should be submitted along with covering letter of Bank.



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**SCHEDULE C**

Quantity Offered at Column No. 6 of Annexure-'B' (Price Schedule):

Sr. No.	Item Code	Material Description	Quantity Tendered in Nos.	Quantity Offered at Column No. 6 of Annex-'B' (Price Schedule) in Nos
1	2	3	4	5
1	77908100524	Dist. Transformer Test Set Up fully Automatic.	6	

**Seal & Signature of Supplier**

=====

**Format for Inspection Call-Readiness of Material**

**Ref. No.****Date:**

To,  
The CE (MMD),  
Prakashgad, Bandra (E),  
Mumbai - 400051.

**Sub:** Inspection Readiness of material against A/T No. ----- dated. ----- for  
Supply of -----.

.....

1. Brief description of the material Offered for inspection:
2. Reference of drawing Approval :
3. a) Reference of approval of type test:  
b) Reference of approval of balance type test (If applicable):
4. Whether it is a joint inspection with Testing SE (TQA) etc. (if applicable):
5. a) Whether EMD has been paid against the order:  
b) if paid, please give details:
6. Sr. No. of the items as per A/T:
7. Total Quantity of the items Ordered:
8. Total quantity of the items inspected so far:
9. a) Quantity monthly committed in delivery schedule:  
b) Lot No. for which the Quantity is offered for inspection now:  
c) Due date of delivery as per A/T for offered quantity:
10. Date of readiness of Material:
11. Complete address of the factory where materials is to be inspected:
12. Name of the person to be contacted in connection with inspection & his  
Office/Factory/Residence Tel. No.:
13. Staggering holiday of Factory/Office at the place of inspection:
14. a) Whether Dispatch Instructions are available (Say Yes or No):  
b) Quote Letter No.:  
c) Brief destination & Qty. per consignee of this present lot offered:
15. Last visit of our Inspecting Officer:
16. a) Whether the entire material is dispatched against last inspection. (Our EE[IW]  
will ensure before inspection of this lot that the earlier inspected lot is already  
dispatched)  
b) Quantity dispatched
17. Further programme of production Quantity likely to be offered & by what date:

Authorized Signature  
For ( Name of the Firm).

**ANNEXURE 'C-1'****[To be submitted later on as per as per Clause XIX(B) of Instructions]****CONFIRMATION FOR ACCEPTING ORDER BY MATCHING RATES WITH LOWEST  
ACCEPTABLE TENDERER****APPLICABLE FOR INDUSTRIAL UNITS FROM MAHARASHTRA ONLY**

Marketing Assistance and Purchase Preference to the units from Maharashtra (refer Clause XIX of Instructions to Tenderers):-

5. (a) In case your unit is located in Maharashtra and the lowest acceptable rate received against the tender is from the unit outside Maharashtra, please confirm whether you are agreeable to accept order at that lowest acceptable rate limited to 50% (fifty percent) of our requirement.

.....

**APPLICABLE FOR ALL TENDERERS INCLUDING  
THOSE ELIGIBLE UNDER THE ABOVE CLAUSES:**

5. (b) Please confirm whether you are agreeable to accept order at the lowest acceptable rate received against the tender.

.....

[Industrial units from Maharashtra can give option under 5(b) above for balance quantity]

Note:-

1. If the tenderer gives the above confirmation for the quantity less than as indicated in Clause VIII (iii) of the Instructions to the Tenderers, then the above confirmation shall not be acceptable.
2. Tenderers may confirm matching for one or more items originally tendered.
3. Any withdrawal of confirmation for order by matching rate within validity of offer will render the entire offer invalid and shall be summarily rejected and Earnest Money Deposit shall stand forfeited.
4. A tenderer will not be entitled to the benefit of offers by matching rates and will not be considered for orders if his original offer is rejected on the ground of ambiguity or because of not accepting/non compliance of the terms & conditions of the tender.
5. In the above confirmation, if the tenderer indicates any rate, then the above confirmation given by the tenderer will not be considered as valid.

### Annexure 'B'(Price Schedule)

Sr.No	Item Code	Material Description	Unit	Quantity Required	HSN	Quantity Offered	Unit ExWorks including packaging charges but excluding duties & taxes etc (In Rupees)	Freight Charges Per Unit (In Rupees)	Transit Insurance Charges Per Unit (In Rupees)	Integrated GST for outside State Transaction on (Ex-Works Price+Freight Charges + Transit Insurance Charges)(In Rupees)	Central GST for within State Transaction on (Ex-Works Price + Freight Charges + Transit Insurance Charges)(In Rupees)	State GST for within State Transaction on (Ex-Works Price + Freight Charges + Transit Insurance Charges)(In Rupees)	Free Door Delivery Price Per Unit by Road upto Destination/Stores/Sub Station (In Rupees)
1	2	3	4	5	6	7	8	9	10	11	12	13	14=(8+9+10+11+12+13)
1	77908100524	DIST TRANSF. TEST SET UP FULLY AUTOMATIC	NO	6	90312000								

## Delivery Details

[Delivery must in the units specified for the items as per Price Schedule]

First lot of \_\_\_ in assorted sizes will be delivered within 1 Months from the date of LOA Award. After this period supply will be completed at the rate of \_\_\_ in assorted sized per month

## Confirmation Details

We Confirm The Following :

I) Goods and Services Tax(GST) i.e Integrated GST / (Central GST+ State GST):

The GST is included in our prices quoted in price bid (Central GST+ State GST) for within Maharashtra State/Integrated GST for outside State and we shall not charge any additional amount towards Integrated GST / (Central GST+ State GST), during currency of contract except statutory variation by Central / State Government in normal (full) rate of Integrated GST / (Central GST+ State GST), in case of Integrated GST / (Central GST+ State GST) Rate is increased. In case the Integrated GST / (Central GST+ State GST) is decreased than the rate indicated in the price bid, the benefits of the reduction in the Integrated GST / (Central GST+ State GST) shall be passed on to the Purchaser. The increase in the Integrated GST / (Central GST+ State GST) rate due to increase in turnover during the contractual delivery period shall not be charged to the Purchaser. If the Integrated GST / (Central GST+ State GST) is not payable at present, we shall not charge the same, if it becomes applicable during the currency of contract due to expiry / withdrawal of tax concessions and incentives during the currency of contract except for statutory variation by Central / State Government.

(i) Necessary documentary evidence for the GST claimed by us shall be submitted along with the bills.

(ii) We here by declare that while quoting the price in the Price Bid, we have taken into account the entire credit on inputs available under the GST Act.

Technical Specification Item: Dist Transf. Test Set Up Fully Automatic



Maharashtra State Electricity Distribution Company Limited

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SPECIFICATION NO.MMC: MSC/DB/01

TECHNICAL SPECIFICATION

For

DIST TRANSF. TEST SET UP FULLY  
AUTOMATIC

For

DISTRIBUTION SYSTEM

IN

MSEDCL

**MATERIAL SPECIFICATIONS CELL**

TECHNICAL SPECIFICATION

DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
AUTOMATIC.



TECHNICAL SPECIFICATION NO.

CE/QC-T/MSC-II/DTS  
Date:10.01.2017 (Revised on 05.09.2019)

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**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
AUTOMATIC**

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**1.00 SCOPE**

This specification covers the general and standard requirement, technical data design, engineering, manufacturing, assembly, inspection & testing at manufacturer's works, supply, delivery, commissioning at stores/laboratory of Transformer Testing Set Up.

The transformer testing set up for testing of 25 KVA to 1500 KVA (Primary –11/22/33 KV. Secondary –433V) Distribution Transformer.

The transformer testing set up shall be fully integrated & automatic. "All the equipment shall be control from panel by screen touch system & manually also" one system can be operated at one time & second will interlock.

The Hardware & Software connectivity for test instruments with PC & printer for further processing to generate inputs & reports.

The transformer testing set up shall be capable for testing of all routine test and other tests as stated in this specification.

The transformer testing set up shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation, in a manner acceptable to purchaser, who will interpret the meaning of drawings and specification and shall have the power to reject any work or material which, in his judgment is not in accordance therewith. The offered material shall be complete with all components necessary for their effective and trouble free operation. Such components shall be deemed to be within the scope of Bidder's supply irrespective of whether those are specifically brought out in these specifications and / or the commercial order or not.

**2.00 QUALIFYING REQUIREMENTS**

2.01 The bidder shall be an original manufacturer / sole authorized dealer / accredited representative of manufacturer of the tendered item. In case of dealers / authorized representative, an authorization letter for

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
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- quoting in this tender with mentioned tender no. shall be obtained from original manufacturer & shall be submitted along with this bid.
- 2.02 In case the bidder is not an original manufacturer, the operating experience of the bidder shall be more than 5 years for supplying and providing after sales support of similar or better equipment to NABL Accredited Laboratories / Transformer Manufacturing Companies/ Govt. Depts. /Power Utilities in India or Aboard.
- 2.03 The bidder should have a valid ISO 9001 & ISO 14001 certification.
- 2.04 The bidder should submit minimum 5 Job Completion Certificates for Transformer manufacturer or Utility Projects.
- 2.05 The manufacturer must have experience of minimum five years in Micro Controller Based automation in the field of Transformer Testing & Integration for supply of similar or better equipments to National / International Accredited Laboratories/Govt. Depts. /Transformer Manufacturers or Power Utilities. The manufacturer shall enclose necessary purchase order copies along with their bid to prove the same.
- 2.06 The bidder shall submit satisfactorily performance report copies of supplying automatic transformer testing and report generating software from recognized NABL Accredited Laboratories/Govt. Depts./ Transformer manufacturers that the same has given trouble free service. Bid submitted without the performance letters from NABL accredited laboratories shall be treated non responsive.
- 2.07 The Bidder shall have successfully executed as a prime contractor at least three (3) contracts involving supply, installation, testing and commissioning of fully automatic transformer test bench, within the last five (5) years as of the last date of Bid Submission. Out of the above 3 contracts, two (2) contracts must have been executed outside bidders home country.
- 2.08 The bidder shall declare that the bidder or their principals have not ever been black listed / defaulter by any utility / ESCOMs / Distribution Company / Laboratories / Any department of State Government or Central Government on record of poor performance such as not properly completing the contract, inordinate delays in supply completion, not supplying the items as per commitment of contract etc.
- 2.09 Bidder or their principals shall have fully equipped technical support

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
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office / laboratory for facilities of testing, calibration, adjustment, diagnosis and repair of equipments in India itself. Bidder or their principals shall have technical support staff posted in India for technical support after sale.

- 2.10 The Bidder or their principals shall have their own service centers and trained engineers dedicated for trouble shooting and technical support permanently posted in India. The bidder shall enclose necessary proof that the firm / the manufacturer / the principal the bidder is participating for, has necessary facility to adjust and calibrate the offered measuring units within the country. The list of Plant and Machinery, tools and tackles to carry out services shall be submitted along with the offer.
- 2.11 The offers of Indian subsidiary company, whose parent company is located abroad fulfilling the qualifying requirements as above, shall be considered provided the Indian participant subsidiary company fulfils the minimum experience of one year of supply or manufacturing of similar or better equipments to National / International accredited laboratories or power utilities. However, the conditions of turnover and supply of minimum quantity of similar or better equipments to National / International accredited laboratories or power utilities as brought out elsewhere in tender documents can be fulfilled by the parent company located abroad on behalf of their Indian subsidiary company. The parent company shall furnish undertaking for accepting responsibility for supplying quality equipments as per specifications and execution of the contract on behalf of its India based subsidiary unit who has participated in the tender in Annexure U-I.

### **3.00 APPLICATION**

The transformer testing set up shall be suitable for the testing of Distribution transformer. The transformer testing set up shall be capable to conduct the following test.

- 1 Measurement Of Voltage Ratio And Check Of Phase Displacement (Vector Group).
- 2 Measurement Of Winding Resistance.
- 3 Measurement Of Insulation Resistance.
- 4 Measurement Of No Load Loss And No Load Current.
- 5 Measurement Of Load Loss.
- 6 Measurement Of Impedance Voltage.
- 7 Calculation Of Efficiency And Regulation.
- 8 Applied Voltage Test (High Voltage/Separate Source Test).
- 9 Induced Over Voltage (DVDF) Test.

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
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- 10 Measurement Of No Load Loss & No Load Current At Low Voltage.
- 11 Measurement Of Load Loss And Impedance Voltage At Low Voltage.
- 12 Measurement Of Single Phase / Three Phase Short Circuit Impedance.
- 13 Temperature Rise Test.
- 14 Magnetic Balance Test.

#### **4.00 SERVICE CONDITIONS**

The transformer testing set up to be supplied against this specification shall be suitable for satisfactory continuous operation under the following tropical conditions:

##### **Environmental Conditions**

- |  |                       |
|--|-----------------------|
| a) Maximum ambient temperature   | 55 <sup>0</sup> C     |
| b) Minimum ambient temperature   | -10 <sup>0</sup> C    |
| c) Maximum ambient temperature of air in shade   | 50 <sup>0</sup> C     |
| d) Minimum temperature of air in shade   | 35 <sup>0</sup> C     |
| e) Maximum daily average temperature   | 40 <sup>0</sup> C     |
| f) Maximum yearly weighted average temperature   | 32 <sup>0</sup> C     |
| g) Relative Humidity   | 100 %                 |
| h) Maximum Annual rainfall   | 1450 mm               |
| i) Maximum wind pressure   | 150 Kg/m <sup>2</sup> |
| j) Maximum altitude above mean sea level   | 1000 meters           |
| k) Isoceraunic level   | 50 days/year          |
| l) Seismic level (Horizontal acceleration)   | 0.3 g                 |
| m) Climate: Moderately hot and humid tropical climate conducive to rust and fungus growth. |                       |

#### **5.00 APPLICABLE STANDARDS.**

The transformer testing set up shall conform in all respects including performance and testing thereof to the latest relevant and applicable Indian / International Standards to be read with up to date and latest amendments / revisions thereof. E.g. IS 2026, IS 11171, ANSI C57.12.70-1978 CEI/IEC 76-1:1993 and Publication 616:1978, AS-2374 Part 4-1982 (Australian Standard).

Insulation resistance tester - IS: 10656.

Turns ratio meter - IEC61076

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The equipment meeting with the requirements of other authoritative standards, which ensures equal or better quality than the standard mentioned above, also shall be considered.

In case the bidder wishes to offer material conforming to the other authoritative standards, salient points of difference between the standards adopted and the specific standards shall be clearly brought out in relevant schedule. Copy of such standards with authentic English Translations, shall be furnished along with the offer.

In case of any difference between provisions of these standards, the provisions of this specification shall prevail.

**6.00 CONSTRUCTIONAL & GENERAL TECHNICAL REQUIREMENT.**

The transformer testing set up shall comply with the following requirement.

- 6.01 The transformer testing set up shall be capable for testing the Transformers ranging of 25 KVA to 1500 KVA, maximum high voltage up to 33 KV to minimum Low voltage of 0.415 KV. 3 Ph & 0.23 KV 1 Ph.
- 6.02 The transformer testing set up shall include Test Bench & HMI to control & monitor transformer test equipment which includes MG set, HV Tester, CTS PTS, Booster Transformer, Power Analyzer, Ratio Meter, Resistance Meter , Insulation Tester, voltage regulator and automatic change over system with the help of motorized isolators. The HMI shall be LCD touch screen based.
- 6.03 The Controller, HMI and Software based control, monitoring and reporting system should be used for Transformer Testing and allied functions. Transformer testing equipment's operation can be done through HMI. In addition, optionally operations can be done manually from the test bench. The system should also acquire various parameters from the test instruments on real time basis and analyses the data for preparation of test report. This system shall be used to reduce the testing time, acquire the testing data online and log to the database to solve error-free complex calculation and to generate instant error free report.
- 6.04 HMI shall be Touch Panel LCD display.
- 6.05 "All instruments should be integrated in the test panel and low voltage test setup and the online data transfer from these instruments should be done through the PC based software for the test system operation. There will be only one software for all the instruments to acquire the data, store into the database and generate the reports.

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
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- 6.06 There should be Data logging software with features like instrument selection, data acquisition, and test report development and generation with data/report archiving.
- 6.07 The software provided should also be capable of data analysis based on user set points.
- 6.08 The bidder should Supply the necessary interface hardware and appropriate for the system.
- 6.09 The equipments viz. Insulation resistance tester, Transformer turn ratio meter, Power Analyzer Computer & HMI shall be panel mounted & fixed on the front side of the test bench.
- 6.10 All the instruments fully automatic integrated with the computer & HMI.
- 6.11 The supplier shall provide all the software / drivers for all the instrument free of cost.
- 6.12 The format for all the test reports shall be as per attached sheet with this specification as annexure - I
- 6.13 Test bench should have following controls & indications from 15” LCD based touch screen in Auto mode and manual mode.

Sr	Equipment Name	Auto mode	Manual mode
<b>1</b>	<b>Power Control</b>	Yes	
	a)Main Circuit Breaker Close/Trip	Yes	On / Off switch
	b)Emergency Stop	Yes	Push button
	c)Alert	Yes	
	d)Danger light on/off	Yes	required
	e)Main incomer voltage/current/frequency	Yes	Yes Required
	f)Main incoming Over voltage & over current protection	Yes	
	g)Auto/manual button	Yes	Auto/ Manual Switch

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
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	h) H V Tester ON/OFF	Yes	Yes
	i)H.V tester Raise/ lower	Yes	Yes
	j)H.V Regulator out put voltage & leakage current	Yes	Yes
<b>2</b>	<b>Dimmer (NLL &amp; LL)</b>		
	a)Dimmer CB Close/Trip	Yes	With PB & indicator
	b)Dimmer Auto Raise/Lower	Yes	Dimmer raiser PB & Max position indicator
	c)Dimmer Max & Zero position indication	Yes	Dimmer Lower PB & zero position indicator
	d)Dimmer output voltage / current	Yes	Yes
<b>3</b>	<b>MG Set for DVDF</b>		
	a)Motor Generator On/Off	Yes	Motor Generator On/Off PB cum indicator
	Excitation On/Off	Yes	Excitation On/Off PB cum indicator
	b)Excitation raise/Lower	Yes	Yes, with PB cum indicators
	c)Generator Output voltage/current/frequency	Yes	yes
	d)Excitation voltage/current	Yes	
	e) Timer with auto start /stop	Yes	Yes
<b>4</b>	<b>HV Tester</b>		

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
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	a)HV tester ON/Off	Yes	Yes with PB cum indicator
	b)HV tester Raise/Lower	Yes	Yes with PB cum indicator
	c)HV Regulator output voltage and leakage current	Yes	Yes with PB cum indicator
	d) Timer with auto start /stop	Yes	Yes

**6.14 Temperature**

The specified operation range shall be -10<sup>0</sup> C to +55<sup>0</sup> C

**6.15 Frequency**

The rated frequency shall be 50 Hz with a tolerance of ± 5%.

6.16 The Test Bench should be is designed to accommodate all required instruments, test equipment, control & protection system, alarm and indications etc. All Meters should be integrated in the Test Bench and the online data transfer from these meters should be done through the PC based software.

6.17 The testing instruments & equipments included in the offer should be of reputed make.

6.18 All the equipment used shall be of very high quality and most dependable and designed with proper safety margin to carry the necessary electrical parameters like current, voltage and power for continuous use throughout year and proper protection to trip under any abnormality. The test system is likely to be used round the clock.

6.19 All the measuring & testing instruments should be latest calibrated and the calibration certificates from accredited NABL should be provided along with the supplies. All the major equipment will also carry test reports as per the standards

6.20 In Software, data acquisition from various test instruments should be happen without any human intervention. The soft ware validation should be done by the supplier.

6.21 The Software should have user interface that acquires on-line data from test instruments to generate test reports with auto indexing and page numbering. It should consist of an option of manual data entry too. The software can be used in the automatic mode for acquiring data from test instruments with the click of a mouse or data from a test instrument can be read and entered in the software manually.



**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
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- 6.22 The Software should have facility to provide for multiple, user defined permutations and combinations based on the type of a transformer, type of phase, type of winding, type of cooling, various rated capacities, various vector connections, and tap changers.
- 6.23 The Software should generate auto indexing and page numbering of test reports according to the selected test sequence. It must have the facility of printing test reports on A4 size blank sheets.
- 6.24 The Software should have easy storage, data retrieval; data analysis capability ensures error-free complex calculations facility.
- 6.25 In addition to the detailed report format, the software should have the short report facility which gives the report of the routine test to avoid the unnecessary paper wastage. The Software should have the database backup facility to take the backup of database in the hard drive.
- 6.26 Software should have facility to export data in other formats such as MS excel/MS word /PDF for further analysis.
- 6.27 The Software should have the facility of printing formula sheet on demand.
- 6.28 The Software should have the facility to generate MIS reports by selecting a specific period, customer, KVA Rating, and the inspection type.
- 6.29 The website integration and connectivity with ERP should be possible in software as an option.
- 6.30 Safety/EMC/Vibration Meets the requirements of IEC-1010-1, CE and ASTM D999.75
- 6.31 The transformer testing set up shall be designed and constructed in such a way as to avoid introducing any danger in normal use and under normal conditions, so as to ensure especially:
- (a) personal safety against electric shock;
  - (b) personal safety against effects of excessive temperature;
  - (c) protection against spread of fire;
  - (d) Protection against penetration of solid objects, dust & water in meter.
- 6.32 All parts that are likely to develop corrosion under normal working condition shall be effectively protected against corrosion by suitable method to achieve durable results. Any protective coating shall not be

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liable to damage by ordinary handling nor damage due to exposure to air, under normal working conditions.

6.33 The transformer testing set up shall be manufactured using SMT (Surface Mount Technology)

6.34 All the cords / connectors / accessories supplied along with the instrument must conform to the international standards of safety. Adequate built in features to protect the instrument itself from over-voltage shall be provided.

6.35 The transformer testing set up shall also have interface to an external printer through PC software.

6.36 **CIRCUIT PROTECTION**

Adequate protection fuses shall be provided for current circuits in test bench & for all the equipment independently.

6.37 **SHOCK AND VIBRATION PROTECTION**

The equipment must be immune to Vibration and dumping due to transport.

Suitable transportation case shall be provided along with the equipment.

6.38 The necessary precaution in packing should be taken to avoid any damages to Test Bench during the transportation due to shocks/vibration etc.

6.39 **Automatic LV test setup:-**

Following test shall be conducted automatically on single click and test results transfer to the common database.

- Measurement of Voltage Ratio And Check Of Phase Displacement (Vector Group).
- Measurement of Winding Resistance.
- Measurement of Insulation Resistance.
- Magnetic Balance Test.

6.40 **The test system software should have following features/facilities:**

- The facility should be provided to select Cooling type such as ONAN/OFAF/OFWF/ODAF/ONAF/ONAF-1/ONAF-II/DWF/AN/ANAF/ ANAN etc
- The software should provide facility to test transformers of at least following vector groups by choosing appropriate option:

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Dd0,Dd10,Dyn11,Dyn1,Dyn7,Dyn5,Ynd11,Ynd1,Ynd7,Ynd5,YNyn0,Dz  
10 etc

- The software should provide facility to test single phase or three phase & two winding or three winding transformers
- The software should generate combine reports on single click for Winding resistance test, Ratio test, Insulation resistance test, Vector group test, No load loss test, Load loss test, Induced over voltage test, Magnetic balance test, separate source voltage test
- The software should provide the selection of transformers with tap changer or without tap changer
- While testing winding resistance there should be facility to present results in units such as ohms or mili-ohms. Calculation in load loss test should take account of unit selected during winding resistance test .
- For voltage ratio test report error in % should be provided.
- Software should provide user editable acceptance criterion for voltage ratio test
- For no load loss test watt meter constant entry should be available
- Software should provide Analysis feature including search option with periodic report, vendor wise report, KVA/MVA based report, test wise report.
- Software should provide option to Print Values in Report (Page Footer, Test By Engg. , Test Date Etc.)
- The software should provide error free calculations
- Software should have instrument selection facility
- The software should maintain log for delete option
- The software should have data backup facility
- Software should provide facility to export data in other formats such as MS excel for further analysis
- Software should have user friendly graphical interface.
- Software should acquire data form temperature scanner and generate cooling curve graph and do all the calculation automatically
- Software should have facility to lock the data so no intervention after completion of tes

## **7.00 SPECIFICATION:**

### **A) Measuring Instruments -**

#### **1. Winding Resistance Meter –**

##### **1.0 SCOPE**

This specification covers the Transformer Winding Resistance Meter suitable for measuring winding resistance for single phase and three phase transformers. The kit should be supplied with software to conduct Temperature Rise Test on transformers and plot relevant graphs to interpret the test results.

##### **2.0 CLIMATIC CONDITION**

The Measuring Instrument should work in following climate.

- i) Maximum Ambient Air Temperature 55°C
- ii) Minimum Ambient Air Temperature 05°C.
- iii) Maximum Relative Humidity Upto 95% (non-condensing)
- iv) Storage Temperature -20°C to 60°C
- v) Storage Humidity Upto 95 % ( non condensing)
- vi) Max. Altitude 1000 meter

##### **3.0 GENERAL & CONSTRUCTIONAL REQUIREMENTS**

**Transformer Winding measurement meter** shall be designed and constructed in such a way so as to easy to operate, compact, rugged design, user safety. However, the following General features should be ensured.

##### **Feature Description**

1. Instrument should be suitable for measuring cold and hot winding resistance measurement of the Transformer winding.
2. Instrument should be lightweight and portable unit designed to deliver up to 10 Amps D.O max.continuous Injection ( 50V dc for 30 sec.), 50V open circuit voltage for heavily inductive loads.
3. This product should be designed with safety feature and ease of use.
4. Instrument should be used at any transformer for measuring the winding resistance value with high accuracy.
5. Instruments should be rugged and light weight, Portable type and very suitable for field use.
6. Instrument should be capable of storing 100 test values on First In First Out (FIFO) basis and also the instrument should have USB port for communication and transfer of stored data to PC via communication cable. The communication software with media for installation on PC should be provided along with every instrument.

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7. Instrument should have 4\*1/2 digit reading for resistance measurement. Display should be 6 characters, 7 segments, LCD.
8. Instrument should have simultaneous display for dual channel resistance and injected current without the need for time consuming bridge balancing.
9. It should have current smoothing test technology for fast and convenient testing.
10. It should have in built demagnetization circuitry which allows the operator to de-magnetize the transformer core, either before or upon completion of resistance testing or as a standalone feature.
11. It should have Bi-directional current capability feature to sense pre test core polarization or direct the test current in the direction that reduce the test time.
12. It should have in built Discharge circuitry which safely discharges the specimen when test is completed, if lead accidentally disconnects or if power is lost.
13. The equipment should monitor the contact operation of on-load tap-changers for the proper make before break sequence. The equipment should indicate immediately in case open circuit exists. The max. timing for the operation should be less than 20ms. The timing should be settable. Instrument should have Automatic fault detection in OLTC of the transformer.
14. Unit should provide with remote trigger switch for testing transformer with on load tap changer
15. Instrument should have facility of internal memory allows for storage of minimum 100 dataset for later recall, printing and analysis.
16. Thermal Printer should be provided for printing the stored data on thermal paper.
17. The Instrument should have Input Power Supply: 240V AC±20%, 50Hz ±10 %, 750VA.
18. Instrument should have following output range :-  
Current range: - up to 10A DC continuous and 50V for 30sec.  
Voltage range: - up to 50 V DC
19. Instrument should have **at least four** resistance measurement range :  
1  $\mu\Omega$  to 2000 $\Omega$   
(0  $\mu\Omega$  - 2 m $\Omega$ , 2 m  $\Omega$  - 200 m  $\Omega$ , 200m  $\Omega$  - 2  $\Omega$ , 2  $\Omega$  - 2000 $\Omega$  ) ,
20. Instrument should have Minimum resolution of 0.1 IA<sup>2</sup> with accuracy ±0.2% of rdg +5 Counts
21. Instrument should have the facility to measure direct cold and hot resistance during temperature rise test.
22. Instrument should have Protection for high voltage flashover caused by inductive kickback

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23. Instrument should have facility for Auto discharge for operator safety/ safety interlock circuit
24. Instrument should be supplied with the Software to analyze the Temperature rise test Readings.
25. The test kit shall be supplied with accessories viz, sufficient test leads i.e current leads, potential leads, shorting lead, grounding lead, mains power cord, instruction manual, computer interface cable and software CD etc
26. Standard Accessories:  
 Test leads with heavy duty Crocodile clamps (8 No): -10 Meter Each  
 Earthing Cable : 2 No  
 Mains power cord : 1 No.  
 User Manual : 1 No.  
 Calibration Sheet : 1 No.  
 Rugged Carrying case : 1 No.  
 Software media : 1 No.  
 USB cord : 1 No.
27. Calibration certificate from NABL accredited lab shall be provided with every instrument.
28. Safety
  - a. CE & EN61010 CAT-IV EN61326 for enhanced safety or IC 61010-1 & IEC61326-1
  - b. Compatible with IP54 standards.
  - c. Compatible with EMC-1IEC61326-1
29. Warranty:- 5 Years from date of delivery.

**2. Turns Ratio Meter**

**i. Features:**

- Portable, light weight, automatic, 3 phase Turns Ratio Meter
- Automatic measurement of Ratio and phase angle deviation
- Suitable for operation in energized switchyard condition.
- Should be able to measure and display actual turn's ratio of Three phase transformer having different vector groups.
- It should also measure and display, magnetizing current alongwith phase angle deviation.

**ii. Technical Specification**

- Mains Power: 240V+/-20%, 50Hz+/-5%, single phase A.C.
- Excitation voltage(Auto Manual Selection) :-8 to 10V/ 35 to 40V/80 to 100V
- Turns Ratio Measurement Range and Accuracy

Turns Ratio Range	8 to 10 V AC	35 to 40 V AC	80 to 100V AC
0.8 to 1000	0.1%	0.1%	0.1%
1000 to 2000	0.15%	0.1%	0.1%

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- Excitation current Range and Accuracy  
0 to 1000 mA with resolution of 0.1mA, 4½ digit Resolution with less than 1% Accuracy
- Phase Deviation Range and Accuracy
- +/-90 degrees (one decimal point for minute display and two decimal point for degree display).
- RS 232 USB port for communication.

**iii. Display**

Touch screen colored display viewable in direct sunlight.

**iv. Computer/Printer/ Interface:**

RS 232 /Preferably USB port, with communication software for online control software and report generation software.

**v. Test results storage:**

Internal nonvolatile memory for storing, 1000 Tests Results shall be stored including graphs with Ratio, Ratio Error, Ex. Current, Phase Angle, Deviation from Std. Value and pass & fail.

**vi. Accessories**

- a) Power supply cord 3 RMT
- b) 3 phase cable set length 5 RMT with clip ends
- c) 3 phase extension cable set length 10 meter
- d) Carrying case for test leads
- e) Grounding lead:- 5 RMT
- f) Communication Software
- g) RS 232/USB cable for connection to PC

**3. Power Analyzer**

a) **Power Analyzer should have following features/functions:**

Sr. No.	Particulars	Requirement.
1.	Input Voltage range	15/30/60/100/150/300/600/1000V
2.	Input Current range	500mA, 1/2/5/10/20/30 A
3.	Large current measurements capability by using external sensor input range	50/100/250/50mV, 1, 2 / 5 / 10V.
4.	Frequency range	DC, 0.1Hz to 1 MHz
5.	Basic Voltage/ Current measurement accuracy	± (0.01% of rdg+ 0.03% of range)
6.	Power measurement accuracy	± (0.02% of rdg + 0.04% of range)
7.	Wiring combinations	1 Phase 2 wire, 1 Phase 3 wire, 3 Phase 3 wire, 3 Phase 3 wire-Two

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		loads, 3 Phase 4 wire
8.	Line filter	500Hz, 5.5kHz, 50kHz
9.	A/D converter resolution	16 bits
10.	Data update rate	Selectable from 50ms, 100ms, 250ms
11.	Display	8.4 inch color TFT LED/LCD preference shall be given to LED. Capable to show Numeric display, Harmonic measurement; Waveforms, Bargraph, Vector & Trend display, with various combinations for all above.
b) In addition to above	12. Display type	:0 – 1.000
	a. Numeric Display items	:4/8/16/All/ single list/dual list
	b. Waveforms Display	:Waveforms in single/Dual/Triad/Quad format
	c. Time axis	:0.5ms – 2s/div
	d. Trigger	:Voltage, current or external.
	e. Vector Display	: Phase difference in fundamental waves of voltage & current.
	f. Bar Graph Display	Bar Graph up to upper limit of analyzed order in harmonic measurement.
	g. Trend Display	:Up to 16 parameters of measurement channels
13.	Scaling	User programmable CT/PT ratio Scaling Function for obtaining direct display of voltage & current of primary side

**Power Analyzer should have following functions:**

- a. Auto ranging function - Auto ranging when feeding unknown input quantities.
- b. Compensation Functions - Wiring compensation for the loss caused by wiring of element, Efficiency compensation function for the power measurement on the secondary side of a power transformer, compensation for two watt meter method.
- c. User defined Math Function - This function should be used to define twenty user-defined formulas. These equations can be used to calculate various parameters.
- d. Delta Calculation Function - This function should be used to calculate individual phase voltages from the line voltages.



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- e. Advanced Calculation Function - This function should perform IEC harmonic measurements, MATH calculations, FFT calculations and waveform data capturing function.
- f. Integration Function - It should have Standard integration mode (timer mode), Continuous integration mode (repeat mode) & manual integration.
- g. Harmonic Measurement Function –

Method :PLL synchronization or external sampling clock.  
Measurement Freq. Range :Source fundamental frequency from 10 Hz to 440Hz.  
Harmonic order analyzed :Up to 100  
Analyzed Parameter :for each order V, I, Active Power,Reactive Power, Phase Angle, and Phase difference of Harmonic component relative to fundamental wave.

- h. Inbuilt internal memory having capacity up to 30 MB to store measurement data in binary or ASCII format.
- i. External Input/Output –  
USB port for PC communication  
Built-in PC Card interface, type II  
GPIB : Confirming to IEEE 488.2
- j. General –  
Power supply : 90 to 264 V AC, 48 to 63 Hz.  
Operating temperature : 5 to 40 deg. C  
Battery back-up : Set-up information & internal clock are to be backed-up with lithium battery
- k. Setting - Control of the instrument should be possible from PC including wiring method, range, filter, scaling etc
- l. Data Acquisition & trend display Software –

Application software must be able to load data from normal measurement, harmonic measurement, waveform calculation, FFT calculation & cycle-by-cycle measurement and then display and/or save the data on the PC.

All measured data to be automatically displayed in a trend graph and saved to a CSV file.

Numerical data: Simultaneous display of V, I, W & other parameters for all elements and calculations. Numeric data to be displayed cycle-by-cycle & checked by using the scroll bar.

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Power Trends: The power value P & 3-phase power values from each phase to be displayed.

Vectorial Views: Should be able to view vectorial display of fundamental voltage, current & phase angle in harmonic mode.

**4. Insulation Tester 5000V**

**Technical Requirement.**

The inclusion of following feature is needed.

- i. The test kit should display the value of Insulation Resistance, Current and Capacitance after each test.
- ii. The test kit should have automatic test sequence for Automatic IR Test, Polarization Index Test, Dielectric Absorption Ratio Test, Dielectric Discharge Test, Step Voltage Test and Withstand Voltage Test.
- iii. The test kit should have self calibration check up at every start up.
- iv. Display should contain analogue and digital resistance results, battery charge indication, mains or battery operation indication should be displayed on LCD screen with backlight.
- v. The test kit along with accessories should be supplied with a carrying case so as to be carried to testing site easily.
- vi. The equipment should be enclosed with industrial grade casing so that in closed condition display, key pad and connection terminals should be fully protected and covered.
- vii. The test kit shall be both AC Mains and Battery Operated.
- viii. The test kit shall be equipped with High Voltage terminal, Measurement terminal and Guard terminal. These terminals shall be suitably marked for easy identification
- ix. The test kit should display the direct reading of voltage across the test object when the test is in progress.
- x. Instrument should provide warning as well as able to inhibit testing, if the voltage measured is above 50V at the terminals.
- xi. The test kit should be equipped with audio and visual indication for the test ON condition.
- xii. The test kit should discharge the test object after every test.
- xiii. The kit should have three programmable timers for conducting diagnostic tests.
- xiv. The Testing Equipment should be properly shield / screened so that performance under induced voltage conditions is not affected. There should be the provision of interference suppression unit which nullifies the effect of electrostatic interference.

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xv. Instrument should have internal storage of minimum 1000 test results on First In First Out (FIFO) basis as well as Real time data output and on-board storage for subsequent download.

**Xvi** Selectable Test voltage from 500 to 5000V.

**Xvii** It should meet requirements of EN61010.

**Power input range** : 240V AC +/- 20%, 50Hz +/- 5% and Integrated Re-Chargeable Battery

**Test voltages** : 100VDC to 1KVDC variable in steps of 10V and 1 KV DC to 5 KVDC in step of 25 V

Resolution: 1Volt

**Accuracy (23°C):**

+/-5% up to 100 G  $\Omega$  & +/- 10% up to 15 T $\Omega$

**Display range:**

Digital display 10 kOhm to 15 TOhm

Analogue display 100 kOhm to 1 TOhm

**Short circuit:** 3 mA.

**Capacitor charge time:**

less than 3 second per  $\mu$ F at 3 mA

**Capacitor discharge time:**

less than 250mili- second per  $\mu$ F from 5000V to 50V.

**Capacitance measurement :**

1nF to 50  $\mu$ F (measured with test voltage >500 V)

**Capacitance measurement accuracy (23°C):**

$\pm$ 5%  $\pm$ 5 nF

**Voltage output accuracy (0°C to 30°C):**

$\pm$ 2%  $\pm$ 1 V of nominal test voltage at 100 MOhm load

$\pm$ 25 V for test voltages less than 500 V

**Current measurement range:**

$\pm$ 0.01 nA to  $\pm$ 5 mA

**Current measurement accuracy (23°C):**

$\pm$ 5%  $\pm$ 0.2 nA at all voltages

**Display:** Analogue/Digital 3 digits

**Interference rejection:** 1mA rms per kV test voltage, 2 mA rms maximum

**Timer range:** Up to 99 minutes

**Test regimes** : Auto IR

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**Lead set :** Three leads with compact clamp, flexible silicon insulated.

**Ingress protection (lid closed) :** IP54

**Humidity:** 90% RH non-condensing at 40°C

**5. High voltage Tester 0-80 KV**

High voltage test set shall be portable. It shall consists of two separate units: the control unit and the high voltage unit. The test set shall be equipped with a rectifier attachment for D.C. Voltage testing upto 80KV.

The High Voltage Test Set is to be used for:

- AC voltage testing of low capacity test objects upto 0-75 KV.
- DC voltage testing upto 0-80 KV

The offered system shall ensure following minimum features.

- Continuous testing with AC voltages upto 75kV at 1kVA & DC voltages upto 80 KV
- Set shall be composed of function blocks & shall have built in overload protection.
- DC voltage testing with rectifier attachment.

**Minimum Guaranteed Technical Particulars**

Output Voltage	: 0-75 KVrms / 0-80 KV DC
Time loading	: 1kVA; unlimited
	: 2kVA; 20 min.
	: 4kVA; 1 min
Short-circuit current	: Max. 50 mA (1 min.)
Nominal Current	: 13mA
Test load	: ca. 1000 pF max. 30 min.
Power Supply	: 240V ±10%; 50Hz

**6. Power Panel And Equipments**

**LT Capacitor Panel:** 250KVA, 440V with automatic/ motorized control  
in step of 10KVA.

**Dimmer:** Three phase, 0-470V, 50Hz with motorized control.

**HV Tester:** 80kV, 200mA with Suitable Voltage Regulator

**Power Panel**

**MG Set, 50kVA, I/p Voltage- 400V, O/p Voltage- 0-1000V, Frequency- 100Hz.**

**Booster Transformer, 200kVA, I/p Voltage- 400V, O/p Voltage- (2.5-1.7-0.9-0.6-0.3-0.15)kV, Hz- 50**

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**CT1**, (40-80-150)/5A, Accuracy Class: 0.02, Burden 15VA, Insulation class-3.3kV

**CT2**, (5-10-20)/5A, Accuracy Class: 0.02, Burden 15VA, Insulation class-3.3kV

**PT1**- (0.55-1.1-2.2-3.3)kV/110V, Accuracy Class:0.02, Burden 50VA

**UPS, 2.5KVA Single Phase, 230V, 50Hz for Test Bench input supply**

7. **Motorized Isolator:-** For open circuit & Short circuit test of the transformer the motorized Isolator 2500 A with silver coated blades shall be provided.

## **8.00 NAME PLATE DATA AND MARKING**

The equipment shall have a name plate clearly visible, effectively secured against removal and indelibly and distinctly marked with all essential particulars as per relevant standards.

Sr. No. of the equipment along with date of manufacturing as well as other technical details shall invariably be mentioned on the equipment as well as on the Hand bag. Serial number on sticker will not be allowed.

In addition, following shall be marked on the name plate.

- Purchase order No & date.
- Month and Year of manufacture.
- Name of purchaser, i.e. MSEDCL.
- Guarantee Five Years.

## **9.00 TESTS**

### **9.01 “Calibration Reports/ Test Certificate”**

The tenderer shall furnish detailed type test reports of the offered instrument for all the tests as per relevant standards. All the type tests shall be carried out at laboratories which are accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) of Government of India to prove that the instruments offered meet the requirements of this specification. These tests should have been carried out within 5 years prior to the date of opening of the tender. The offer without type test report shall not be considered for further evaluation. The type test report shall be submitted along with the offer. Type Test Reports conducted in manufacturers own laboratory and certified by testing institute shall not be acceptable.

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However, the tenderer who have supplied the offered instrument to MSEDCL against order from Material Management Cell of MSEDCL shall be exempted from submission of type test reports against this tender provided that,

- i) The offered instruments are already fully type tested at Laboratories accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) within five years prior to the date of opening of the tender.
- ii) There is no change in the design of type tested instruments and those offered against this tender.
- iii) Such tenderer complying with (i) & (ii) above, shall furnish an undertaking in the format schedule 'F' enclosed herewith.

The Purchaser reserves the right to demand repetition of some or all the type tests in presence of purchaser's representative at purchaser's cost. For this purpose, the tenderer shall quote unit rates for carrying out each type test. However, such unit rates will not be considered for evaluation of the offer. In case the unit fails in type test, the complete supply shall be rejected & expenditure incurred shall be recovered from the tenderer from his deposit.

The successful tenderer shall take approval / waiver of type test from the Chief Engineer, MSEDCL, Testing & Quality Control Section, Prakashgad, Bandra (E), Mumbai – 400051 prior to commencement of supply.

The successful tenderer shall take approval of calibration certificate of all the instrument & whole as Transformer Test Bench from the Chief Engineer, MSEDCL, Testing & Quality Control Section, Prakashgad, Bandra (E), Mumbai – 400051 prior to commencement of supply.

In other cases where Indian / International Standards for the equipment are not available / specified, following test condition shall be made applicable against the type test.

“The tenderer shall furnish detailed Calibration reports of the offered instrument carried out at Standard NABL approved Laboratories on all of the equipments as per relevant standards to prove that the instrument offered meets the requirements of this specification. Tenderer shall take approval / waiver of Calibration reports from the Chief Engineer, MSEDCL, Testing & Quality Control Section, Prakashgad, Bandra (E), Mumbai – 400051 prior to commencement of supply.”

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All the instruments shall be tested for Electromagnetic Compatibility & Electromagnetic Interference as per IEC 61000.

All the instrument shall be tested for Shock & Vibration test as per procedure define in the IS 9000.

Transformer test Bench shall be tested for minimum IP 40 for degree of protection for dust & water.

**10.00 GUARANTEED TECHNICAL PARTICULARS.**

The tenderer shall furnish the particulars giving specific required details of measuring equipment/testing equipment in schedule 'A' attached. The offers without the details in Schedule 'A' stand rejected. System schematic, Single Line Diagram and test procedure has to be submitted with the tender.

**11.00 DEMONSTRATION.**

Demonstration of the transformer testing set up and PC software shall be given by the manufacturer as and when required by purchaser.

**12.00 SPARES:**

The bidder should supply the essential spares for maintenance purpose.

**13.00 TRAINING.**

The successful bidder shall depute their representative for commissioning & training educate to Engineers of purchaser as and when they will be called for at no extra cost.

**14.00 GUARANTEE**

The Test Bench shall be guaranteed for a period of **5 years** from the date of commissioning or five one and half years from the date of dispatch whichever is earlier. The equipment found defective within above guarantee period shall be replaced / repaired / rectified by the supplier free of cost, within one month of receipt of intimation. After the replacement / repairs / rectification, the accuracy shall not be affected. Test report and calibration certificate shall invariably be submitted after rectification / repairs.

If defective equipment is not replaced / repaired / rectified within the specified period as above, the Company shall recover an equivalent amount plus 15% supervision charges from any of the bills of the supplier. Further, life time Guarantee required for software upgradable as and when required by MSEDCL.

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**15.00 AFTER SALES SERVICE**

The bidder has to indicate clearly the after sales service to be provided by the supplier within guarantee period and outside guarantee period and Addresses of Sales Service Centre, details of Engineers, etc. shall be submitted along with the offer.

**16.0 PRE-DESPATCH INSPECTIONS**

The successful bidder shall offer inspection of equipments before dispatch at respective factories. For imported equipments, the supplier / tenderer shall offer the equipments at the authorized service center / works of the original manufacturer in India or at the supplier's works / testing center. The offered lot shall be tested for acceptance tests and any other test as per relevant IS / IEC as required by inspecting officers. During inspection, if the instrument does not meet the required specification & test results found not satisfactory then it shall be liable for rejection. Calibration Certificates of all associated equipments shall be furnished at the time of factory inspection.

The manufacturer shall offer to the inspector representing the purchaser all the reasonable facilities, free of charge, for inspection and testing, to satisfy him that the material is being supplied in accordance with this specification. The MSEDCL's representative / Engineer attending the above testing shall carry out testing as per relevant IS / IEC & as per this technical specification and issue test certificate approval to the manufacturer and give clearance for dispatch.

The ERSS meters shall be inspected jointly by the Executive Engineer, Testing Division & the Executive Engineer, Inspection Wing.

**17.0 QUALITY CONTROL.**

The purchaser may send a team of experienced engineers for assessing the capability of the bidder or their principals for manufacturing of ERSS meters as per this specification. The team shall be given all assistance and co-operation for inspection and testing at the bidder's works.

One tender samples shall be kept ready for assessing and testing. The tenderer has to give all facilities for carrying out the testing of these samples.

**18.0 MINIMUM TESTING FACILITIES**

The bidder or their principals / manufacturer shall have the necessary minimum testing facilities for carrying out various



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acceptance and routine tests. A list of machinery / equipment and testing facility available at their Works shall also be furnished along with the offer.

**19.0 PACKING**

**19.01** The Test Bench shall be suitably packed to avoid damage or disturbance during transit or handling. Each instrument may be suitably packed in the first instance to prevent ingress of moisture and dust and then placed in a cushioned carton of a suitable material to prevent damage due to shocks during transit. The lid of the cartoon may be suitably sealed. A suitable number of sealed cartons may be packed in a case of adequate strength with extra cushioning if considered necessary. The cases may then be properly sealed against accidental opening in transit. The packing cases may be marked to indicate the fragile nature of the contents.

19.02 The following information shall be furnished with the consignment :

- Name of consignee.
- Details of consignment.
- Destination
- Total Weight of consignment.
- Sign showing upper / lower side of the crate
- Sign showing fragility of the material.
- Handling and unpacking instructions.
- Bill of Materials indicating contents of each package and spare materials.

**20.0 SCHEDULES.**

The tenderer shall fill in the following schedules which are part and parcel of the tender specification and offer. If the schedules are not submitted duly filled in with the offer, the offer shall be liable for rejection. The order copies of the order executed mentioned in the list of order shall be invariably enclosed along with the offer. Only those orders mentioned in the list shall be considered whose order copies shall be enclosed with the offer.

Schedule A – Guaranteed and technical particulars.

Schedule C – Tenderer's experience.

Schedule F – Proforma undertaking.

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
AUTOMATIC**

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The tenderer shall submit the list of orders for similar type of equipment, executed or under execution during the last three years, with full details in the schedule of tenderer's experience (Schedule - C) to enable the purchaser to evaluate the tender.

**21.0 DOCUMENTATION**

Two set of following documents shall be supplied along with each test system.

- Operating manual
- Service manual
- Calibration certificate as per relevant reference standard of whole as Transformer Test Bench.
- Calibration certificate as per relevant reference standard of all instruments.

**SCHEDULE – “C”**

**TENDERER'S EXPERIENCE**

Tenderer shall furnish here list of similar orders executed / under execution for supplying Fully Automatic Transformer Test Bench by him to whom a reference may be made by purchaser in case he considers such a reference necessary.

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Sr. No.	Name of client	Order No. & date	Qty. ordered	Qty. supplied
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**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
AUTOMATIC**

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NAME OF FIRM \_\_\_\_\_

NAME & SIGNATURE \_\_\_\_\_

DESIGNATION \_\_\_\_\_

DATE \_\_\_\_\_

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
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**SCHEDULE - "F"**

**PROFORMA OF UNDERTAKING**

We hereby confirm that Portable **Transformer Test Bench** Meter offered by us against this tender are of the same design and type as have been supplied to MSEDCL against earlier order No. \_\_\_\_\_ dtd. \_\_\_\_\_ and all the type test reports thereof were approved by Chief Engineer, Testing & Quality Control vide letter No. \_\_\_\_\_, dtd. \_\_\_\_\_ (Copy enclosed).

We further confirm that the said type tests have been carried out at the laboratories accredited by NABL within five years prior to the date of opening of present tender.

NAME OF FIRM \_\_\_\_\_

NAME & SIGNATURE \_\_\_\_\_

DESIGNATION \_\_\_\_\_

DATE \_\_\_\_\_

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
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**ANNEXURE U-I**

**“INDEMNITY BOND”**

UNDERTAKING TO BE SUBMITTED BY THE PARENT COMPANY SITUATED ABROAD IN CASE OF THE PARTICIPANT BIDDER WHO IS AN INDIAN BASED SUBSIDIARY ON GENERAL STAMP OF `200.00.

The Chief Engineer,  
Maharashtra State Electricity Distribution Co. Ltd.,  
Material Management Cell,  
1<sup>st</sup> Floor, Prakashgad, Bandra (E),  
Mumbai – 400 056.

Dear Sir:

**Sub:** Undertaking against Tender No. \_\_\_\_\_ for procurement of \_\_\_\_\_

We, M/s. \_\_\_\_\_ having registered office at \_\_\_\_\_ are the Parent Company of M/s. \_\_\_\_\_ who have participated against your tender no. \_\_\_\_\_ for procurement of \_\_\_\_\_.

We have carefully read and have thoroughly understood and agree to the terms and conditions of the subject tender.

We hereby undertake that in case of placement of order against the subject tender on our subsidiary company, M/s. \_\_\_\_\_, in the event of we accept all the responsibilities and liabilities for supply of quality equipments as per specification of the tender and execution of the contract. We further hereby undertake that we shall be responsible for any liability arising out of the contract placed on M/s. \_\_\_\_\_ and to pay MSEDCL on demand the sum of rupees as per agreement in the event of any breach of condition of the purchase order, loss and damage of the material till expiry of guarantee period as stipulated in the order.

Our liability here under shall not be impaired or discharged by extension of time or variation or alteration made with or without our knowledge or consent by or between the parties to the said contract. This undertaking shall be valid and binding on us upto and including the execution and guarantee period of the order and shall not be terminable by notice or change in the constitution of any of the companies. In case of any dispute arising out of or in connection with this tender or contract, if concluded, the same shall be subject to the exclusive jurisdiction of the **“Court in Mumbai (India).”**

Yours faithfully,  
(Authorised Signatory)

For \_\_\_\_\_

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
 AUTOMATIC**

**SCHEDULE A**

**GAURANTEED TECHNICAL PARAMETER**

SR. NO.	GTP PARAMETERS	GTP VALUES
1.	PLEASE CONFIRM THAT THE OFFERED VALUES AGAINST GTP ARE AS PER TECHNICAL SPECIFICATION.	BOOLEAN
2.	MANUFACTURER'S / SUPPLIER'S NAME AND ADDRESS WITH WORKS ADDRESS	TEXT
3.	MAKE AND TYPE OF TRANSFORMER TEST BENCH	TEXT
4.	APPLICABLE STANDARDS.	TEXT
5.	OVERALL ACCURACY CLASS.	TEXT
6.	RATED VOLTAGE.	TEXT
7.	TEST VOLTAGE RANGE.	TEXT
8.	RATED FREQUENCY.	TEXT
9.	AMBIENT TEMPERATURE.	TEXT
10.	TRANSFORMER TEST BENCH CAPABLE FOR TEST THE TRANSFORMER (IN KVA).	TEXT
11.	TEMPERATURE OPERATING RANGE.	TEXT
12.	CIRCUIT PROTECTION SHALL BE PROVIDED FOR CURTRENT CIRCUIT OF EACH EQUIPMENT.	BOOLEAN
13.	TRANSFORMER TEST BENCH TESTED FOR SHOCK & VIBRATION TESTS.	BOOLEAN
14.	TRANSFORMER TEST BENCH CAPABLE TO TEST THE DISTRIBUTION TRANSFORMER FOR THE FOLLOWING TESTS.	
A)	MEASUREMENT OF VOLTAGE RATIO AND CHECK OF PHASE DISPLACEMENT (VECTOR GROUP).	BOOLEAN
B)	MEASUREMENT OF WINDING RESISTANCE.	BOOLEAN
C)	MEASUREMENT OF INSULATION RESISTANCE.	BOOLEAN

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
 AUTOMATIC**

D)	MEASUREMENT OF NO LOAD LOSS AND NO LOAD CURRENT.	BOOLEAN
E)	MEASUREMENT OF LOAD LOSS AND IMPEDANCE VOLTAGE.	BOOLEAN
F)	MEASUREMENT OF PERCENTAGE IMPEDANCE VOLTAGE.	BOOLEAN
G)	CALCULATION OF EFFICIENCY AND REGULATION.	BOOLEAN
H)	APPLIED VOLTAGE TEST (HIGH VOLTAGE/SEPARATE SOURCE TEST).	BOOLEAN
I)	INDUCED OVER VOLTAGE (DVDF) TEST.	BOOLEAN
J)	MEASUREMENT OF NO LOAD LOSS & NO LOAD CURRENT AT LOW VOLTAGE.	BOOLEAN
K)	MEASUREMENT OF LOAD LOSS AND IMPEDANCE VOLTAGE AT LOW VOLTAGE.	BOOLEAN
L)	MEASUREMENT OF SINGLE PHASE / THREE PHASE SHORT CIRCUIT IMPEDANCE.	BOOLEAN
M)	TEMPERATURE RISE TEST.	BOOLEAN
N)	MAGNETIC BALANCE TEST.	BOOLEAN
15.	ALL SOFTWARES/ DRIVERS FOR ALL THE EQUIPMENT PROVIDED FREE OF COST.	BOOLEAN
16.	INITIAL CALIBRATION DATE & DUE DATE SHALL BE DISPLAY ON THE LCD DISPLAY BEFORE STARTING THE INSTRUMENT.	BOOLEAN
17.	ALL INDICATIONS AS PER THE SPECIFICATION SHALL BE PROVIDED ON THE TTB.	BOOLEAN
18.	GTP FOR WINDING RESISTANCE METER	
19.	MANUFACTURE NAME & COUNTRY OF MANUFACTURE	TEXT
20.	TYPE /MODEL DETAILS OF THE EQUIPMENT.	TEXT
21.	WHETHER CAPABLE OF WORKING IN HOSTILE ELECTROSTATIC NOISY CONDITIONS PREVAILING IN CHARGED HV / EHV SUBSTATIONS?	BOOLEAN
22.	WHETHER CAPABLE OF SUSTAINING BACK EMF OFFER BY TRANSFORMER	BOOLEAN
23.	WHETHER HAS INBUILT POWER SOURCE	BOOLEAN
24.	RESISTANCE MEASUREMENT	TEXT
25.	WHETHER IT CAN MEASURE WINDING RESISTANCE OF DISTRIBUTION AND POWER TRANSFORMER IN A SHORT PERIOD, AT 10 A CURRENT RANGE.	BOOLEAN

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
 AUTOMATIC**

26.	CURRENT RANGES	TEXT
27.	WHETHER 2 OHM RANGE IS AVAILABLE AT 10 A CURRENT RANGE AND 4 OHM RANGE IS AVAILABLE AT 5 A CURRENT RANGE ?	BOOLEAN
28.	OPEN CIRCUIT TEST VOLTAGE	TEXT
29.	POWER SUPPLY RATING .	TEXT
30.	WHETHER IT CAN OVERCOME HIGH INDUCTANCE OFFERED BY LARGE POWER TRANSFORMER INSTANTLY	BOOLEAN
31.	IS IT HOUSED IN SUITABLE ALUMINUM CARRYING CASE	BOOLEAN
32.	WHETHER IT HAS FORCED COOLING ARRANGEMENT FOR EFFECTIVE HEAT MANAGEMENT WHEN CURRENT IS INJECTED OVER LONGER DURATIONS?	BOOLEAN
33.	BACKLIT FOUR LINE LCD DISPLAY WITH INTERACTIVE MENU	BOOLEAN
34.	THE SELECTION OF CURRENT AND RESISTANCE RANGE SHOULD BE DONE THROUGH KEYPAD.	BOOLEAN
35.	WHETHER IT DISPLAYS THE ACTUAL VALUE OF THE CURRENT PASSING THROUGH THE TEST OBJECT ?	BOOLEAN
36.	WHETHER IT HAS PROTECTION AGAINST OVER TEMPERATURE?.	BOOLEAN
37.	WHETHER IT HAS AUDIO INDICATION DURING CURRENT INJECTION FOR OPERATOR SAFETY?.	BOOLEAN
38.	WHETHER IT IS PORTABLE AND LIGHT WEIGHT?	BOOLEAN
39.	INPUT POWER SUPPLY	TEXT
40.	ACCURACY $\pm 0.1\%$ OF READING $\pm 0.05\%$ OF RANGE OR $\pm 0.5\%$ OF READING $\pm 3$ DIGIT.	TEXT
41.	WORKING TEMPERATURE RANGE	TEXT
42.	GTP FOR TURNS RATION METER	
43.	MANUFACTURERS NAME & COUNTRY OF MANUFACTURE.	TEXT
44.	TYPE/MODEL DETAILS OF EQUIPMENT.	TEXT
45.	APPLICABLE INDIAN/INTERNATIONAL STANDARD TO WHICH THE EQUIPMENT CONFORMS	TEXT
46.	THE EQUIPMENT IS PORTABLE AND RUGGED AND FREE FROM INDUCTION EFFECTS AND SUITABLE FOR	TEXT



**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
 AUTOMATIC**

	OPERATION IN ENERGIZED SWITCHYARD	
47.	OPERATION ON A SUPPLY OF SINGLE PHASE 240V+/- 20%, 50Hz+/-5%, A.C.	TEXT
48.	OPERATING TEMPERATURE -5°C TO 50°C	TEXT
49.	EQUIPMENT IS INTERNALLY PROTECTED AGAINST OVER VOLTAGES AND OVER CURRENTS.	TEXT
50.	EXCITATION VOLTAGE I) 8-10V II) 35 – 40 V III) 80 – 100 V IV) AUTO/MANUAL SELECTION	TEXT
51.	TURNS RATIO RANGE I) 0.8 - 1000 II) 1000 - 2000	TEXT
52.	ACCURACY A) FOR TURNS RATIO RANGE 0.8 - 1000 I) 8 – 10 V AC           0.1 % II) 35 – 40 V AC        0.1 % III) 80 – 100 V AC     0.1 % B) FOR TURNS RATIO RANGE 1000 - 2000 I) 8 – 10 V AC           0.15 % II) 35 – 40 V AC        0.1 % III) 80 – 100 V AC     0.1 %	TEXT
53.	EXCITATION CURRENT RANGE A) 0 – 1000 MILLI A B) ACCURACY LESS THAN 1 % WITH MIN. 4½ DIGIT RESOLUTION	TEXT
54.	PHASE DEVIATION RANGE - ± 90 DEGREES ACCURACY - ACCURACY OF 1 DECIMAL POINT FOR MINUTE DISPLAY AND TWO DECIMAL POINT FOR DEGREE DISPLAY.	TEXT
55.	TYPE OF DISPLAY TOUCH SCREEN COLORED DISPLAY	TEXT

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
 AUTOMATIC**

	VIEWABLE IN DIRECT SUNLIGHT.	
56.	COMPUTER/PRINTER/INTERFACE RS 232/PREFERABLY USB PORT, WITH COMMUNICATION SOFTWARE FOR ONLINE CONTROL SOFTWARE AND REPORT GENERATION SOFTWARE.	TEXT
57.	MEMORY  INTERNAL NONVOLATILE MEMORY FOR STORING, 1000 TESTS RESULTS SHALL BE STORED INCLUDING GRAPHS WITH RATIO, RATIO ERROR, EX. CURRENT, PHASE ANGLE, DEVIATION FROM STD. VALUE AND PASS & FAIL.	TEXT
58.	EQUIPMENT IS TESTED IN STQC LABORATORY FOR SAFETY TESTING COMPLYING IEC 61010.& FOR EMI/EMC TESTING COMPLYING IEC/EN 61326	TEXT
59.	ACCESSORIES  1. POWER SUPPLY CORD MIN. 3 RMT 2. 3 PHASE CABLE SET LENGTH MIN. 5 RMT WITH CLIP ENDS 3. 3 PHASE EXTENSION CABLE SET LENGTH MIN.10 METER 4. CARRYING CASE FOR TEST LEADS 5. GROUNDING LEAD:- MIN.5 RMT 6. COMMUNICATION SOFTWARE 7. RS 232/USB CABLE FOR CONNECTION TO PC	TEXT
60.	GTP FOR POWER ANALYSER	
61.	MANUFACTURERS NAME & COUNTRY OF MANUFACTURE.	TEXT
62.	TYPE/MODEL DETAILS OF EQUIPMENT.	TEXT
63.	APPLICABLE INDIAN/INTERNATIONAL STANDARD TO WHICH THE EQUIPMENT CONFORMS	TEXT
64.	EQUIPMENT IS AS PER THE REQUIREMENT OF OUR	TEXT

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
 AUTOMATIC**

	TECHNICAL SPECIFICATIONS (YES/NO)	
65.	INPUT VOLTAGE RANGE	TEXT
66.	OUTPUT VOLTAGE RANGE	TEXT
67.	FREQUENCY RANGE	TEXT
68.	POWER MEASUREMENT ACCURACY	TEXT
69.	INBUILT INTERNAL MEMORY	TEXT
70.	WIRING COMBINATIONS	TEXT
71.	LINE FILTER	TEXT
72.	A/D CONVERTER RESOLUTION	TEXT
73.	DATA UPDATE RATE	TEXT
74.	DISPLAY	TEXT
75.	DISPLAY TYPE LED/LCD preference shall be given to LED.	TEXT
76.	SCALING	TEXT
77.	ADVANCED CALCULATION FUNCTION	TEXT
78.	DATA ACQUISITION & TREND DISPLAY SOFTWARE	TEXT
79.	EXTERNAL INPUT/OUTPUT PORTS	BOOLEAN
80.	INBUILT INTERNAL MEMORY	TEXT
81.	INTEGRATION FUNCTION	BOOLEAN
82.	COMPENSATION FUNCTIONS	BOOLEAN
83.	USER- DEFINED MATH FUNCTION & DELTA CALCULATION FUNCTION	BOOLEAN
84.	ADVANCED CALCULATION FUNCTION	BOOLEAN
85.	BATTERY BACK-UP FACILITY	BOOLEAN
86.	WHETHER THE EQUIPMENT IS TYPE TESTED AT STANDARD LABORATORY AS PER THE RELEVANT INDIAN/INTERNATIONAL STANDARDS WITH IN 5 YEARS.	BOOLEAN
87.	GTP FOR INSULATION RESISTANCE TESTER.	

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
 AUTOMATIC**

88.	MANUFACTURER NAME & COUNTRY OF MANUFACTURE	TEXT
89.	TYPE / MODEL DETAILS OF EQUIPMENT	TEXT
90.	APPLICABLE STANDARDS FOR THE EQUIPMENT	TEXT
91.	INSULATION TEST VOLTAGE	TEXT
92.	STEPS OF INSULATION VOLTAGE	TEXT
93.	A) SHORT CIRCUIT CURRENT	TEXT
	B) MEASURNMENT OF PI & DI	TEXT
94.	INSULATION RANGE	TEXT
95.	ACCURACY OF TEST VOLTAGE	TEXT
96.	CAPACITOR CHARGE TIME	TEXT
97.	CAPACITOR DISCHARGE TIME	TEXT
98.	CAPACITANCE MEASUREMENT	TEXT
99.	CAPACITANCE MEASUREMENT ACCURACY	TEXT
100.	CURRENT MEASUREMENT RANGE	TEXT
101.	INTERFERENCE REJECTION	TEXT
102.	TIMER	TEXT
103.	AUTOMATIC DISCHARGE	TEXT
104.	EMC SHOULD MEET EN61010	BOOLEAN
105.	TEST INHIBIT	BOOLEAN
106.	INGRESS PROTECTION (LID CLOSED)	BOOLEAN
107.	TYPE OF DISPLAY	TEXT
108.	VOLTAGE INPUT RANGE	TEXT
109.	OPERATING VOLTAGE	TEXT
110.	BATTERY LIFE	TEXT
111.	ACCESSORIES TO BE PROVIDED	BOOLEAN

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
 AUTOMATIC**

112.	GTP FOR HV TESTER	
113.	MANUFACTURER NAME & COUNTRY OF MANUFACTURER.	TEXT
114.	TYPE/MODEL, DETAILS OF EQUIPMENT.	TEXT
115.	APPLICABLE STANDARDS FOR THE INSTRUMENT.	TEXT
116.	SUPPLY VOLTAGE (240V ±10%; 50HZ)	TEXT
117.	OUTPUT VOLTAGE IS 75 KV CONTINUOUSLY VARIABLE WITH NEGATIVE POLARITY TO GROUND ( YES/NO)	TEXT
118.	VOLTMETER RESOLUTION IS 100V ON ENTIRE RANGE ( YES/NO)	TEXT
119.	NOMINAL CURRENT (13 MA)	TEXT
120.	SHORT-CIRCUIT CURRENT(MAX. 50 MA)	TEXT
	TIMER WITH START/STOP SWITCH	TEXT
121.	AMMETER RANGE ( 0 – 20 MA)	TEXT
122.	AMMETER RESOLUTION (0.1 MA)	TEXT
123.	NEGATIVE POLARITY TO GROUND ( YES/NO)	TEXT
124.	COMPLETE INTERNAL GUARDS CIRCUIT & GUARD CONNECTION ON HIGH VOLTAGE CABLE OUTPUT.	TEXT
125.	SAFETY FEATURES : 1) ZERO START INTERLOCK ( YES/NO) 2) INPUT SUPPLY LINE CIRCUIT BREAKER ( YES/NO) 3) FULL CIRCUIT BREAKER PROTECTION AGAINST INTERNAL DAMAGE BY OVERLOADS, SURGES OR TEST SAMPLE BEAK DOWN ( YES/NO)	TEXT
126.	3 ½ DIGIT LCD DISPLAY ( YES/NO)	TEXT
127.	POWER CONSUMPTION	TEXT
128.	TEST LOAD CAPACITY (1000 PF MAX.30MIN.)	TEXT
129.	WARRANTY 5 YEAR MINIMUM	TEXT
130.	GTP FOR M G SET	

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
 AUTOMATIC**

131.	TYPE , MAKE & NAME OF MANUFACTURER	
132.	POWER RATING	
133.	INPUT VOLTAGE	
134.	OUTPUT VOLTAGE	
135.	FREQUENCY RANGE	
136.	GTP FOR BOOSTER TRANSFORMER	
137.	TYPE , MAKE & NAME OF MANUFACTURER	
138.	POWER RATING	
139.	INPUT VOLTAGE	
140.	OUTPUT VOLTAGE	
141.	FREQUENCY RANGE	
142.	GTP FOR DIMMER	
143.	TYPE , MAKE & NAME OF MANUFACTURER	
144.	CURRENT RATING	
145.	VOLTAGE RANGE	
146.	FREQUENCY RANGE	
147.	GTP FOR LT CAPACITOR BANK	
148.	TYPE , MAKE & NAME OF MANUFACTURER	
149.	RATING	
150.	VOLTAGE RANGE	
151.	FREQUENCY RANGE	
152.	GTP FOR CURRENT TRANSFORMER 1	
153.	TYPE & MAKE	
154.	NAME OF MANUFACTURER	

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
 AUTOMATIC**

155.	CURRENT RATIO	
156.	PRIAMARY CURRENT	
157.	SECODARY CURRENT	
158.	ACCURACY CLASS	
159.	INSULATION CLASS	
160.	BURDEN	
161.	STC	
162.	GTP FOR CURRENT TRANSFORMER 2	
163.	TYPE & MAKE	
164.	NAME OF MANUFACTURER	
165.	CURRENT RATIO	
166.	PRIAMARY CURRENT	
167.	SECODARY CURRENT	
168.	ACCURACY CLASS	
169.	INSULATION CLASS	
170.	BURDEN	
171.	STC	
172.	GTP FOR POTENTIAL TRANSFORMER	
173.	TYPE & MAKE	
174.	NAME OF MANUFACTURER	
175.	VOLTAGE RATIO	
176.	PRIAMARY VOLTAGE	
177.	SECODARY VOLTAGE	
178.	ACCURACY CLASS	

**TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMER TEST SET UP FULLY  
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179.	INSULATION CLASS	
180.	BURDEN	
181.	VOLTAGE FACTOR	
182.	UPS DETAILS	

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## Dist Transf. Test Set Up Fully Automatic

GTP Order Sequence	GTP Parameters	Date Type
1	PLEASE CONFIRM THAT THE OFFERED VALUES AGAINST GTP ARE AS PER TECHNICAL SPECIFICATION.	BOOLEAN
2	MANUFACTURER'S / SUPPLIER'S NAME AND ADDRESS WITH WORKS ADDRESS	TEXT
3	MAKE AND TYPE OF TRANSFORMER TEST BENCH	TEXT
4	APPLICABLE STANDARDS.	TEXT
5	OVERALL ACCURACY CLASS.	TEXT
6	RATED VOLTAGE.	TEXT
7	TEST VOLTAGE RANGE.	TEXT
8	RATED FREQUENCY.	TEXT
9	AMBIENT TEMPERATURE.	TEXT
10	TRANSFORMER TEST BENCH CAPABLE FOR TEST THE TRANSFORMER (IN KVA).	TEXT
11	TEMPERATURE OPERATING RANGE.	TEXT
12	CIRCUIT PROTECTION SHALL BE PROVIDED FOR CURTRENT CIRCUIT OF EACH EQUIPMENT.	BOOLEAN
13	TRANSFORMER TEST BENCH TESTED FOR SHOCK & VIBRATION TESTS.	BOOLEAN
14	TRANSFORMER TEST BENCH CAPABLE TO TEST THE DISTRIBUTION TRANSFORMER FOR THE FOLLOWING TESTS.(A) MEASUREMENT OF VOLTAGE RATIO AND CHECK OF PHASE DISPLACEMENT (VECTOR GROUP).	BOOLEAN
15	(B) MEASUREMENT OF WINDING RESISTANCE.	BOOLEAN
16	(C) MEASUREMENT OF INSULATION RESISTANCE.	BOOLEAN
17	(D) MEASUREMENT OF NO LOAD LOSS AND NO LOAD CURRENT.	BOOLEAN
18	(E)MEASUREMENT OF LOAD LOSS AND IMPEDANCE VOLTAGE.	BOOLEAN
19	(F) MEASUREMENT OF PERCENTAGE IMPEDANCE VOLTAGE.	BOOLEAN
20	(G) CALCULATION OF EFFICIENCY AND REGULATION.	BOOLEAN
21	(H) APPLIED VOLTAGE TEST (HIGH VOLTAGE/SEPARATE SOURCE TEST).	BOOLEAN
22	(I) INDUCED OVER VOLTAGE (DVDF) TEST.	BOOLEAN
23	(J) MEASUREMENT OF NO LOAD LOSS & NO LOAD CURRENT AT LOW VOLTAGE.	BOOLEAN
24	(K) MEASUREMENT OF LOAD LOSS AND IMPEDANCE VOLTAGE AT LOW VOLTAGE.	BOOLEAN
25	(L)MEASUREMENT OF SINGLE PHASE / THREE PHASE SHORT CIRCUIT IMPEDANCE.	BOOLEAN
26	(M) TEMPERATURE RISE TEST.	BOOLEAN
27	(N) MAGNETIC BALANCE TEST.	BOOLEAN
28	ALL SOFTWARES/ DRIVERS FOR ALL THE EQUIPMENT PROVIDED FREE OF COST.	BOOLEAN

29	INITIAL CALIBRATION DATE & DUE DATE SHALL BE DISPLAY ON THE LCD DISPLAY BEFORE STARTING THE INSTRUMENT.	BOOLEAN
30	ALL INDICATIONS AS PER THE SPECIFICATION SHALL BE PROVIDED ON THE TTB.	BOOLEAN
31	GTP FOR WINDING RESISTANCE METER (A) MANUFACTURE NAME & COUNTRY OF MANUFACTURE	TEXT
32	(B)TYPE /MODEL DETAILS OF THE EQUIPMENT.	TEXT
33	(C)WHETHER CAPABLE OF WORKING IN HOSTILE ELECTROSTATIC NOISY CONDITIONS PREVAILING IN CHARGED HV / EHV SUBSTATIONS?	BOOLEAN
34	(D)WHETHER CAPABLE OF SUSTAINING BACK EMF OFFER BY TRANSFORMER	BOOLEAN
35	(E) WHETHER HAS INBUILT POWER SOURCE	BOOLEAN
36	(F) RESISTANCE MEASUREMENT	TEXT
37	(G) WHETHER IT CAN MEASURE WINDING RESISTANCE OF DISTRIBUTION AND POWER TRANSFORMER IN A SHORT PERIOD, AT 10 A CURRENT RANGE.	BOOLEAN
38	(H)CURRENT RANGES	TEXT
39	(I)WHETHER 2 OHM RANGE IS AVAILABLE AT 10 A CURRENT RANGE AND 4 OHM RANGE IS AVAILABLE AT 5 A CURRENT RANGE ?	BOOLEAN
40	(J) OPEN CIRCUIT TEST VOLTAGE	TEXT
41	(K) POWER SUPPLY RATING .	TEXT
42	(L)WHETHER IT CAN OVERCOME HIGH INDUCTANCE OFFERED BY LARGE POWER TRANSFORMER INSTANTLY	BOOLEAN
43	(M)IS IT HOUSED IN SUITABLE ALUMINUM CARRYING CASE	BOOLEAN
44	(N)WHETHER IT HAS FORCED COOLING ARRANGEMENT FOR EFFECTIVE HEAT MANAGEMENT WHEN CURRENT IS INJECTED OVER LONGER DURATIONS?	BOOLEAN
45	(O)BACKLIT FOUR LINE LCD DISPLAY WITH INTERACTIVE MENU	BOOLEAN
46	(P)THE SELECTION OF CURRENT AND RESISTANCE RANGE SHOULD BE DONE THROUGH KEYPAD.	BOOLEAN
47	(Q) WHETHER IT DISPLAYS THE ACTUAL VALUE OF THE CURRENT PASSING THROUGH THE TEST OBJECT ?	BOOLEAN
48	(R)WHETHER IT HAS PROTECTION AGAINST OVER TEMPERATURE?.	BOOLEAN
49	(S)WHETHER IT HAS AUDIO INDICATION DURING CURRENT INJECTION FOR OPERATOR SAFETY?.	BOOLEAN
50	(T) WHETHER IT IS PORTABLE AND LIGHT WEIGHT?	BOOLEAN
51	(U)INPUT POWER SUPPLY	TEXT
52	(V) ACCURACY $\pm 0.1\%$ OF READING $\pm 0.05\%$ OF RANGE OR $\pm 0.5\%$ OF READING $\pm 3$ DIGIT.	TEXT
53	(W)WORKING TEMPERATURE RANGE	TEXT
54	GTP FOR TURNS RATION METER (A) MANUFACTURERS NAME & COUNTRY OF MANUFACTURE.	TEXT
55	(B) TYPE/MODEL DETAILS OF EQUIPMENT.	TEXT
56	(C) APPLICABLE INDIAN/INTERNATIONAL STANDARD TO WHICH THE EQUIPMENT CONFORMS	TEXT
57	(D) THE EQUIPMENT IS PORTABLE AND RUGGED AND FREE FROM INDUCTION EFFECTS AND SUITABLE FOR OPERATION IN ENERGIZED SWITCHYARD	TEXT

58	(E) OPERATION ON A SUPPLY OF SINGLE PHASE 240V+/-20%, 50Hz+/-5%, A.C.	TEXT
59	(F)OPERATING TEMPERATURE -5°C TO 50°C	TEXT
60	(G)EQUIPMENT IS INTERNALLY PROTECTED AGAINST OVER VOLTAGES AND OVER CURRENTS.	TEXT
61	(H)EXCITATION VOLTAGE I) 8-10V II) 35 – 40 V III) 80 – 100 V IV) AUTO/MANUAL SELECTION	TEXT
62	(I)TURNS RATIO RANGE I) 0.8 - 1000 II) 1000 - 2000	TEXT
63	(J)ACCURACY A) FOR TURNS RATIO RANGE 0.8 - 1000 I) 8 – 10 V AC 0.1 % II) 35 – 40 V AC 0.1 % III) 80 – 100 V AC 0.1 % B) FOR TURNS RATIO RANGE 1000 - 2000 I) 8 – 10 V AC0.15 % II) 35 – 40 V AC 0.1 % III) 80 – 100 V AC 0.1 %	TEXT
64	(K) EXCITATION CURRENT RANGE A) 0 – 1000 MILLI A B) ACCURACY LESS THAN 1 % WITH MIN. 4½ DIGIT RESOLUTION	TEXT
65	(L)PHASE DEVIATION RANGE - ± 90 DEGREES ACCURACY - ACCURACY OF 1 DECIMAL POINT FOR MINUTE DISPLAY AND TWO DECIMAL POINT FOR DEGREE DISPLAY.	TEXT
66	(M) TYPE OF DISPLAY TOUCH SCREEN COLORED DISPLAY VIEWABLE IN DIRECT SUNLIGHT.	TEXT
67	(N)COMPUTER/PRINTER/INTERFACE RS 232/PREFERABLY USB PORT, WITH COMMUNICATION SOFTWARE FOR ONLINE CONTROL SOFTWARE AND REPORT GENERATION SOFTWARE.	TEXT
68	(O) MEMORY INTERNAL NONVOLATILE MEMORY FOR STORING, 1000 TESTS RESULTS SHALL BE STORED INCLUDING GRAPHS WITH RATIO, RATIO ERROR, EX. CURRENT, PHASE ANGLE, DEVIATION FROM STD. VALUE AND PASS & FAIL.	TEXT
69	(P)EQUIPMENT IS TESTED IN STQC LABORATORY FOR SAFETY TESTING COMPLYING IEC 61010.& FOR EMI/EMC TESTING COMPLYING IEC/EN 61326	TEXT
70	(Q)ACCESSORIES 1. POWER SUPPLY CORD MIN. 3 RMT 2. 3 PHASE CABLE SET LENGTH MIN. 5 RMT WITH CLIP ENDS 3. 3 PHASE EXTENSION CABLE SET LENGTH MIN.10 METER	TEXT
71	(R) ACCESSORIES 4. CARRYING CASE FOR TEST LEADS 5. GROUNDING LEAD:- MIN.5 RMT 6. COMMUNICATION SOFTWARE 7. RS 232/USB CABLE FOR CONNECTION TO PC	TEXT
72	GTP FOR POWER ANALYSER (A) MANUFACTURERS NAME & COUNTRY OF MANUFACTURE.	TEXT
73	(B) TYPE/MODEL DETAILS OF EQUIPMENT.	TEXT
74	(C)APPLICABLE INDIAN/INTERNATIONAL STANDARD TO WHICH THE EQUIPMENT CONFORMS	TEXT
75	(D)EQUIPMENT IS AS PER THE REQUIREMENT OF OUR TECHNICAL SPECIFICATIONS (YES/NO)	BOOLEAN
76	(E)INPUT VOLTAGE RANGE	TEXT
77	(F)OUTPUT VOLTAGE RANGE	TEXT
78	(G)FREQUENCY RANGE	TEXT
79	(H)POWER MEASUREMENT ACCURACY	TEXT
80	(I)INBUILT INTERNAL MEMORY	TEXT
81	(J)WIRING COMBINATIONS	TEXT
82	(K)LINE FILTER	TEXT
83	(L)A/D CONVERTER RESOLUTION	TEXT

84	(M) DATA UPDATE RATE	TEXT
85	(N) DISPLAY	TEXT
86	(O)DISPLAY TYPE LED/LCD preference shall be given to LED.	TEXT
87	(P)SCALING	TEXT
88	(Q)ADVANCED CALCULATION FUNCTION	TEXT
89	(R)DATA ACQUISITION & TREND DISPLAY SOFTWARE	TEXT
90	(S)EXTERNAL INPUT/OUTPUT PORTS	BOOLEAN
91	(T)INBUILT INTERNAL MEMORY	TEXT
92	(U)INTEGRATION FUNCTION	BOOLEAN
93	(V)COMPENSATION FUNCTIONS	BOOLEAN
94	(W)USER- DEFINED MATH FUNCTION & DELTA CALCULATION FUNCTION	BOOLEAN
95	(X)ADVANCED CALCULATION FUNCTION	BOOLEAN
96	(Y)BATTERY BACK-UP FACILITY	BOOLEAN
97	(Z)WHETHER THE EQUIPMENT IS TYPE TESTED AT STANDARD LABORATORY AS PER THE RELEVANT INDIAN/INTERNATIONAL STANDARDS WITH IN 5 YEARS.	BOOLEAN
98	GTP FOR INSULATION RESISTANCE TESTER.(A)MANUFACTURER NAME & COUNTRY OF MANUFACTURE	TEXT
99	(B) TYPE / MODEL DETAILS OF EQUIPMENT	TEXT
100	(C)APPLICABLE STANDARDS FOR THE EQUIPMENT	TEXT
101	(D)INSULATION TEST VOLTAGE	TEXT
102	(E)STEPS OF INSULATION VOLTAGE	TEXT
103	(F)A) SHORT CIRCUIT CURRENT	TEXT
104	(G)B) MEASURNMENT OF PI & DI	TEXT
105	(H) INSULATION RANGE	TEXT
106	(I)ACCURACY OF TEST VOLTAGE	TEXT
107	(J)CAPACITOR CHARGE TIME	TEXT
108	(K)CAPACITOR DISCHARGE TIME	TEXT
109	(L)CAPACITANCE MEASUREMENT	TEXT
110	(M)CAPACITANCE MEASUREMENT ACCURACY	TEXT
111	(N)CURRENT MEASUREMENT RANGE	TEXT
112	(O)INTERFERENCE REJECTION	TEXT
113	(P)TIMER	TEXT
114	(Q) AUTOMATIC DISCHARGE	TEXT
115	(R)EMC SHOULD MEET EN61010	BOOLEAN
116	(S)TEST INHIBIT	BOOLEAN
117	(T)INGRESS PROTECTION (LID CLOSED)	BOOLEAN

118	(U)TYPE OF DISPLAY	TEXT
119	(V)VOLTAGE INPUT RANGE	TEXT
120	(W)OPERATING VOLTAGE	TEXT
121	(X) BATTERY LIFE	TEXT
122	(Y)ACCESSORIES TO BE PROVIDED	BOOLEAN
123	GTP FOR HV TESTER (A) MANUFACTURER NAME & COUNTRY OF MANUFACTURER.	TEXT
124	(B)TYPE/MODEL, DETAILS OF EQUIPMENT.	TEXT
125	(C)APPLICABLE STANDARDS FOR THE INSTRUMENT.	TEXT
126	(D)SUPPLY VOLTAGE (240V 10%; 50HZ)	TEXT
127	(E)OUTPUT VOLTAGE IS 75 KV CONTINUOUSLY VARIABLE WITH NEGATIVE POLARITY TO GROUND ( YES/NO)	BOOLEAN
128	(F) VOLTMETER RESOLUTION IS 100V ON ENTIRE RANGE ( YES/NO)	BOOLEAN
129	(G)NOMINAL CURRENT (13 MA)	TEXT
130	(H) SHORT-CIRCUIT CURRENT(MAX. 50 MA)	TEXT
131	(I)TIMER WITH START/STOP SWITCH	TEXT
132	(J)AMMETER RANGE ( 0 – 20 MA)	TEXT
133	(K) AMMETER RESOLUTION (0.1 MA)	TEXT
134	(L) NEGATIVE POLARITY TO GROUND ( YES/NO)	TEXT
135	(M)COMPLETE INTERNAL GUARDS CIRCUIT & GUARD CONNECTION ON HIGH VOLTAGE CABLE OUTPUT.	TEXT
136	(N)SAFETY FEATURES : 1) ZERO START INTERLOCK ( YES/NO) 2) INPUT SUPPLY LINE CIRCUIT BREAKER ( YES/NO)	TEXT
137	(N) SAFETY FEATURES:3) FULL CIRCUIT BREAKER PROTECTION AGAINST INTERNAL DAMAGE BY OVERLOADS, SURGES OR TEST SAMPLE BEAK DOWN ( YES/NO)	TEXT
138	(O)3 ½ DIGIT LCD DISPLAY ( YES/NO)	TEXT
139	(P)POWER CONSUMPTION	TEXT
140	(Q)TEST LOAD CAPACITY (1000 PF MAX.30MIN.)	TEXT
141	(R) WARRANTY 5 YEAR MINIMUM	TEXT
142	GTP FOR M G SET (A)TYPE , MAKE & NAME OF MANUFACTURER	TEXT
143	(B)POWER RATING	TEXT
144	(C) INPUT VOLTAGE	TEXT
145	(D)OUTPUT VOLTAGE	TEXT
146	(E)FREQUENCY RANGE	TEXT
147	GTP FOR BOOSTER TRANSFORMER:(A) TYPE , MAKE & NAME OF MANUFACTURER	TEXT
148	(B)POWER RATING	TEXT
149	(C)INPUT VOLTAGE	TEXT
150	(D)OUTPUT VOLTAGE	TEXT

151	(E)FREQUENCY RANGE	TEXT
152	GTP FOR DIMMER (A)TYPE , MAKE & NAME OF MANUFACTURER	TEXT
153	(B)CURRENT RATING	TEXT
154	(C) VOLTAGE RANGE	TEXT
155	(D) FREQUENCY RANGE	TEXT
156	GTP FOR LT CAPACITOR BANK(A) TYPE , MAKE & NAME OF MANUFACTURER	TEXT
157	(B) RATING	TEXT
158	(C)VOLTAGE RANGE	TEXT
159	(D) FREQUENCY RANGE	TEXT
160	GTP FOR CURRENT TRANSFORMER 1: (A)TYPE & MAKE	TEXT
161	(B) NAME OF MANUFACTURER	TEXT
162	(C) CURRENT RATIO	TEXT
163	(D) PRIAMARY CURRENT	TEXT
164	(E) SECODARY CURRENT	TEXT
165	(F)ACCURACY CLASS	TEXT
166	(G) INSULATION CLASS	TEXT
167	(H) BURDEN	TEXT
168	(I) STC	TEXT
169	GTP FOR CURRENT TRANSFORMER 2:(A)TYPE & MAKE	TEXT
170	(B) NAME OF MANUFACTURER	TEXT
171	(C) CURRENT RATIO	TEXT
172	(D) PRIAMARY CURRENT	TEXT
173	(E)SECODARY CURRENT	TEXT
174	(F)ACCURACY CLASS	TEXT
175	(G)INSULATION CLASS	TEXT
176	(H)BURDEN	TEXT
177	(I) STC	TEXT
178	GTP FOR POTENTIAL TRANSFORMER (A)TYPE & MAKE	TEXT
179	(B)NAME OF MANUFACTURER	TEXT
181	(C)VOLTAGE RATIO	TEXT
182	(D)PRIAMARY VOLTAGE	TEXT
183	(E) SECODARY VOLTAGE	TEXT
184	(F)ACCURACY CLASS	TEXT
185	(G)INSULATION CLASS	TEXT
186	(H)BURDEN	TEXT

187	(I)VOLTAGE FACTOR	TEXT
188	(J)UPS DETAILS	TEXT

### Required Documents (To be uploaded online)

Sr. No.	NAME	SECTION	ITEM	DESCRIPTION
1	TENDERER'S EXPERIENCE	Technical Section	Dist Transf. Test Set Up	Upload schedule C as per Technical Specification
2	Annexure-E	Technical Section	Dist Transf. Test Set Up	UPLOAD ANNEXURE E CONSENT FOR SUPPLYING THE MATERIAL AS PER MSEDCL STANDARD TECHNICAL SPECIFICATIONS.
3	Annexure U-I	Technical Section	Dist Transf. Test Set Up	Submit Annexure U-I
4	Type Test Report	Technical Section	Dist Transf. Test Set Up	As per cl.8 & 15(9) of QR type test reports of the offered instrument for all the tests as per relevant standards (NABL)
5	Necessary minimum testing facilities	Technical Section	Dist Transf. Test Set Up	As per Cl 9 & 15(7) of QRA list of machinery / equipment and testing facility available at their Works
6	SCHEDULE – "F"	Technical Section	Dist Transf. Test Set Up	Upload SCHEDULE – "F" as per Technical Specifications.
7	ISO 9001 & ISO 14001 certification	Commercial Section		Upload ISO 9001 & ISO 14001 certification
8	Not Blacklisted & Debarred Annexure I	Commercial Section		As per cl.11 of QR bidder shall submit the declaration (Annexure I) alongwith the bid that you are not blacklisted/ debarred by any organization
9	technical support office / laboratory	Commercial Section		As per Clause No.12 of QRDetails of technical support office/ laboratory in India
10	Plant and Machinery,	Commercial Section		As per clause 13 of QRSubmit list of Plant and Machinery, tools and tackles to carry out services
11	Experience of Indian Subsidairy Company	Commercial Section		As per clause no.14 of QR Submit the documentary evidence
12	authorization letter from original manufacturer	Commercial Section		As per Clause no.1of QR submit authorization letter from original manufacturer
13	operating experience	Commercial Section		As per clause no.2 of QR Submit documentary evidence
14	Order Copies executed	Commercial Section		As per cl.4 of QR Upload Copies of orders executed by the bidder, and the Certificate from the purchaser with regards to successful execution of order
15	Annexure C1	Commercial Section		Upload Annexure C-1
16	Solvency certificate	Commercial Section		As per cl.20.4 of technical specification pls upload solvency certificate
17	ANNEXURE 'C-I'	Commercial Section		PI submit annexure C-1
18	• List of orders in hand	Commercial Section		As per cl.15(5) pls upload List of orders in hand
19	SSI/NSIC Certificate	Commercial Section		As per cl.15(6) pls upload • Documentary evidence (for e.g. SSI/NSIC Certificate) for manufacturing capacity to cover the quantity offered by the bidder and considering orders in hand.
20	Average Annual Turnover	Commercial Section		As per clause 7 of QR Upload annual turnover certificate of the company of last three financial years certified by C.A.



Sr. No.	NAME	SECTION	ITEM	DESCRIPTION
21	Executed as a prime contractor at least three (3) contracts	Commercial Section		As per cl.6 of QRUpload documentary proof
22	satisfactory performance report copies	Commercial Section		As per cl.5 of QRUpload satisfactory performance report copies
23	Executed purchase order copies	Commercial Section		As per cl.15(3) of QR upload List of orders executed of minimum five years
24	controlling stake Certificate	Commercial Section		As per cl.15(8) pls upload controlling stake Certificate certified by Chartered Accountant .
25	Schedule "C"	Commercial Section		As per cl.15(2) of QR Please upload Schedule "C" of quantity offered as per tender document
26	Job Completion Certificate	Commercial Section		As per cl.3 of QRPlease upload minimum 5 Job Completion Certificates for Transformer manufacturer or Utility Projects