



**TAMIL NADU POWER DISTRIBUTION
CORPORATION LTD**

**SPECIFICATION FOR SUPPLY OF
100 KVA / 22 KV / 433V ENERGY EFFICIENCY
LEVEL- 1 COPPER WOUND DISTRIBUTION
TRANSFORMERS THROUGH E-TENDERING**

(Through TAMILNADU E PROCUREMENT Portal via NIC Platform)

SPECIFICATION NO: M-253/2026-27

**OFFICE OF THE
CHIEF ENGINEER
MATERIALS MANAGEMENT
144, ANNA SALAI
CHENNAI-600 002
TAMIL NADU
e-mail Id:cemm@tnebnet.org**

SERVICE PROVIDER : National Informatics Centre
Website for online bid submission: <https://tntenders.gov.in>

INSTRUCTION TO BIDDERS FOR SUBMISSION OF ONLINE BIDS

The bidders are required to submit soft copies of their bids electronically on the TAMILNADU E-PROCUREMENT Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the TAMILNADU E-PROCUREMENT Portal, prepare their bids in accordance with the requirements and submitting their bids online on the TAMILNADU E- PROCUREMENT Portal. More useful information for submitting online bids on the TAMILNADU E- PROCUREMENT Portal may be obtained at: <https://tntenders.gov.in/>

A.REGISTRATION:

Bidders are required to enroll on the e-Procurement module of the Tamilnadu e- procurement portal (URL: <https://tntenders.gov.in/>

By clicking on the link “**Online Bidder Enrollment**” on the TAMILNADU E - PROCUREMENT Portal which is free of charge.

- 1) As part of the enrollment process, the bidders will be required to choose a unique user name and assign a password for their accounts.
- 2) Bidders are advised to register their valid e-mail address and mobile numbers as part of the registration process. These would be used for any communication from the TAMILNADU E- PROCUREMENT Portal.
- 3) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
- 4) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- 5) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

B.SEARCHING FOR TENDER DOCUMENTS:

- 1) There are various search options built-in in the TAMILNADU E PROCUREMENT Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of

Contract, Location, Date, Other keywords etc. to search for a tender published on the TAMILNADU E PROCUREMENT Portal.

2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the TAMILNADU E PROCUREMENT Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

C.PREPARATION OF BIDS:

1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.

2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with **coloured** option which helps in reducing size of the scanned document.

4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

5) The completed bid comprising scanned copy of the proof for the payment of EMD/ PEMD / exemption from payment of EMD and necessary technical and commercial documents should be uploaded on the website

along with signed and scanned copies of requisite certificates as mentioned in the different sections in the tender document.

D. ELECTRONIC SUBMISSION OF BIDS:

The bidder shall submit online the requirements under qualification criteria and technical documents required and PRICE SCHEDULE/BOQ vide ANNEXURE-A. All the documents are required to be signed digitally by the bidder. After electronic online bid submission, the system generates a unique bid reference number which is time stamped. This shall be treated as acknowledgement of bid submission.

PROCEDURE FOR SUBMISSION OF BIDS:

- 1) Bidder should log- in to the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as “online” to pay the tender fee / EMD as applicable and enter details of the instrument.

The on line payment gate way has been enabled for TNPDCCL in T.N. Tenders Portal (<https://tntenders.gov.in>). All the payments for the tenders like EMD will be carried out by the bidders only through online payment mode.

Note:

(i) As the internet banking process (NEFT/RTGS) may take some time for confirming the receipt of EMD, bidders may be planned such a way to pay EMD accordingly to avoid any delay in bank confirmation. After getting success status of EMD payment only, the bidder can submit the bid.

(ii) The EMD amount should be the exact amount and no excess or less amount should be transferred through **online payment gateway**. If excess or short, the tender status will be shown as invalid.

The bidder has to submit the tender document online well in advance before the prescribed time to avoid any delay or problem during the submission process. If there is any delay, due to other issues, bidder only is responsible.

- 4) Bidder should prepare the EMD as per the instructions specified in the tender document.
- 5) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled-up by the bidder. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder etc). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- 6) **The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.**
- 6) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 8) The uploaded bid documents become readable only after the tender opening by the authorized bid openers.
- 9) Upon the successful and timely submission of bids (i.e) after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 10) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

11) In all cases, bidder should use their own ID and Password along with Digital Signature certificate at the time of submission of their bid.

12) During the entire e-tender process, the bidders will remain completely anonymous to one another and also to everybody else.

13) The e-tender floor shall remain open from the pre-announced date & time and for as much duration as mentioned above.

14) All electronic bids submitted during the e-tender process shall be legally binding on the bidder. Any bid will be considered as the valid bid offered by that bidder and acceptance of the same by the Buyer will form a binding contract between Buyer and the Bidder for execution of supply.

15) It is mandatory that all the bids are submitted with digital signature certificate otherwise the same will not be accepted by the system.

16) TNPDCCL reserves the right to cancel or reject or accept or withdraw or extend the tender in full or in part as the case may be without assigning any reason thereof.

17) The server time shall be treated as final and binding. Bids recorded in the server before the bid closing time will only be treated as valid bid. Bidders are, therefore, advised to submit their bids well before the closing time of e-tender. If any bid reaches the server after the bid closing time as per server time, the same will not be recorded and no complaint in this regard shall be entertained. The **Tender Inviting Authority (TIA)** will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders due to local issues.

18) Bidders are advised to exercise caution in quoting their bids in e-tender and e-reverse auction as the case may be to avoid any mistake. Bids once submitted can't be recalled.

19) Any order resulting from this bidding process shall be governed by the terms and conditions mentioned in the tender documents.

20) No deviation to the technical and commercial terms & conditions are allowed.

21) Bidders are not required to sign in each page of the tender specification. Instead bidders are required to sign a Tender Acceptance Letter as specified in ANNEXURE-VII of the specification.

22) (i) One hard copy of the electronically submitted bid documents excepting the price schedule shall have to be submitted upon intimation by TNPDCCL after opening of the e-

tender .

(ii) Original of the Undertaking for EMD should be submitted within three working days after opening of the tender, either through speed post/courier/in person to the Tender Inviting Authority.

E. ASSISTANCE TO BIDDERS:

1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.

2) Any queries relating to the process of online bid submission or queries relating to TAMILNADU E- PROCUREMENT Portal in general may be directed to the 24x7 TAMILNADU E -PROCUREMENT Portal Helpdesk.

TAMIL NADU POWER DISTRIBUTION CORPORATION LTD

1	Tender Specification No.	:	M-253/2026-27
2	Name of the work	:	E-tender for procurement of 100KVA/22KV/433V Energy Efficient Level-I Copper Wound Distribution Transformers under contract system.
3	Tendered Quantity	:	3500 Nos.
4	Method of Tender	:	e- Tender System (Online PART-I- Techno-Commercial Bid and PART-II – Price Bid) through https://tntenders.gov.in
5	a) Earnest Money Deposit (EMD)	:	Rs.1,75,41,600 /- (Rupees One Crore Seventy five Lakhs Forty one Thousand and Six Hundred Only) The Online payment Gateway has been enabled for TNPDC in TN Tenders Portal. (https://www.tntenders.gov.in) All the payments for the tenders like EMD will be carried out by the Bidders only through online payment mode. The EMD amount should be the exact amount and no excess or less amount should be transferred through online payment gateway . If excess or short, the tender status will be shown as invalid.
	(b) Bank Guarantee		Bidders opting to furnish the Earnest Money Deposit (EMD) in the form of a Bank Guarantee shall upload the electronic Bank Guarantee (e-BG) in the e-Tender portal along with their bid.

		The e-Bank Guarantee shall be obtained based on the challan automatically generated in the e-Tender portal. The e-Bank Guarantee shall be valid for a period of one year from the date of tender opening, with an claim period of one month. In case of any extension of bid validity is requested by TNPDCCL, validity of e-BG shall also be extended on par with the extended validity of the bid. No physical submission of BG will be accepted towards EMD. The Format is enclosed as <u>ANNEXURE-I</u>.
	or c) Permanent EMD (In case of all Tenders without any monetary limit.)	: Rs. 1,00,00,000/- (Rupees One Crore Only)
6	URL for online bid submission for e-tender.	: https://tntenders.gov.in
7	Last Date for submission of EMD	: 14.10.2026 @ 14.30 Hrs: Min
8	Date of closing of online e-tender for submission of Techno-Commercial Bid and Price Bid.	: 14.10.2026 @ 14.30 Hrs: Min
9	Date and Time of Opening of tender electronically.	: 15.10.2026 @14.30Hrs
10	Specification at website.	: The tender specification will be placed at TNPDCCL web site www.tnpsc.org And TN Govt. website https://www.tntenders.gov.in . The prospective bidders may download the same.
11	Documents to be uploaded by the Tenderers during e-submission.	: SCHEDULES: A to G and ANNEXURE- I TO XIII and other documents whichever is applicable.
12	Clarification to be sought for from	: The Chief Engineer, Materials Management, 4 th Floor, Western Wing, N.P.K.R.R. Maaligai, No: 144, Anna Salai, Chennai- 600 002. e-mail Id: cemm@tnpsc.org
13	Place at which tenders will be opened.	: The Superintending Engineer, Materials Management-II, 4 th Floor, Eastern Wing, N.P.K.R.R. Maaligai, No: 144, Anna Salai, Chennai- 600 002. Email: semm2@tnpsc.org

SPECIFICATION NO: M-253/2026-27
NAME OF THE TENDERED MATERIAL: 100 KVA/ 22 KV/433V ENERGY
EFFICIENCY LEVEL-1 COPPER WOUND DISTRIBUTION TRANSFORMERS

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SECTION - I
EARNEST MONEY DEPOSIT

1.0.	Tenderer should pay the specified amount towards Earnest Money Deposit as follows :		
	<table> <tr> <td>Earnest Money Deposit :</td><td>Rs.1,75,41,600 /- (Rupees One Crore Seventy five Lakhs Forty one Thousand and Six Hundred Only)</td></tr> </table>	Earnest Money Deposit :	Rs.1,75,41,600 /- (Rupees One Crore Seventy five Lakhs Forty one Thousand and Six Hundred Only)
Earnest Money Deposit :	Rs.1,75,41,600 /- (Rupees One Crore Seventy five Lakhs Forty one Thousand and Six Hundred Only)		
1.1	Earnest Money Deposit: Rs.1,75,41,600 /- (Rupees One Crore Seventy five Lakhs Forty one Thousand and Six Hundred Only) to be paid through online payment Gateway mode.) (e-BG only)		
1.2	If submitting Earnest Money Deposit as e-BG/PEMD/Udayam(SSSI) (as mentioned in the specification), then select the exempted from EMD payment as "YES". Then upload the EMD exemption documents only in pdf files.		
1.3	After confirming the EMD paid amount / Exemption uploaded, then only the system /tender portal will allow to submit the technical and financial bids.		
2.0.	<u>Mode of Payment:</u>		
a.	The online payment Gateway has been enabled for TNPDCI in TN Tenders portal (www.tntenders.gov.in). All the payments for the tenders like Earnest Money Deposit will be carried out by the Tenderer only through online payment mode. The Earnest Money Deposit amount should be the exact amount and no excess or less amount should be transferred through online payment gateway services of State Bank of India (SBI). If excess or short, the tender status will be shown as invalid. The Earnest Money Deposit payment to be made only single payment.		
b.	<u>E-Bank Guarantee for EMD:</u> E-Bank Guarantee for EMD amount with a validity for a period of one year as on date of tender opening will be accepted. The e-Bank Guarantee shall be obtained based on the challan automatically generated in the e-Tender portal. The Format is enclosed as ANNEXURE-I		
c.	<u>PEMD Holder of TNPDCI :</u> PEMD holders of Rs.1,00,00,000/- with TNPDCI Head Quarters, hold on or after 03.12.2021 only, are eligible to participate in this tender. Firms who have PEMD less than that specified above are not eligible to participate on the basis of the PEMD deposited by them even for lesser quantity and value. Undertaking for EMD should be upload in the portal failing which offer will be summarily rejected. Scanned copy of proof of PEMD shall be uploaded along with the tender. If the Tenderer desires to become a Permanent E.M.D. holder, they are advised to deposit the required amount with the TNPDCI as Permanent E.M.D. well in advance, obtain a certificate from the Financial Controller/Purchase. PEMD of TANTRANSCO will not be considered for TNPDCI Tenders.		
2.1	Any other mode of payment of EMD other than on line payment/e-BG/Udayam(SSSI) (as mentioned in the specification) shall not be accepted and the tenders shall be summarily rejected if EMD is not paid in the prescribed manner.		
3.0	<u>EXEMPTION FOR PAYMENT OF EMD:-</u> <u>Exemption from payment of EMD in respect of SSI Units located within Tamil Nadu against UDYAM Registration certificate.</u>		
3.1	The following categories of Industries are exempted from payment of EMD having UDYAM Registration alone :-		
i)	SSI Units located in Tamil Nadu state registered under UDYAM portal for the tendered item (by clearly mentioning the 5 digit NIC code).		
ii)	Departments of the Government of Tamil Nadu.		

iii)	Undertakings and Corporations owned by the Government of Tamil Nadu.
iv)	Labour Contract Co-operative Societies of Tamil Nadu
3.2	<i>The undertaking in lieu of EMD (inclusive of PEMD holders) has to be submitted vide ANNEXURE- XII, by the bidders who are exempted from EMD payment either against SSI status or PEMD with valid UDYAM Registration Certificate in original after tender opening in addition to uploading of it along with bid in the portal failing which offer will be summarily rejected.</i>
3.3.	The SSI Units located outside the State of Tamil Nadu are not eligible for exemption from payment of EMD in TNPDCCL tenders against UDYAM Registration Certificate even though registered in UDYAM portal for tendered items.
3.4	The bidders who have examined the tender specification together with Schedules attached, participated in the tender by availing EMD exemption is to pay the amount equivalent to EMD amount as stipulated under Clause No.1 above, with costs if any, in the event of non - fulfillment of the conditions stipulated in the tender specification (i.e.) in all cases where EMD paid is to be forfeited.
3.5.	The Tenderer is deemed to accept to pay the amount equivalent to EMD immediately when a demand is raised by Board against the Tenderer without any demur in the event of the following. 1. If he withdraws his tender or backs out after acceptance of the tender or fails to remit the Security Deposit. 2. If he revises any of the terms quoted during the validity period. 3. If he violates any of the conditions of the tender specification.
4.0	Government of India, Ministry of MSME Notification :
4.1.	Government of India, Ministry of MSME, vide notification No.S.O.1364(E) dated 21.03.2025 has notified certain composite criteria for classifying the enterprises as Micro, Small and Medium Enterprises and insisted Udyam registration in Udyam Registration Portal to obtain an e certificate Viz. Udyam Registration certificate calculation of turnover, calculation of investment, Registration of existing Enterprises and Updation and transition period in classification. The above notification may be adhered to by the tenderers and TNPDCCL will adopt the guidelines issued therein in evaluation of bids submitted by the tenderers.
4.2	An enterprise shall be classified as a micro, small or medium enterprises on the basis of the following criteria, namely:
i)	A micro enterprise, where the investment in plant and machinery or equipment does not exceed 2.5 crores rupees and turnover does not exceed 10 crores rupees;
ii)	A small enterprise, where the investment in plant and machinery or equipment does not exceed 25 crores rupees and turnover does not exceed 100 crores rupees; and
iii)	A medium enterprise, where the investment in plant and machinery or equipment does not exceed 125 crores rupees and turnover does not exceed 500 crores rupees.
5.0.	The EMD will not carry any interest.
6.0.	Others viz. Central and other State Government Departments / Undertakings and Corporations other than those in Tamil Nadu shall have to pay Earnest Money Deposit and Security Deposit cum performance Guarantee.
7.0.	The Bidders are informed that mere uploading of bid by the Bidder, who has exempted from EMD payment, shall be considered as the bidder to pay the amount equivalent to EMD, together with costs if any, in the events of non-fulfillment of conditions stipulated in the Tender Specification ie., in all cases where EMD paid will be forfeited. The EMD forfeiture will not attract GST.
8.0.	The State Government, Public Sector Undertakings who are exempted from payment of EMD should also pay as penalty an amount equivalent to the amount fixed as Security Deposit in the event of non-fulfillment or non-observance of any of the conditions

	stipulated in the contract.
9.0.	The tenderers shall upload the audited copy of Profit and Loss account / Balance Sheet certified by a Chartered accountant along with the proof for exemption from payment of EMD in order to ensure the SSI status of the firm based on the Annual Turnover and the investment held in Plant and Machinery for extending exemption from paying EMD. If the above documents are not furnished along with the proof of exemption of EMD and Undertaking, the tenders will not be evaluated.
9.1.	In case the investment held by the tenderer (Micro and Small Enterprises with Udayam registration) in Plant and Machinery and annual turnover exceeds the prescribed limit stipulated (cl.4.2) or the criteria specified for registration, the General Manager, District Industries Centre concerned will be requested to verify the SSI status of the firm. Till receipt of confirmation from General Manger/District Industries Centre concerned, the exemption from paying EMD for SSI units will not be extended.
9.2	The firm registered in Udyam Portal under Medium Scale is not eligible for exemption of EMD.
9.3	<i>The SSI units registered in Udyam portal for tendered item located within Tamil Nadu alone are exempted from payment of EMD.</i>
10.0.	REFUND OF EMD :-
	(i) The Earnest Money Deposit will be refunded automatically to the unsuccessful tenderers after intimation of the rejection / non-acceptance of their tender. i.e. after technical evaluation (ii) The Earnest Money Deposit paid in e-BG mode by the unsuccessful tenderers will be returned from the Common pool Account created by the Finance Department, Government of Tamil Nadu within 24 hours from the date and time of rejection notified in the tender portal to the concerned Bank. (iii) The Earnest Money Deposit will be refunded to the successful tenderer same as above, on receipt of detailed Purchase Order and also after acceptance of Security cum Performance Guarantee.
11.0.	<u>Documents to be uploaded for EMD:</u>
	The following should be uploaded by the Vendor during submission of Techno-commercial bid for payment of EMD failing which the offer will be SUMMARILY REJECTED.
(i)	The e-Bank Guarantee shall be obtained based on the challan automatically generated in the e-Tender portal. The e-Bank Guarantee shall be valid for a period of one year from the date of tender opening, with an claim period of one month. In case of any extension of bid validity is requested by TNPDC, validity of e-BG shall also be extended on par with the extended validity of the bid. No physical submission of BG will be accepted towards EMD.
(ii)	The proof for PEMD with TNPDC with an undertaking in lieu of EMD
(iii)	The proof of exemption of EMD with documents (i.e. UDYAM Registration certificate) and Tender Acceptance Letter & Undertaking in lieu of EMD as per Annexure-VII & XII Exemption from payment of EMD is applicable only for SSI Units located within Tamil Nadu against UDYAM Registration certificate. <u>The SSI units located outside the State of Tamilnadu are not eligible for exemption from payment of EMD in TNPDC tenders against Udyam Registration Certificate even though registered in Udyam Portal for tendered items.</u>
(iv)	The Auditor's certificate in support of investment held in plant and machinery.

(12)	The Earnest Money Deposit (EMD) made by Tenderer will be forfeited after e-tender opening if :
(a)	They withdraws his tender or backs out after acceptance.
(b)	They withdraws his tender before the expiry of validity period stipulated in the Specification or fails to remit the Security Deposit cum performance Guarantee.
(c)	They violates any of the provisions of these regulations contained herein.
(d)	They revises any of the terms quoted during the validity period.
(e)	The documents furnished with the offer is found to be bogus or the documents contain false particulars, the EMD paid by the tenderers will be forfeited in addition to blacklisting them for future tenders/contracts in TNPDC.
(f)	If it is found at later stage that the bidder has availed EMD exemption by hiding facts, it will be construed that such a bidder has not complied with the EMD requirements, as mentioned in Section I, and suitable action deemed fit will be taken including summarily rejection of offer, blacklisting / banning the firm from participating in future TNPDC / TANTRANSCO tenders.
(13)	Conditions for liable rejection of bids: a) Tenders received without the undertaking of EMD. b) If the undertaking is not signed / authenticated in all pages of undertaking and uploaded. c) Signature of witnesses should be affixed at the end of undertaking along with details of name and address.

SECTION-II **BID QUALIFICATION REQUIREMENTS (BQR)**

The BIDDERS shall become eligible to bid on satisfying the following BID QUALIFICATION REQUIREMENTS and uploading of the required **attested copies of documentary evidences** along with the tender.

1. Licence from B.I.S (Bureau of Indian Standards), Government of India to supply the **tendered type and capacity of** distribution transformers with IS : 1180 (Part-I):2014 should be uploaded and furnished.

2. The Bidders shall be actual manufacturer of Distribution Transformers. Necessary documentary evidences such as **Udyam Registration Certificate** shall be uploaded and furnished.

3. They should have supplied satisfactorily a minimum of **35Nos.** of tendered capacity of Distribution Transformers or higher KVA capacity and higher KV rating put together during the preceding ten years period to State Electricity Boards / Power Utilities/ TNPDC/TANTRANSCO/TNEB or They should have supplied satisfactorily a minimum (1No.) one number of Power Transformer having capacity of more than 2.5 MVA during the preceding ten years period to State Electricity Boards / Power Utilities/TNPDC/TANTRANSCO/TNEB. The details of purchase orders executed during the preceding ten years period shall be furnished and the same shall be furnished in the **Schedule –E** also. The performance certificates for satisfactory operation of minimum one year from the end users for the materials supplied to SEBs and Power Utilities shall be uploaded and furnished .

4. The Annual Turnover of the Bidders shall be more than Rs.5 Crores (Rupees Five Crores Only) during any one of the previous three financial years period (2022-23, 2023-24 & 2024-25). In proof of the same, attested copy of audited Profit & Loss account, Balance sheet or attested copy of Audited Annual Turnover certificate **with UDIN** on the date of tender opening containing turnover details should be **furnished for all the above 3 years**, as documentary proof to ensure the turnover criteria prescribed.

5. Attested copy of Type test reports and Special test reports from any independent NABL accredited Laboratory like CPRI, ERDA etc. for the **tendered capacity** of distribution transformer along with the copies of drawings duly approved by the Type Testing Agency for the tests conducted within 5 years as on the date of tender opening should be uploaded and furnished along with the tender. The type test and special test report copies should be attested by the NABL Lab in which the above testing was carried out.

6. NEW ENTRANT:

6.1 A tenderer shall be declared as "New Entrant" who have no previous experience of supply for the tendered items (Distribution Transformer) or no satisfactory period of service or no financial turnover but have infrastructure /manufacturing facility as per the inspection report of the third party inspection or TNPDCCL or TANTRANSCO Engineers. The tenderer who have lesser quantity of supply experience or lesser satisfactory period of service or lesser financial turnover criteria than prescribed in the tender document may also be considered under **New Entrant** category.

6.2 The tenderer is eligible to be considered for placement of orders under New Entrant category if the bidder is the evaluated and negotiated L1 tenderer.

6.3 The tenderers who have been considered under New Entrant category shall satisfy all technical, commercial and BQR conditions except BQR condition of quantity, of previous experience of supply or satisfactory period of service or financial turnover criteria.

6.4 TNPDCCL have right to place order on NEW ENTRANT Bidder, who is evaluated L1, for the entire quantity, i.e., without any restriction of placing order for 60% of the tendered quantity. In case more than one L1 New ENTRANT exists having offered for the entire tendered quantity, the quantity allocation among them made equally. In other cases, may be made in proportion to the offered quantity. i.e., (Total Tendered Quantity / Sum of offered quantities by more than one L1) x offered quantity of the respective L1 New Entrant.

The offers of the Bidders not satisfying the above "Bid Qualification Requirements" will summarily be rejected.

Proofs required for BQR conditions as mentioned above should be uploaded and furnished along with the tender. On opening, if these proofs are not available, the tender will summarily be rejected.

SECTION - III
REJECTION OF TENDERS

- I. Tender offers will **summarily** be rejected if :
- a. The EMD requirements are not complied with.
 - b. Type Test and Special Test Certificates are not uploaded along with the e-Tender offer.
 - c. Details of manufactured and supplied with minimum **35Nos.** (one percent of tendered quantity -rounded off to nearest one number) of tendered capacity of Distribution Transformers or higher KVA capacity and higher KV rating put together during the preceding ten years period to State Electricity Boards / Power Utilities/TNPDCL/TANTRANSCO/TNEB or They should have supplied satisfactorily a minimum (1No.) one number of Power Transformer having capacity of more than 2.5 MVA during the preceding ten years period to State Electricity Boards / Power Utilities/TNPDCL/TANTRANSCO/TNEB as per CLAUSE 2 & 3 SECTION-II are not uploaded and furnished along with tender offer.
 - d. (i) The Bid Qualification Requirements as per SECTION-II of this Specification are not satisfied.
(ii) Necessary documentary evidences to establish as manufacturer such as **UDYAM Registration certificate** other than Factory license,MOA,AOA are to be uploaded and furnished.
 - e) The Tenderer should quote minimum quantity of **350Nos.** (10 % of tendered quantity rounded off to nearest one) of the tendered capacity of distribution transformers. The offers of the bidders who have quoted for lesser quantity than minimum quantity **or NOT MENTIONED THE MINIMUM QUANTITY** prescribed shall summarily be rejected.
 - f. from any blacklisted Firm or Contractor.
 - g. received by Telex /Telegram / Fax / E-Mail/Post.
 - h. received after due date & time.
 - i. documents uploaded / furnished by the tenderers along with their offer being found to be bogus or contain false particulars.
 - j. The tender acceptance letter vide ANNEXURE-VII is not duly signed and uploaded.**
 - k. Tenderers who have not furnished the BIS license, BIS endorsement for the offered DT.**
 - l. The Undertaking in lieu of EMD vide ANNEXURE-XII is not duly signed and uploaded.**
- II. a) The tenderer should furnish the particulars in SCHEDULE-B as per the type tested design and type test reports and special test reports and it should be as per the TNPDCL Specification.
- b) The general arrangement and internal arrangement drawings should contain all the active parts and all the dimension of core and windings etc. with all applicable guaranteed values/parameters(*).
 - c) If any deviation is found in the type tested drawing when compared with the technical specification of this tender, the same will be treated as technical deviation.
 - d) In the SCHEDULE-B, wherever the * mark is put , all the technical parameters are guaranteed values/parameters to be adopted by the tenderer.
 - e) The offers which does not contain all the above will be treated as technical deviation and the offers of the firms will be summarily rejected.
- III. Tender offer is liable to be rejected, if it is
- a) not covering the supply of equipments/ materials with all accessories specified.
 - b) the validity period quoted is less than that stipulated in the Specification.

- c) not in conformity with TNPDC's Commercial terms and Technical Specifications. (SECTION - V & VI).
- d) not properly and digitally signed by the tenderer.
- e) received from a tenderer who is directly or indirectly connected with Government service or TNEB Ltd service or services of Local Authority.
- f) from a tenderer whose past performance/vendor rating is not satisfactory.
- g) not containing all the required particulars as per SCHEDULE – A, B, C,D,E, F & G .
- h) the offers are received from consortium of SSI Units like TANSIDCO, NSIC and other Agents.
- i) If the QUESTIONNAIRE as per SCHEDULE- F is not duly filled- up and properly / digitally signed by the tenderer at the bottom of each page of the QUESTIONNAIRE - A & B.
- j) the offers of the tenderers with deviations in commercial terms and technical terms of the tender document are liable for rejection.
- k) the offer of bidders who have not uploaded and furnished the GSTIN Numbers in the offers will be liable for rejection.
- l) Offers with deviations in commercial terms will not be accepted by TNPDC.
- m) Tenders received without the undertaking of EMD.
- n) If the undertaking is not signed / authenticated in all pages of undertaking and uploaded.
- o) Signature of witnesses should be affixed at the end of undertaking along with details of name and address.

SECTION-IV **INSTRUCTION TO TENDERERS**

1.0 Tamil Nadu Transparency in Tenders Act 1998 and the Tamil Nadu Transparency in Tender Rules 2000 and subsequent amendments thereof are applicable to this Tender.

1.1 THE TENDERERS WHO DO NOT FULFILL THE "BID QUALIFICATION REQUIREMENT AS PER SECTION-II NEED NOT PARTICIPATE IN THE TENDER. BIDS NOT SATISFYING THIS " BID QUALIFICATION REQUIREMENTS" WILL NOT BE CONSIDERED AND WILL SUMMARILY BE REJECTED.

1.2 The documentary evidences to establish as manufacturer such as Udyam Registration Certificate other than Factory Licence/MOA/AOA has to be uploaded to satisfy BQR Condition -2.

2.0 SCOPE OF SUPPLY:

- 2.0. The Scope of supply (described in SCHEDULE-A) includes design, engineering, manufacture, inspection, testing, packing, forwarding, insurance and delivery of the materials detailed herein, at TNPDC stores anywhere in Tamil Nadu.
- 2.1. The quantity indicated in schedule of requirement is approximate. The indent will be placed subsequently as and when there is requirement, upto the last date of validity of contract. The quantity finally ordered may vary to the extent of 25 % either way of the approximate quantity indicated in the Schedule of requirement. The purchaser reserves the right to issue any number of indents for supply of materials during the contract period.

3.0 SUBMISSION OF TENDER OFFER:

The tenderer is expected to examine all instructions, SCHEDULES and ANNEXURES

detailed in the Specification and upload the Schedule of Prices and other required particulars in the SCHEDULES and ANNEXURES and DRAWINGS called for in this Specification, only as per the formats prescribed herein.

4.0. QUESTIONNAIRE FILLING:

A Questionnaire is appended as SCHEDULE-F in this specification for Bid Qualification Requirements, Commercial and Technical details. It is obligatory on the part of the tenderer to furnish all details as per the "Questionnaire" . In case, this is not filled up and signed at the bottom of each page of the questionnaire and enclosed with the offer, the Bid will be liable for rejection.

4.0.1 The Tenderer shall mention the offered quantity in the prescribed schedules in their tender offer. The Offer of the Bidder without Mentioning the Quantity will be SUMMARYLY REJECTED.

4.1. SUBMISSION OF TENDERS:

- 4.1.1. The Tender offer consisting of SCHEDULES-A to G should be filled up and signed by the Tenderer or any person holding Power of Attorney authorizing him to sign on behalf of the Tenderer before submission of the Tender. The date of signature should invariably be indicated.
- 4.1.2 The Tender shall contain the name, address and place of business of person or persons submitting the tender.
- 4.1.3 In the event of tender being submitted by other than a firm, it must be signed by a partner (copy of partnership deed should be enclosed) and in the event of the absence of any Partner, it shall be signed on his behalf by a person holding a Power of Attorney authorising him to do so, certified copies of which shall be enclosed.
- 4.1.4 Tender submitted on behalf of companies registered under the Indian Companies Act, shall be signed by person duly authorised to submit the tender on behalf of the company and shall be accompanied by certified true copies of the resolutions, extracts of the Articles of Association, special or general Power of Attorney etc to show clearly the title, authority and designation of persons signing the tender on behalf of the company.
- 4.1.5 The tenderer should upload and furnish the GSTIN numbers in the offer.

4.2. Modifications/Clarifications to Tender Documents:

- 4.2.1. At any time after the commencement of e-Tender and before the closing of the event, TNPDCI may make any changes, modifications or amendments to the tender documents and same will be intimated to the concerned Vendors through corrigendum which can be downloaded from the Vendor login .
- 4.2.2. In case any tenderer asks for a clarification to the tender documents before **Clarification end date**, the Chief Engineer, Materials Management, 4th Floor, Western Wing, N.P.K.R.R. Maaligai, No: 144, Anna Salai, Chennai- 600 002 will clarify the same.
- 4.2.3. If any tenderer raises clarifications after the opening of the tender, the clarified reply issued by the Chief Engineer, Materials Management, 4th Floor, Western Wing, N.P.K.R.R. Maaligai, No: 144, Anna Salai, Chennai- 600 002 on the clarifications will be final and binding on the Tender.
- 4.2.4 All tender offers shall be prepared by typing or printing in the formats enclosed with this specification.
- 4.3 All information in the tender offer shall be in ENGLISH only. It shall not contain interlineations, erasures or over writings except as necessary to correct errors made by the tenderer. Such erasures or other changes in the tender documents shall be attested by the persons signing the tender offer.
- 4.4 Reply to any clarifications/modifications to tenders will be uploaded as corrigendum in the websites only. No other communication will be entertained.

4.5. QUOTATION OF RATES:

- 4.5.1. Rates should be quoted in both, figures and words. In case of ambiguity between rates in figures and words, lower of the two will be taken for tender evaluation.
- 4.5.2. Offers giving lumpsum price, without giving their break-up as per details required in the attached **PRICE SCHEDULE-A / BOQ** shall be liable for rejection.

4.6. PRINTED TERMS AND CONDITIONS IN TENDERS:

Supplier's printed terms and conditions will not be considered as forming part of the tender under any circumstances.

4.7. INCOMPLETE TENDERS:

Tender, which is incomplete, obscure or irregular is liable for rejection.

4.8. AMBIGUITIES IN CONDITIONS OF TENDERS:

In the case of ambiguous or contradictory terms / conditions mentioned in the bid, interpretation as may be advantageous to the purchaser may be taken without any reference to the Tenderer.

- 4.9. The tender offer shall contain full information asked for in the accompanying schedules and elsewhere in the specification.
- 4.10. Tenderers shall bear all costs associated with the participation in the e-Tender and the purchaser will in no case be responsible or liable for these costs.
- 4.11. No offer shall be withdrawn by the Tenderer in the interval between the deadline for submission and the expiry of the period of validity specified / extended validity of the tender offer.
- 4.12. **ONLY MANUFACTURERS MUST QUOTE.** Tenders received from Agents/ Dealers will not be considered. If the bids are received through Consortium, the same will not be considered and the bids will be rejected.
- 4.13. The Tenderers are requested to furnish the exact location of their factories with detailed postal address and pin code, telephone and Fax Nos. etc in their tenders so as to arrange inspection by the TNPDC, if considered necessary.
- 4.14. **DESTINATIONS-WHERE MATERIALS ARE REQUIRED:**
The prices quoted should be on FOR –Free On-Road at Destination basis for delivery anywhere in Tamil Nadu.

5.0. TENDER OPENING:

5.1. OPENING OF COMMERCIAL&TECHNICAL BIDS WITHOUT PRICE (PART-I):

The Tender offers except price Bid will be **opened electronically at 14:30 Hrs. on the date notified at the Office of the Superintending Engineer/Materials Management-II, 4th Floor, Eastern Wing, N.P.K.R.R Maaligai, No: 144, Anna Salai, Chennai-600 002, through <https://tntenders.gov.in> in the presence of tenderer's authorized representative who may wish to be present on the date of opening.**

5.2. OPENING OF THE PRICE BIDS: (PART - II)

The date and time of opening of Price Bids shall be later notified through registered online portal <https://www.tntenders.gov.in/> to the Bidders who fulfill the BQR criteria and whose bids are found to be commercially and technically acceptable.

6.0. INFORMATION REQUIRED AND CLARIFICATIONS:

- 6.1. In the process of examination, evaluation and comparison of tender offers, the TNPDC may at its discretion, ask the Tenderer for a clarification of his offers. All responses to requests for clarifications shall be in writing to the point only. No change in the price or substance of the offer shall be permitted.
- 6.2. The TNPDC will examine the tender offers to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed and whether the offers are generally in order.

- 6.3. The Tender offers shall be deemed to be under consideration immediately after they are opened and until such time official intimation of award / rejection is made by the Tender Accepting Authority to the tenderers. **The Tenderers shall not make attempts to establish unsolicited and unauthorized contact with the Tender Inviting Authority, Tender Accepting Authority or Tender Scrutiny Committee after the opening of the tender and prior to the notification of the award and any attempt by any tenderers to bring to bear extraneous pressures on the Tender Accepting Authority shall be sufficient reason to disqualify the tenderer.**
- 6.4. After acceptance of the tender by the Tender Accepting Authority, the details will be arranged to be published in the Tender Bulletin of Tamil Nadu Government.
- 6.5. Mere submission of any Tender offer connected with these documents and Specification shall not constitute any agreement. The tenderer shall have no cause of action or claim, against the TNPDCI for rejection of his offer. The TNPDCI shall always be at liberty to reject or accept any offer or offers at its sole discretion and any such action will not be called into question and the Tenderer shall have no claim in that regard against the TNPDCI.

7.0. EVALUATION AND COMPARISON OF THE TENDER OFFERS:

- 7.1. The tenders will be evaluated strictly as per the Tamil Nadu Transparency in Tenders Act, 1998 and the Tamil Nadu Transparency in Tender Rules, 2000.
- 7.2. The tender offers received will be examined to determine whether they are in complete shape, all required data have been furnished, properly signed and generally in order and conforms to all the terms and conditions of the Specification without any deviation.
- 7.3. For the purpose of evaluation of tender offers, the following factors will be taken into account for arriving the evaluated price:
- a) The quoted price will be corrected for arithmetical errors.
 - b) In case of discrepancy between the price quoted in words and figures lowest of the two will be considered.
 - c) The rate of CGST, SGST and IGST as applicable both in percentage and amount shall be indicated in the offer along with HSN Code.
 - d) The evaluated price shall be arrived in compliance with the provisions of GST on the transaction value (i.e) (Ex works price + P&F + Freight and Insurance) + GST. In case of import of goods would be treated as interstate supplies and would be subject to IGST in addition to applicable Customs duty.
 - e) Since GST is enacted wherein all taxes & duties are subsumed price evaluation shall be inclusive of applicable GST in all cases , i.e. even if the bidders are only within the State or bidders are within the State and outside TN.
 - f) The bidders should have registered under GST Act and furnish GSTIN.
 - g) In the event of bidder is within Tamil Nadu, GST (SGST & CGST) shall apply and if the bidder is outside TN, IGST shall apply.

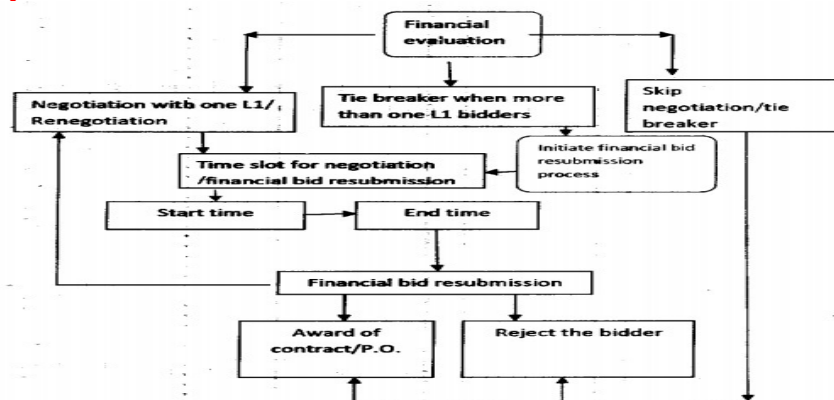
h) TIE BREAKER :

When more than one bidder have quoted same value during bid submission and accepted in Finance Evaluation, TNPDCI is allowed to select any one combination of bidder value (i.e. the L1 bidder) to initiate for Finance bid resubmission for Tie Break.

i) Online Negotiation:

The negotiation with L1 tenderer will be done by TNPDCI through Online. The online negotiation process in the "portal is similar to the

process for negotiation under tie breaker process. However, financial rebid submission can be invited from only one bidder. (Chart to be enclosed)



j) TNPDC will issue Purchase Order/AoC to the bidder through portal.

7.4 PURCHASE PREFERENCE:

Purchase preference may be extended to the Domestic enterprises, Government departments, Public Sector Undertakings, Statutory Boards and other similar institutions as per the provisions in 30-A & 30-B of Tamil Nadu Transparency in Tender Rules 2000.

7.5.1 PURCHASE PREFERENCE TO DOMESTIC ENTERPRISES:

In case of procurement of goods or services, where it is possible for the procuring entity to divide the award of tenders to more than one supplier or service provider, Upto twenty five percent of the total requirement in the procurement may be awarded to domestic enterprise, not being the lowest tender, in respect of only goods manufactured or produced or services provided or rendered by them, if the following conditions are satisfied-

- the lowest tenderer is not a domestic enterprise;
- the preferential award shall be extended only to the lowest tender among the domestic enterprises who are substantially responsive and technically qualified; and
- Such domestic enterprise is willing to match the price of the lowest tender.

Provided that where the Tender Inviting Authority is of the view that in the interest of the participation of domestic enterprise in the tender to avail the above benefit, a less stringent set of technical qualification parameters are required, he shall specify a separate set of technical qualification for domestic enterprises in the tender documents with the approval of the Government.

7.5.2 PURCHASE PREFERENCE TO GOVERNMENT DEPARTMENTS, PUBLIC SECTOR UNDERTAKINGS, STATUTORY BOARDS AND OTHER SIMILAR INSTITUTIONS:

In case of procurement of goods or services, where it is possible for the procuring entity to divide the award of tenders to more than one supplier or service provider, up to forty percent of the total requirement in the procurement may be awarded to Government departments, Public Sector

Undertakings, Statutory Boards and other similar institutions as may be notified by the Government, in respect of only of goods manufactured or produced or services provided or rendered by them, if such tenderer is willing to match the price of the lowest tender.

7.6 In the event of L1 bidder offering a quantity lesser than the tendered quantity, quantity allocation will be made as per the provisions specified in Tamil Nadu Transparency in Tender Rules 2000. Further, as per Clause 23 of Tamil Nadu Transparency in Tender Rules 2000, "No Changes, amendments which materially alter the tendered prices shall be permitted after the opening of tender, except as per the Procedure prescribed in sub-section(3) of section 10 of the ACT".

7.7 PURCHASE PREFERENCE TO ENTERPRISE OWNED BY SCHEDULED CASTES OR SCHEDULED TRIBES:

7.7.1 In case of procurement of goods or services, where it is possible for the procuring entity to divide the award of tenders to more than one supplier or service provider, the tender document shall indicate that **five percentage** of total requirement in the procurement shall be awarded to enterprises owned by persons belonging to the Scheduled Castes or Scheduled Tribes in respect of only of goods manufactured or service rendered by it if the following conditions are satisfied.

7.7.2. As per section 2 of Tamil Nadu Transparency in Tenders Act 1998 (amended and furnished in Tamil Nadu Government Gazette No.576 dated 29 December 2022), "Domestic enterprise" means any enterprise located in the State, which manufactures or produces goods or provides or renders services within the State and which fulfills the criteria to qualify as a micro or small enterprise as may be notified by the Central Government under clause (1) of section 7 of the Micro, Small and Medium Enterprises Development Act, 2006 (Central Act 27 of 2006)."

7.7.3 Enterprises owned by Scheduled Castes or Scheduled Tribes (SC/ST) for claiming the purchase preference as per Tender Rule 30C are

1. the enterprises means any domestic enterprises located in Tamil Nadu owned by any person belonging to a SC/ST (or)

2. any domestic enterprise, which is a firm or limited liability partnership, having its registered office and place of business in the State, where not less than three-fourths of the partners belong to the Scheduled Castes or Scheduled Tribes (or)

3. any domestic enterprise, which is a company having its registered office and place of business in the State where,

i) more than fifty per cent of the ordinary shareholdings pertain to persons belonging to the Scheduled Castes or Scheduled Tribes; and

ii) the control of the company, as defined in section 2 (27) of the Companies Act, 2013 (Central Act 18 of 2013) vests with persons belonging to the Scheduled Castes or Scheduled Tribes."

Note: "Scheduled Castes" and "Scheduled Tribes" shall have the meanings assigned to them respectively under clauses (24) and (25) of Articles 366 of the Constitution. "State" means the State of "Tamil Nadu".

7.7.4 The online registration of SSI Units in Udyam Registration Portal is based on self declaration. Hence, in order to claim purchase preference for domestic enterprises belonging to Scheduled Castes and Scheduled Tribes, the supporting documents necessary to evidence the same in respect of each type of domestic enterprise owned by SC/ST are specified below.

- a) In case of such domestic enterprise been a sole proprietary firm having registered in Udyam portal located within Tamil Nadu, Udyam Registration Certificate contains the social category of enterprise. However, in order to ensure that no change in social category of enterprise has happened consequent of having registered in Udyam portal, an undertaking from the sole proprietor may be insisted.
- b) In case of such domestic enterprise is partnership firm been registered in Udyam portal, social category of enterprise can be ascertained from the community certificate of not less than three-fourths of the partners belong to the Scheduled Castes or Scheduled Tribes along with copy of registered partnership deed. However, a certificate from chartered accountant may also be obtained certifying that no change in social category of enterprise has happened consequent of the said registered partnership deed.
- c) In case domestic enterprise is a company having its registered office and place of business in the State, a certificate from practicing company secretary may be obtained certifying that more than fifty per cent of the ordinary shareholdings pertain to persons belonging to the Scheduled Castes or Scheduled Tribes and the control of the company, as defined in section 2 (27) of the Companies Act, 2013 (Central Act 18 of 2013) vests with persons belonging to the Scheduled Castes or Scheduled Tribes and the same is duly confirmed for the purpose of submission of bid against the provisions of tender specification.

8.0. VALIDITY:

- 8.1. The tender offer shall be kept valid for acceptance for period of **180** days from the date of opening of offers. The offers with lower validity period are liable for rejection.
- 8.2. Further, the tenderer shall agree to extend the validity of the Bids without altering the substance and prices of their Bid for further periods, if any, required by the TNPDCCL.

9.0. RIGHTS OF THE BOARD:

- 9.1 The Tender Accepting Authority before passing the order accepting a tender, may also reject all the tenders for the reasons such as changes in the scope of procurement, lack of anticipated financial resources, court orders, accidents or calamities and other unforeseen circumstances.
- 9.2 Notwithstanding anything contained in this Specification, the TNPDCCL reserves the rights :
 - a) to vary the quantity finally ordered to the extent of 25% indicated in the Tender document.
 - b) to split the Tendered quantity and place orders on one or more than one firm as per the Tamil Nadu Transparency in Tender Rules 2000 since the tendered material is so vital in nature and the failure in supply would affect the public interest.

- c) The quantity indicated in schedule of requirement is approximate. The indent will be placed subsequently as and when there is requirement , upto the last date of validity of contract. The quantity finally ordered may vary to the extent of twenty- five percent either way of the approximate quantity indicated in the Schedule of requirement. The purchaser reserves the right to issue any number of indents for supply of materials during the contract period.
 - d) to split the Tendered quantity and place orders on one or more than one firm as per the Tamil Nadu Transparency in Tender Rules 2000 since the tendered material is so vital in nature and the failure in supply would affect the public interest.
 - e) to recover losses , if any, sustained by TNPDC, from the supplier who pleads his inability to supply and backs out of his obligation after award of contract. The security deposit paid shall, be forfeited.
 - f) to cancel the orders for not keeping up the delivery schedule.
 - g) to vary the delivery period based on the requirement and contingencies at the time of placing the contract.
 - h) to accept the lowest eligible tender.
 - i) to revise the quantities at the time of placing order.
 - j) to reject any or all the tender or cancel without assigning any reason therefor.
 - k) to relax or waive or amend any of the conditions stipulated in the tender specification whenever deemed necessary in the best interest of the TNPDC.
- 9.3. The purchaser reserves the right to request for any additional information and also reserves the right to reject or accept the proposal of any tenderer, if in the opinion of the purchaser, the qualification data is incomplete or in the opinion of the TNPDC the bidder is found not qualified to satisfactorily perform the contract.

10.0. DEVIATIONS:

- 10.1. The offers of the Tenderers with Deviations in Commercial terms and Technical Terms of the Tender Document are liable for rejection.
- 10.2. No alternative offer will be accepted.

11.0. BAR OF JURISDICTION:

11.1. Save as otherwise provided in the Tamil Nadu Transparency in Tenders Act 1998, no order passed or proceeding taken by any officer or authority under this Act shall be called in question in any court, and no injunction shall be granted by any court in respect of any action taken or to be taken by such officer or authority in pursuance of any power conferred by or under this Act.

12.0. " All the intending Tenderers are requested that in the event of the documents furnished with the offer being found to be bogus or the documents contain false particulars the EMD paid by such Tenderers will be forfeited in addition to blacklisting them for future tenders/contracts in TNPDC " and also cancelling the award of contract issued to them.

13.0. The Tenderers may please note that they should fulfill their earlier obligations in delivering the tendered capacity of Distribution Transformers in order to become eligible for this Tender.

14.0 Even on fulfillment of all criteria it may please be noted that offers of those bidders who have been debarred/black listed for future business with TNPDC/other State Utilities for the respective/tendered material or work may be summarily rejected.

15.0 The tenderers should quote minimum quantity of 350 Nos.(10% of the tendered quantity) of the tendered capacity of Distribution Transformers. The offers of the bidders who have quoted for lesser quantity than minimum quantity or NOT MENTIONED THE MINIMUM QUANTITY prescribed shall be summarily rejected.

16.0. TENDER DOCUMENT:

16.1. "All the intending e-tenderers are informed that in the event of the documents furnished with the offer being found to be bogus or the documents contain false particulars, the EMD paid by such tenderers will be forfeited in addition to blacklisting them for future tenders/ contracts in TNPDC" and also cancelling the award of contract issued to them."

17.0 The separate file name can be assigned and uploaded for documentary evidences of a) EMD, b) BQRs , c) SCHEDULES, d) ANNEXURES and e) PRICE SCHEDULE/BOQ.

18.0 The tender documents uploaded should be **legible and clear** otherwise tender offer is liable for rejection.

19.0 Only **Colour** scanning should be done for all the documents to be uploaded.

20.0 If the due date for opening the tenders happens to be declared holiday, then the tender will be opened on the next working day, for which no prior intimation will be given.

SECTION-V
COMMERCIAL

1.0 SCOPE:

The scope of supply of the materials includes design, engineering, ` manufacture, inspection, testing, packing, forwarding, insurance and delivery of the materials detailed herein, at our stores anywhere in Tamil Nadu on contract basis.

2.0. PERIOD OF CONTRACT:

2.1 The period of contract is **Twelve months including a preparatory period of one month**, from the date of receipt of award of contract or till the completion of indent.

2.2 *Though the requirement was calculated based on the utilization of this capacity retrieved through ERP per year / 12 months, the period of contract will be fixed depending upon the requirement from the field.*

3.0. PLACING OF ORDERS:

3.1. It is not binding on the TNPDC to accept the lowest or any tender. The TNPDC reserves the right to split and place orders for the items with different tenderers and for revising the quantities at the time of placing the orders for sustained supply. The TNPDC reserves the right to vary the quantity finally ordered to the extent of 25% either way of the requirement indicated in the tender documents.

3.2. The award of contract will be issued to the successful tenderer with all TNPDC's terms and conditions, duly indicating the approved unit rates which will be variable based on the IEEMA Price Variation formula.

3.3. During the period of the contract, the TNPDC will send indent to the approved tenderers indicating the quantity to be supplied and the delivery schedule according to TNPDC's requirement.

3.4 **EVALUATION CRITERIA:** The rates quoted by the eligible lowest tenderer in the open tender Rate Contract Scheme shall be compared with the prevailing market rate and the rates of previous period and if the Tender Accepting Authority is of the view that the quoted rates are too high the rates will be negotiated and the rate will be determined . All the eligible bidder who accept the rate shall be enlisted.

4.0 PRICE AND PRICE VARIATION:

4.A PRICE:

4.A.1 The tenderers are requested to quote on all-inclusive basis as given in SCHEDULE-A for delivery **FORD- Free-On -Road at Destination** anywhere in Tamil Nadu inclusive of freight and insurance, all other charges, GST and all other levies etc.,

4.A.2 Split- up details of the all- inclusive price should be furnished as below without fail.

i. Unit ex-works price variable as per IEEMA's price variation formula/circular issued from time to time/enclosed **with no ceiling on upward and down ward by without updation at the time of issuing the Purchase Orders, if the price is upward and with updation at the time of issuing the Purchase Orders, if the price is downward**, as on the date of issue of Purchase Order. The base prices of the materials / components are those as prevailing one month prior to the date of tender opening, as per IEEMA's circular. The Unit Price for supply of goods shall remain valid during the entire period of **contract** from the date of award of contract or till the completion of indent.

ii. GST if any payable in percentage and amount.

iii. Freight, Insurance and all other charges for delivery at any destination in Tamil Nadu is FIRM price.

iv. The above break-up details should be clearly indicated in the SCHEDULE-A, in the absence of which the offer shall be liable for rejection.

v It is the responsibility of the tenderer to make sure about the correct rates of duty/tax leviable on the materials at the time of tendering. If the rates assumed by the Tenderers are less than the current rates prevailing at the time of tendering, the TNPDC Ltd will not be responsible for the mistake.

vi. The tenderer should quote their rates taking into account the (Input Tax Credit (ITC) relief available to them on account of GST already paid. A certificate to this effect may be furnished along with the tender vide ANNEXURE-VIII.

4.B. PRICE VARIATION:

4.B.1 The price variation will be allowed as per IEEMA's price variation formula/circular issued from time to time/enclosed **with no ceiling on upward and down ward.**

For the equipments supplied in time as per the delivery schedule, the price variation as per IEEMA's formula for the corresponding month (IEEMA Indices are one month prior) to the date of supply will be allowed. But for the equipments supplied beyond the *delivery* schedule, the price variation as per IEEMA's formula will be worked out for the actual date of delivery, scheduled date of delivery and the date of inspection/waiver which is *less and* advantageous to the TNPDC Ltd will be allowed.

4.B.2 For the equipments supplied ahead of the delivery schedule and for such advance supplies, the date of supply of distribution transformers would be taken as the date for arriving at the price variation. However the acceptance of distribution transformers offered ahead of delivery schedule would be at the discretion of TNPDC Ltd.

4.B.3 100 % Price Variation claim with full GST of the price if any, will be worked out and will be intimated in the Despatch Instruction for that delivery month, will be paid along with the bills including the PVC which is passed by the Superintending Engineer / MM-II/EDC.

NOTE: As the price to be quoted is on variable basis, Tenders without split-up details as above are liable for rejection.

TNPDC Ltd reserves the right to revise the prices downward at any time if there is reduction in the prices of the raw materials.

5.0. PERMANENT ACCOUNT NUMBER:

The tenderer shall indicate the Permanent Account Number and GSTIN Number in SCHEDULE -F of the specification and should upload the details of PAN issued by Government of India, Income Tax Department and GSTIN number of the firm with proof with the tender.

6.0 GOODS AND SERVICES TAX [GST]:

- i. Goods and Services Tax [GST] as a modern law, has been brought after Article 366(12A) of the Constitution as amended by 101st Constitutional Amendment Act, 2016. GST is an indirect tax system, commonly used by both the Central Government and the State/UT to final consumption with credit of taxes paid at previous stages available as set off. In a nutshell, only value addition will be taxed and burden of tax Governments on goods and services. GST is a destination based tax on consumption of goods and services. It is proposed to be levied at all stages right from manufacture up to be borne by the final consumer. GST has been rolled out w.e.f. 01.07.2017, across India.
- ii. The GST to be levied by the Centre on intra-State supply of goods and / or services would be called the Central GST (CGST) and that to be levied by the States/ Union territory would be called the State GST (SGST)/ UTGST. Similarly, Integrated GST (IGST) will be levied and administered by Centre on every inter-state supply of goods and services.
- iii. Any supplier of goods and service Provider of services who makes a taxable supply with an aggregate turnover of over Rs.20 lakhs in a financial year is required to obtain GST registration. In special category states, the aggregate turnover criteria are set at Rs.10 lakhs. In simple words every business whose taxable supply of goods or services under GST (Goods and Service Tax) and whose turnover exceeds the threshold limit of Rs. 20 lakhs / 10 Lakhs as applicable will be required to register as a normal taxable person.
- iv. *GST Registration Number:* TNPDCCL has migrated into GST regime on 15.06.2017 by duly uploading various mandatory data as required by the GST portal. The provisional ID issued to TNPDCCL is 33AADCT4784E1ZC. The details are also posted in TNPDCCL web portal.
- v. GST Registration Number or GSTIN is 15 Digit identification number which is allotted to each applicant who applied for GST Registration. GST Number is completely based on the Pan Number and State code. First two digits represent the state code and another 10 digit represent the PAN number of the client, one digit represent the entity code (Like proprietorship or partnership etc), one digit is blank and last one is representing check digit.
- vi. *Transaction Value:* The value of supply of goods or services or both shall be the transaction value, which is the price actually paid or payable for the said supply of goods or services or both where the supplier and the recipient of the supply are not related and the price is the sole consideration for the supply. Sec 15(1) states that value of supply of goods and service shall be the transaction value i.e. the price actually paid or payable.
The conditions for accepting the transaction value are-
 - a) Supplier and the recipient of the supply are not related.
 - b) Price is the sole consideration for the supply.
- vii. *Composition Scheme:* Composition scheme specifies that registered person whose turnover in the preceding financial year is below certain specified limit (Currently RS.75 lakhs) may intimate the proper officer to pay in lieu of tax payable by him an amount calculated at such rate may be specified.

Eligibility for composition scheme: Sec10(2) of the central Goods and Services Tax Act, 2017 states that the registered person shall be eligible to opt under sub- section (1), if-

- He is not engaged in the supply of services other than supplies referred to in clause (b) of paragraph 6 of Schedule II;
- He is not engaged in making any supply of goods which are not leviable to tax under this Act;
- He is not engaged in making any inter-State outward supplies of goods;
- He is not engaged in making any supply of goods through an electronic commerce operator who is required to collect tax at source under section 52; and
- He is not a manufacturer of such goods as may be notified by the Government on the recommendations of the Council.

viii. *Supply of Service and Goods:* When there is a combined supply of many goods / services, it has to be determined whether it is a Composite supply or mixed supply of goods or services

(a) *COMPOSITE SUPPLY:* A composite supply is one where all the goods or services or a combination has to be supplied together i.e., naturally bundled and there would be a Principal Supply that could be identified (Ex. Supply of Machinery with packaging, insurance and freight – the principal supply is machinery). In this case, the rate of principal supply will be applied on entire value.

(b) *MIXED SUPPLY:* A mixed supply is one where the goods or services or a combination thereof which could be individually supplied (like Pizza and Coke) but sold together at a single price. In this case, the highest rate to the good in that mix is applied on all the goods. The GST shall be applicable at appropriate prevailing rates as notified by GST Act. In the event of delay in execution of contract, the GST rate prevailing on the scheduled period or on the actual date of execution, whichever is less only will be admitted.

The bidders should have registered under GST Act and furnish GSTIN. In the event of contractor is within TN, SGST & CGST shall apply and if the contractor is outside TN, IGST shall apply.

6.1 GOODS AND SERVICES TAX:

6.1.1 The Goods and Services Tax will be paid extra as applicable. The amount of CGST, SGST, and IGST as applicable shall be indicated in percentage payable and amount separately in the tender offer.

6.1 .2 The TNPDCCL has been registered as a dealer under GST Act 2017 (Registration No. 33AADCT4784E1ZC)

In case of delayed delivery, the GST prevailing on the date of despatch or on the last day of the contractual delivery period whichever is LESS will be admitted. For both the cases, the supplier shall furnish documentary evidence while submitting the bills for payment.

It is the responsibility of the tenderer to make sure about the correct rates of duty liveable on the material at the time of tendering. If the rates assumed by the Tenderer are less than the current rates prevailing at the time of tendering, the TNPDCCL Ltd will not be responsible for the mistake. If the rates assumed by the tenderer are higher than the current rates prevailing at the time of tendering, the GST prevailing at the time of tendering will only be paid.

6.1.3 Any increase in GST consequent to the suppliers coming into different duty slab during the execution of the contract shall have to be taken into account and the all inclusive

price shall be quoted accordingly by the Tenderers. Any Variation in GST due to statutory Variation within the contract delivery date shall be considered by the TNPDC Ltd.

6.1.4 In case of delayed delivery, the GST prevailed on the date of actual delivery applicable on the date of contractual date of delivery whichever is less shall be admitted.

6.1.5 The tenderer should furnish a declaration in respect of passing of ITC benefit as per sec.171 of CGST Act and upload the same along with the tender. In the event of bidder specifying the ITC benefit as nil, the same should be supported with certificate from Chartered Accountant. The tenderer shall furnish an undertaking towards Input Tax Credit as per ANNEXURE-VII in a non-judicial stamp paper for a value of not less than Rs.500/-.

6.1.6 "E Way Bill":

"E-Way Bill is an electronic document to be generated to cover movement of goods more than Rs.1,00,000 and such generation needs to be done in e way bill portal. Consequently, transporters of goods are required to carry an e way bill under GST provisions for the movement of such goods. The value of goods shall be the value declared in an invoice, a bill of supply or a delivery challan and also includes the Central tax, State or Union territory tax, Integrated tax and cess charged, if any. But it will not include value of freight charges for the movement charged by the transporter.

The HSN code for the supply of material are indicated in the Clause 2.0 - SCHEDULE OF MATERIALS AND RATE so as to enable to generate E-Way bill for effecting supply.

6.1.7 As per Lr. No: CFC/GL/FC/Accts/DFC /AO/Tax/F-GST/D.No.159/2018 dated 13.12.2018 issued from Taxation division of Accounts Branch, GST shall be applicable on the Liquidated Damages and Earnest Money Deposit / Security Deposit forfeiture if any arise.

6.1.8 GSTR- 2A of TNPDC Ltd will be verified to ensure the remittance of GST to Govt. by the Supplier in respect of this P.O. If the GST remitted by the Supplier is found lesser than that claimed from TNPDC Ltd, the excess GST paid by TNPDC Ltd will be recovered from the Supplier, duly adhering regular procedures. The Supplier is requested to file the GST returns promptly to avoid delay in processing/payment of invoices. In case of non-filing of GSTR1 by the Supplier, the S.D. cum Performance B.G/Amount, EMD and other payments, if any, due to the Supplier will be withheld.

6.1.9 The GST shall be applicable on the Security Deposit forfeiture if any arise" vide

Lr. No:CFC/GL/FC/TAX/AAO/F.GST/LD/D.28/2022 DT.22.09.22 and Lr. No: CFC/GL/FC/TAX/ AAO/F.GST/LD/D.30/2022 DT.29.09.22, issued from Taxation division of Accounts Branch.

6.1.10 Provision of Section -194Q of IT Act :

1.Any person, being a buyer, who is responsible for paying any sum to any resident for purchase of goods of value (or) aggregate value exceeding Rs.50 lakhs in any previous year, shall, at the time of credit of such sum to the account of the seller (or) at the time of payment, whichever is earlier, shall deduct an amount equal to 0.1% of such sum exceeding Rs.50 Lakhs as TDS under Section-194Q of IT Act. The supplier of goods is required to furnish the PAN to TNPDC Ltd for making the payment. In case the suppliers do not have PAN, TNPDC Ltd is required to deduct tax at higher rate as per the provisions of section 206AA. In case of specified person i.e., Any

person who has not filed Income Tax return for two previous years immediately before the previous year in which TDS is required to be deducted and the time limit for filing of income tax return u/s 139(1) of the Income Tax Act, 1961 has expired provided the total TDS & TCS in INR is Rs.50,000 (or) more in each of the two previous years the TDS rate u/s 194Q will apply at higher rate u/s.206AB.

2. The provisions of this section shall not apply to the transactions on which tax is deductible under any other provisions of the Income Tax Act 1961 and also on the transactions in which Tax is collectible under the provisions of Section 206C.

3. On purchase of goods/materials, TNPDCCL shall have the primary and foremost obligation to deduct Tax at source and no tax shall be collected on such transaction u/s.206C(1H). TDS u/s 194Q is also applicable on the Advance paid for purchase of goods.

4. In case of works contract wherein supply and erection portions are separable the value of supply of goods exclusive of GST will be subject to deduction of TDS under section 194Q. On the other charges (i.e) erection, testing, commissioning and maintenance charges, TDS under section 194C will apply and hence TDS u/s 194Q will not apply.

5. The above provisions come into effect from 01.07.2021 onwards and hence no TCS under Section 206C(1H) has to be paid by TNPDCCL on purchase of Goods. Accordingly, TNPDCCL will deduct TDS under section 194Q on all the purchase of goods exceeding the threshold limit i.e. aggregate credit (or) payment exceeds Rs.50 Lakhs. It is mandatory for vendor to submit the declaration format in **ANNEXURE-X** to determine the applicability of TDS rate u/s 206 AB.

6. In case any procurement of goods/materials are made by TNPDCCL from overseas suppliers and the payment is not taxable to the overseas suppliers in India, the TDS under section 194Q will not apply.

6.1.11 TDS UNDER GST:

The TDS under GST will be deducted at the time of payment or accounting books of accounts whichever is earlier. Once the taxable value of contract exceeds Rs.2,50,000/- then each and every invoice on that contract shall be subjected to the TDS under GST irrespective of value of such invoice.

Taxable supply means supply of goods or services or both which is liable to tax under GST. Thus, TDS under GST is to be deducted only on the Taxable supply of goods or services or both and not on Exempt supply (supply of any goods or services or both which attracts nil rate of tax or which may be wholly exempt from tax under section 11 of the CGST /SGST Acts or under section 6 of the IGST Act) and non-taxable supply. Similarly, TDS under GST rate need not be applied on GST component in the invoice. TDS under GST is also applicable for suppliers / contractors registered under composition scheme also.

Applicability of TDS:

Where the location of the supplier and the place of supply are in the same state, it is an intra-state supply. TDS@ 1% under CGST Act and 1% under SGST Act will be deducted. Where the location of the supplier is in state A and the place of supply is in state B, it is an interstate supply and TDS @ 2% under IGST Act will be deducted.

TDS under GST is also applicable in the following cases:-

- Bills of supplier for advance payment.
- Amount of retention from the bills supplier.
- Supply of goods or services or both by supplier registered under GST as composition dealer.

Thus Gross value of invoice (Except GST portion) shall be taken while applying TDS under GST rate.

Non- Applicability of TDS:

TDS under GST is not applicable in the following cases:-

1. Total value of taxable supply less than Rs. 2.5 Lakh of contract.(GST not included)
2. Contract value Rs.2.5 Lakh for both taxable supply and exempted supply, but the value of taxable supply the said contractRs.2.5 Lakh.
3. Receipt of services which are exempted. For example services exempted under notification No.12/2017- Central Tax (Rate) Dated 28.06.2017 as amended from time to time.
4. Receipt of Goods which are exempted. For example Goods exempted under notification No.2/2017- Central Tax (Rate) Dated 28.06.2017 as amended from time to time.
5. Goods on which GST is not leviable. For Example, Petrol, Diesel, Petroleum Crude, Natural gas, aviation turbine fuel (ATF) and alcohol for human consumption.
6. Where a supplier had issued an invoice for any sale of goods in receipt of which tax was required to be deducted at source under the VAT law before 01.07.2017, but where payment for such sale is made on or after 01.07.2017(Section 142(13) refers).
7. Where the location of the supplier and place of supply is in a State(s) / UT(s) which is different from the State / UT where the deductor is registered.
8. All activities or transactions specified in schedule III of the CGST/ SGST Acts 2017, irrespective of the value.
9. Where the tax will be paid on reverse charge by the recipient.
10. Where the payment is made to an unregistered supplier.
11. Where the payment relates to "Cess" component

Value of supply for Deduction of TDS:

For the purpose of tax specified above, the value of supply shall be taken as the amount excluding the central tax, state tax, union tax, integrated tax and Cess indicated in the invoice.ie without including the amount of GST charges in the bill.

Exemption from TDS:

According to that provision, given under Govt. of India vide Notification No.61/2018. TDS under GST need not be deducted in respect of the supply of goods and services or both from a public sector undertaking(PSU) to another Public Sector Undertaking with effect from 1st day of October 2018. Therefore, no TDS need to be deducted in respect of supplies between Public Sector Undertakings Example: NTECL, NTPC BHEL etc., are owned by central Government. However TDS provisions will continue to apply for taxable supplies from Government and other private agencies with effect from 01.10.2018.

6.1.12 GST E-INVOICE:

TNPDCL cannot avail input tax credit from suppliers whose turnover exceeds Rs.10 crores without an e-invoice (or) e-invoiced debit note or e-invoiced credit note. E-invoice is a system in which B2B invoices are authenticated electronically by GSTN for further use on the common GST portal. Under the electronic invoicing system, an identification number will be issued against every invoice by the **Invoice Registration Portal (IRP)** to be managed by the GST Network (GSTN). The bidders who are having annual turnover exceeding Rs.10 Crores who participates in this tender **shall claim payment** by raising **e- invoice only** on placement of purchase order if any.

7.0 FREIGHT & INSURANCE:

The Tenderer shall quote Freight and Insurance component separately which shall be kept firm during the contract period. Contracting firms shall arrange to pay Freight & Insurance for the equipment and all its accessories being supplied by them, through any of the carriers and Nationalised Insurance Companies. **The equipment/materials**

shall be insured to cover transport (from Warehouse) and 60 days storage risk at site. The damages, if any, during transit will be reported within 30 days of receipt of materials. The Board will reimburse the cost towards the freight and Insurance. It will be the responsibility of the supplier to replace the defective/damaged materials and make good the shortages and other losses in transit, free of cost, lodge and recover claim from insurance Under writers/Carriers.

8.0 PAYMENT:

8.1. Payments will not be made for equipments /materials damaged during transit. All defective materials shall be replaced by the supplier on free of charge/cost.

8.2. The payment for the supplies will be made from any one of the Nationalised Banks / Scheduled Banks approved by Reserve Bank of India in Tamil Nadu based on the dispatch instruction. The Bank charges involved in making the payment will be to the account of the Supplier. The payment to the suppliers will be made through dedicated account maintained with a nationalized bank/ Scheduled Banks approved by Reserve Bank of India for the supplies made. The supplier shall also furnish following details of the bank account to which the payment be credited if necessary.

1. Name of the Account Holder.
2. Name of the Bank and Branch with Account No.
3. IFSC Code of the Branch.

8.3. The electronic mode of 5% payment towards Security Deposit cum Performance Guarantee till the expiry of the guarantee period or agree to furnish 5% of irrevocable Bank Guarantee for the total contract value to be kept valid till the expiry of the guarantee period towards Security Deposit cum Performance guarantee is permitted.

8.4.1.

a) For the materials delivered within delivery period:

100% of all inclusive price (including GST) on receipt of materials of each consignment in good condition at site including price variation bills **will be paid to the supplier by Central Payment / Chennai- 600002** within a **reasonable time** from the date of receipt of material at good condition at site, from the date of submission of bills after deducting recoveries, if any against the bills passed by the concerned SE/EDC /, based on the copy of the SRB taken/ sent, by the respective consignee Circle / Stores. The invoice in duplicate shall be sent to the office of the concerned SE/EDC / for passing the bills.

b) For the materials delivered beyond delivery period :

100% of all inclusive price (including GST) on receipt of materials of each consignment in good condition at site including price variation bills **will be paid to the supplier by Central Payment / Chennai- 600 002** within a **reasonable time** from the date of receipt of material at good condition at site and from the date of submission of bills after deducting LD and other recoveries, if any against the bills passed by the concerned SE/EDC/ , based on the copy of the SRB taken / sent, by the respective consignee Circle / Stores. The invoice in duplicate shall be sent to the office of the SE/EDC/, for passing the bills.

c) For delay in payment, TNPDC will not pay any interest on any account.

8.5 In case of delay in supply, the materials will be accepted subject to the following conditions.

- a) There should be no declining trend in prices.

b) Payment will be released as per the lowest rate obtained during the recent tenders opened with effect from the Date of price bid opening, subject to levy of Liquidated Damages for belated supplies.

c) TNPDCCL reserves the right to accept or reject the delayed supplies without assigning any reason there for and take action as per the other terms and conditions of this specification.

8.6. The bills for payment will be passed only after the approval / acceptance of the following:

1. Security Deposit cum Performance Guarantee for 5% of total value of the order.
2. Undertaking towards Jurisdiction for Legal Proceedings.
3. Undertaking towards Recovery of Dues to TNPDCCL.
4. Undertaking towards ITC Benefit furnished by you is "NIL" , a supporting certificate from Chartered Accountant certifying that declaration/undertaking towards ITC benefit is "NIL"
5. Guarantee Certificate.

8.7. The supplier should despatch only after getting despatch instruction. If the supplier despatches the materials without the prior approval of the purchaser, then the purchaser shall not be responsible for any demurrage or wharfage or both and only the supplier should bear any expenditure arising out of such unapproved despatches.

8.8. The TDS on GST @ 2% (1% SGCT and 1% CGST or 2% IGST) or as applicable, will be deducted while making the payment. The Standard Operating Procedure (SOP) issued by CBIC is available in www.cbic.gov.in/resources/htdocs-cbec/gst/28092018_SOP_ON_TDS.pdf which can be referred to for further clarification.

9.0. SECURITY DEPOSIT CUM PERFORMANCE GUARANTEE:

9.1. The Successful tenderer will have to pay a Security Deposit cum Performance Guarantee @ 5% of the total value of the Contract for each and every indent issued during the rate contract period inclusive of E.M.D. already paid. The balance shall be remitted in the form of D.D./ Banker's Cheque/ Pay Order/ Irrevocable Bank Guarantee **vide ANNEXURE-IV.**

The Government of India /Government of Tamil Nadu Undertakings / Enterprises also have to pay the 5% of the total value of the contract for Security Deposit cum Performance Guarantee for each and every indent issued during the rate contract period.

Note i) The Security Deposit cum Performance Guarantee shall be in the form of Demand Draft / Banker's Cheque or Pay Order only for the value of P.O. upto Rs.10 Lakhs.

ii) The Security Deposit cum Performance Guarantee shall be in the form of Demand Draft/ Banker's Cheque / Pay Order/ Irrevocable Bank Guarantee in case P.O. value exceeds Rs.10 Lakhs. In case of irrevocable Bank Guarantee, it should be a single Bank Guarantee to 5% of the order value.

9.2. The successful tenderer will have to furnish the Security Deposit cum Performance Guarantee within 30 days from the date of receipt of award of P.O. The belated payment of security deposit/ belated submission of irrevocable Bank Guarantee shall not be accepted. The security deposit cum performance guarantee will not carry any interest.

9.3. Failure to comply with the terms regarding Security Deposit cum Performance guarantee set out in the contract order within the stipulated time by the successful tenderer will entail in the cancellation of the contract without any further reference to the supplier by forfeiting the EMD.

9.4. The Security Deposit cum Performance Guarantee will be refunded to the supplier only if the contract is completed to the satisfaction of the purchaser. If the purchaser incurs any loss or damages on account of breach of any of the clauses or any other amount arising out of the contract becomes payable by the supplier to the purchaser, then the purchaser will in addition to such other dues that he shall have

under law , appropriate the whole or part of the security deposit cum performance guarantee and such amount that is appropriated will not be refunded to the supplier.

9.5. The Bank Guarantee furnished for the Security Deposit cum Performance Guarantee shall be returned after expiry of the Performance Guarantee period of **60 months** and that obtained by electronic mode of payment / D.D/ Banker's Cheque/ Pay Order shall be refunded only after expiry of the Performance Guarantee period of **60 months** and to the satisfaction of the purchaser.

9.6 The successful Tenderer should furnish a security deposit cum performance guarantee in the form of DD/Banker's Cheque/ Pay Order or Irrevocable Bank Guarantee for 5% of the value of materials to be delivered for which indents are placed to the suppliers wherever materials are required to be delivered based on indents against Contracts placed. The security deposit cum performance guarantee shall be valid for a period of **60 months** from the date of receipt of **last** consignment of goods/materials at site in good condition.

9.7 In case of the requirement arising for extension of the Bank Guarantee, the extended Bank Guarantee shall have to be submitted to TNPDCI within the date of expiry of the existing Bank Guarantee. The BG towards SD cum PBG should be got extended for its validity before its expiry. In case of failure to submit such extended Bank Guarantee within the due date (expiry date) TNPDCI shall invoke the Bank Guarantee by addressing the Bank directly and the proceeds will be credited to TNPDCI's account.

The SD cum Performance Bank Guarantee will be released on expiry of guarantee period after ensuring that defects/damages during the guarantee period are rectified/replaced.

The successful bidders should furnish the Bank Guarantee towards Security Deposit cum Performance Guarantee through SFMS portal, the beneficiary bank and branch should be vide ANNEXURE-IV and on receipt of the confirmation received from issuing branch and the beneficiary bank, the Bank Guarantee will be accepted.

10.0. DELIVERY :

10.1 The quantity to be intended on each firm shall be supplied within **contract period** from the date of receipt of the order including the **preparatory period** of one month. The quantity has to be supplied during each month as per the monthly delivery schedule. The monthly delivery schedule will be issued to the suppliers along with the purchase order.

In case of non-adherence of delivery schedule by any firm, the quantity so ordered shall be cancelled and re-allocated on the successful firm who has completed the supply as per schedule for which Chief Engineer/Materials Management/Chennai- 600 002 shall be empowered to act accordingly.

10.2 The TNPDCI will be at liberty to cancel the contract if the supply is not made as per the delivery schedule specified in the indent, notwithstanding its right to claim liquidated damages for the belated supplies and the quantity outstanding to be supplied as on the date of cancellation. The defaulting contractors will be liable to pay to the TNPDCI in addition to the liquidated damages for delay, the actual difference in price whenever the TNPDCI orders the delayed quantity to be supplied / executed by other agencies at higher rate.

10.3 It is the responsibility of the supplier to give 15 days advance information for inspection, despatch of materials and other obligations under the terms and conditions of this contract in order to deliver the units within the contractual delivery period quoted/ agreed. If the Supplier offers for inspection without readiness of materials , penalty of **Rs. 10,000/-** will be recovered from the Supplier's future bills for each occasion.

10.4 The delivery period will not normally be extended. Hence all efforts shall be taken to deliver the materials within the contractual delivery period.

10.5 The quantity proposed to be ordered and indicated in the purchase order is only tentative.

10.6 QUANTITY ALLOCATION: At the time of issuing indent for supply of materials, TNPDCCL reserves the right to allocate the quantity after ensuring the manufacturing capacity , ability to supply, quantity offered and past performance.

10.7. TNPDCCL also reserves the right to cancel the order if the delivery schedule is not kept up, without any further notice to the supplier.

10.8 Equipment will be deemed to have been delivered only when all its component parts and its accessories are also delivered. If certain components and accessories are not delivered in time the whole equipment will be considered as delayed unless, the missing parts are delivered. The Liquidated Damages will also be levied for the quantity not supplied as is done for the delayed supplies. If supplies effected in part could not be beneficially used by the TNPDCCL (due to such incomplete supply), liquidated damage will be worked out on the basis of contract price of such transformer which could not be beneficially used and not on the value of delayed portion only.

10.9 Unloading the Transformer at destination Stores will be done by the TNPDCCL at TNPDCCL's cost.

11.0. INSPECTION:

11.1. The authorised representatives of the purchaser shall have access to the supplier's works at any time during working hours, for the purpose of inspecting the manufacturing of the materials and for testing the selected samples from the materials covered by the specification. The suppliers shall provide necessary facilities for such inspection.

11.2. Tenderers are requested to furnish in their tenders the exact location of their factory with detailed address to enable inspection by TNPDCCL if considered necessary.

11.3 Not less than 15 days advance intimation shall be given about the quantity of materials that will be ready for inspection by the TNPDCCL's officers / Third Party Agency authorised by the TNPDCCL. The arrangement for inspection shall be made by supplies in such a way that the delivery schedule is kept up. The materials shall not be despatched without instruction from TNPDCCL.

12.0. LIQUIDATED DAMAGES:

12.1. The delivery as specified should be guaranteed by the supplier under the Liquidated Damages Clause given below:

12.2. If the supplier fails to deliver the equipments/ materials within the time specified in the indent or any extension thereof, the purchaser shall recover from the supplier as liquidated damages, a sum of half a percent (0.5%) of the All-inclusive price * of the undelivered equipments/ Materials for each completed week of delay. The total liquidated damages shall not exceed ten percent (10%) of the All- inclusive price of the equipments / materials so delayed. **The actual date of delivery of materials with all its accessories at destination stores will be reckoned as date of delivery for this purpose.** Liquidated damages will also be recovered for the quantity not supplied as is done for the belated supply. It is the responsibility of the suppliers to arrange for inspection, despatch etc. in time to keep up the delivery schedule.

* **NOTE:** The all inclusive price shall include the price variation claim if any admissible and the L.D will be calculated excluding the **preparatory period** of one month.

12.3. Tenderers not giving clear and specific acceptance to the above clauses are liable for rejection.

12.4. For belated supplies, if there is any downward trend in prices, supplies will be accepted at the reduced rates only for the belated quantities in addition to levy of liquidated damages.

13.0. FORCE MAJEURE:

13.1. The supplier shall not be liable for delay in performing his obligations resulting directly or from any force majeure conditions herein defined as:

- (a) Any cause which is beyond the reasonable control of the supplier or purchaser as the case may be.
- (b) Natural phenomena such as floods, drought, earthquakes and epidemics.
- (c) Act of any Govt. Authority, domestic or foreign, such as wars declared or undeclared quarantines, embargoes licensing control on production or distribution restrictions.
- (d) Accident and disruptions such as fire, explosion, break down of essential machinery or equipments etc.
- (e) Strikes, slow down, and lockouts.
- (f) Failure or delay in the supplier's source of supply due to force majeure causes enumerated at 'b' to 'e' above shall be considered, provided the supplier produces documentary evidence to show that there were no other alternative source of supply available to him or if available the lead time required was likely to be longer than the duration of the force majeure at the normal source of supply.

All the provisions of this clause shall apply whether the disruption cause is total or partial in its effect upon the ability of the supplier to perform.

NOTE: The cause of force majeure condition will be taken into consideration only if the supplier notifies such delays within 15 days from the occurrence. The purchaser shall verify the facts and grant such extension as the facts justify. For extension due to force majeure conditions, the supplier shall submit his representation with documentary evidence for scrutiny by the purchaser and decision of the purchaser shall be binding on the firm.

13.2. Provided that if the performance in whole or part by the supplier on any obligation under this contract is prevented or delayed by reasons of any eventuality for a period exceeding 60 days, the TNPDCCL may at its option terminate the contract by a notice in writing.

13.3. The Power cut shall not be considered under force majeure condition. The period of extension shall be decided only by the authority who placed the order, after verifying the evidence for the cause of delay.

14.0. GUARANTEE:

14.1. The entire equipments shall be guaranteed for satisfactory operation, free of defects for a period of **60 months** from the date of receipt of equipment in good condition at site. The guarantee period of **60 months** from the date of receipt of materials at site in good condition shall exclude the period of defects/repairs.

14.2. Any defects noticed during this period shall be rectified at free of cost to the TNPDCCL within **Sixty Days** from the date of intimation of defect/failure.

14.3. A written guarantee guaranteeing the TNPDCCL against defects in the materials supplied, either in materials or workmanship, should be furnished preferably along with the initial bill for a period of **60 months** from the date of receipt of materials at site in good condition.

14.4. Any defects or failure occurring within the guarantee period due to faulty design, poor workmanship and bad quality of raw materials used shall be rectified/replaced free of cost within **Sixty Days** on receipt of intimation from the purchaser on such defects or failures. If they are not rectified or replaced within this period the contractor shall pay the liquidated damages as per the liquidated damages clause in the contract for the delay from the date of receipt of intimation for the defects or failures. **If the distribution transformers failed within the guarantee period, is not rectified/not returned back after repair/rectification within five months from the date of first intimation, the cost of distribution transformers will be**

recovered apart from levying liquidated damages and such unrepaired distribution transformers may be taken back by the firm within a month failing which the distribution transformer will be disposed off as is where is conditions. A guarantee certificate in the above form shall be submitted along with the initial bills themselves. Any expenditure incurred in the transportation of transformer for rectification or replacement will be to the suppliers account.

14.5. The tenderers who quotes from outside Tamil Nadu may indicate whether any service centres are available inside Tamil Nadu, so as to rectify/repair the units that are defective/ failed within guarantee period without delay.

14.6. The packing shall conform to relevant packing standards. The contractor should however, ensure that the packing is such that the materials reach their destination without damage/loss during transit by Rail or Road and subsequent storage. The words "Handle with care" should be printed on the cartons.

15.0. DESPATCH INSTRUCTIONS :

15.1. The details of allotment to consignee and destination stores will be furnished at the time of issue of despatch instructions.

15.2. The distribution transformer is urgently required in the field, the despatch instruction will be issued without inspection as a special case. In this case, the firm should supply the said DTs. within 15 days from the date of receipt of the despatch instruction. Otherwise the firm should inform to the Superintending Engineer/MM-II for revised despatch instruction after carrying out the inspection.

16.0. TEST AT SITE:

Random samples of materials/lot supplied will be tested at any NABL accredited LABs at purchaser cost for any non-conformity to relevant IS, the entire lot will be rejected and the cost of that lot will be recovered from the future bills with testing charges. Future supplies in such cases will be accepted and paid for only after the results of the samples tested are satisfactory. In addition, the guarantee period will also be extended for subsequent supplies at the discretion of the purchaser. The random sample testing is mandatory.

17.0. LOSS OR DAMAGE :

External damages or shortages that are prima facie the results of rough handling in transit or due to defective packing will be intimated within a fortnight of the receipt of the materials. Internal defects, damages or shortages of any integral parts which cannot ordinarily be detected on a superficial visual examination caused by bad handling in transit or defective packing would be indicated after inspection on receipt of the materials at stores. In either case, the damaged or defective materials should be replaced at free of cost to the TNPDCI within 60 days from the date of receipt of intimation failing which the distribution transformers will be disposed off "as is where is condition" if it exceeds five months.

18.0. REPLACEMENT OF DEFECTIVE/DAMAGED MATERIALS:

18.1. If the defects or damages are not rectified or replaced within 60 days, the contractor shall pay the liquidated damages at the rate of 1/2% (half percent) value (all-inclusive price) of such material for each completed week of delay, subject to maximum of 10% (ten percent) for the delay from the date of receipt of intimation of the defects or damages.

18.2. In the event of supplies being received damaged or short at the destination stores, the cost of such materials will be paid only proportionate to the value of the materials received in good condition unless the damaged goods or short supplies are made good free of cost to the TNPDCI by the supplier.

18.3. If during the period of supply, it is found that goods already supplied are defective in materials or workmanship or do not conform to the rate contract or are

unsuitable for the purpose for which they are purchased then it will be open to the purchaser either to reject the goods and repudiate the entire contract and claim such loss that the purchaser may suffer on that account or require the contractor to replace the defective goods at free of cost.

18.4. Similarly, if during the guarantee period stipulated under guarantee clause subsequent to the date of receipt of the goods, any of the good be found defective in materials or workmanship, or do not conform to the rate contract or are unsuitable will be open to the purchaser either to repudiate the entire contract and claim damages or accept such part of the goods that are satisfactory and required the contractor to replace the balance or pay compensation to the extent of the loss sustained by the purchaser on that account.

18.5. "Notwithstanding any other remedies available, the Purchaser shall be entitled to dispose off the defective/ damaged materials in 'as is where is condition' without further notice, if the contractor/ supplier fails to rectify the defect and/or replace the damaged materials and/or fails to remove the defective/damaged materials within such period as may be notified by the Purchaser through notice and the sale proceeds of such disposal shall be appropriated towards the dues to the TNPDCCL such as Liquidated damages, ground rent, etc. as may be determined by the Purchaser.

19.0. RESPONSIBILITY:

The Tenderer is responsible for delivery of the materials at the destination station in good condition. The tenderer shall include and provide for securely protecting and packing the materials as per relevant packing standards to avoid damages or loss in transit. All risks connected with the supply of these materials should be borne by the supplier.

20.0. FAILURE TO EXECUTE THE CONTRACT:

20.1. Contractors failing to execute the order placed on them to the satisfaction of the Board under the terms and conditions set-forth therein, will be liable to make good the loss sustained by the Board, consequent to the placing of fresh orders elsewhere at higher rate, i.e. the difference between the price accepted in the contract already entered into and the price at which fresh orders have been placed.

This is without prejudice to the imposition of penalty under the Liquidated Damages clause.

21.0. NON-ASSIGNMENT:

21.1. The supplier shall not assign or transfer the contract or any part thereof without the prior approval of the Purchaser.

22.0. RECOVERY OF DUES TO TNPDCCL:

22.1 The TNPDCCL is empowered to recover any dues against this contract in any bills/ Security Deposit cum Performance / Earnest Money Deposit due to the contractor either in this contract or any other contract with TNPDCCL/TANTRANSCO/TNEB Ltd.

22.2 The TNPDCCL is empowered to recover any dues against any other contracts of the contractor with TNPDCCL/TANTRANSCO/TNEB Ltd, with the available amount due to the contractor against this contract. The successful Tenderer shall furnish an undertaking as per **ANNEXURE-V** in a non judicial stamp paper of Rs.500/- agreeing to the above condition.

23.0. RAW MATERIALS:

It is the responsibility of the tenderer to make his own arrangement to procure the necessary raw materials required for the manufacture.

24.0. GST REGISTRATION CERTIFICATE:

The tenderer should upload the copy of certificate of GST registration.

25.0. ARBITRATION ACT NOT TO APPLY:

The TNPDCCL will not accept any arbitration in case of disputes arising in any respect under this contract. Any dispute arising out of this contract shall not be subject to arbitration under the provisions of Arbitration and Conciliation Act 1996 in the event of any dispute between the parties.

26.0. PAST PERFORMANCE:

26.1. The intending tenderers shall furnish the documentary evidence with details of Purchase Orders executed for SEBs/Power Utilities/ TNPDCCL / TANTRANSCO during the preceding ten years in the Performa enclosed in the Tender Specification as per SCHEDULE-E.

26.2. The details furnished in SCHEDULE-E by the tenderers shall be in complete shape which will only be considered for finalization of tender if it is found that any information is found omitted, suppressed, incomplete or incorrect, the same will be taken note in deciding the tender.

27.0. JURISDICTION FOR LEGAL PROCEEDINGS (AFTER AWARD OF CONTRACT)

No suit or any proceedings in regard to any matter arising in respect of this contract shall be instituted in any court, save in the High Court, Madras, City Civil Court at Chennai or at the Court of small causes at Chennai. It is agreed that no other court shall have jurisdiction to entertain any suit or proceedings even though, part of the cause of action might arise within their jurisdiction. In case any part of the cause of action might arise within the jurisdiction of any other Courts in Tamil Nadu and rest within the jurisdiction of courts outside the Tamil Nadu, then it is agreed to between the parties that such suits or proceedings shall be instituted in a Court within the State of Tamil Nadu and no other court outside the State of Tamil Nadu shall have jurisdiction even though any part of the cause of action might arise within the jurisdiction of such courts. The successful Tenderer shall furnish an undertaking as per **ANNEXURE-II** in a non judicial stamp paper of Rs.500/- agreeing to the above condition.

28.0 PRODUCTION CAPACITY :

TNPDCCL requires all capacity of distribution transformers in every month. The bidders shall indicate their monthly capability to supply each capacity of distribution transformers in the SCHEDULE –G, taking into account the balance quantities to be supplied under various purchase orders.

Bidders who are manufacturers shall furnish the Electricity Service Connection (SC) Number(s) pertaining to their factory premises in their bid.

SECTION-VI

TECHNICAL SPECIFICATION FOR OUTDOOR TYPE 100KVA/22KV/433V ENERGY EFFICIENCY LEVEL-1 DISTRIBUTION TRANSFORMERS (AS PER THE AMENDMENT NO:4 MARCH 2021 TO IS:1180(PART-I): 2014)

1.0 SCOPE:

This specification covers design, engineering, manufacturing, assembling, inspection, testing at manufacturer's work, packing, insurance, forwarding and delivery of oil immersed naturally cooled, outdoor, Three Phase, 50Hz, 100 KVA/22KV/433V Delta/Star Copper Wound Energy Efficiency Level-1 Distribution Transformers at our stores anywhere in Tamil Nadu as per details furnished hereafter.

2.0 APPLICABLE STANDARDS:

Distribution Transformers shall conform to IS: 1180(PART-I): 2014 as amended upto date or other International Standards for equal or better performance. Unless otherwise specified, the equipment offered shall conform to latest applicable Indian, IEC, BRITISH or USA Standards and in particular to the following.

IS:1180 PART-I:2014	:	Outdoor Type Oil immersed Distribution Transformers upto and including 2500KVA and 33KV.
IS : 335 / 2018(TYPE-II)	:	New Insulating Oil.
IS:2099/1986, IS:742: 1988, IS:3347(PART-I)/SEC-2:1979, IS:3347(PART-I)/SEC-1:1982	:	Bushings amended upto date.
IS:5	:	Colours for paints and enamels.
IS:104	:	Ready mixed paint, brushing, Zinc chromate, Priming.
IS:649	:	Testing of steel sheets and strips for magnetic circuits.
IS:1576	:	Solid Press Boards for electrical purpose.
IS:2362	:	Determination of water content in oil for porcelain bushing transformers.
IS:6162(PART-I) &(PART-II)	:	Paper Covered Aluminium Conductor.
IS : 7404 (Part 1)	:	Paper Covered Copper Conductor.
IS: 5561	:	Electric Power Connectors.
IS:6103	:	Testing of specific resistance of electrical insulating oils/liquids.
IS:6262	:	Method of test for power factor and dielectric constant of electrical insulating liquids.
IS:6792	:	Determination of electrical strength of insulating liquids.
SECTION: B	:	CBIP Manual.
IS:13730(PART-27): 1996	:	Specification for particular types of winding wires.
IS:9335(IEC 554)	:	Specification for insulating kraft paper equipment conforming to the above standards which ensure equal or higher quality would also be applicable.
IS: 3024:2006	:	Specification of Core
IS: 4253(Part-2) :2008	:	Specification for gaskets.
IS:3401	:	Specification for silica gel.
IS:2705	:	Specification for current transformers.
IS:8999	:	Specification for conservator.
IS:6160	:	Rectangular Electrical Conductor for Electrical Machines.

IS:12444:1988	:	Specification for continuously cast and rolled electrolytic copper wire rods.
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In case of any conflict or discrepancy between the provisions of these standards and the provisions of this specification, the provisions contained in this specification shall prevail.

3.0 CLIMATIC CONDITION:

Peak outdoor temperature	:	50 ° C
Minimum outdoor temperature	:	-5 ° C
Maximum oil temperature	:	85 ° C under maximum temperature , maximum load conditions.
Maximum relative Humidity	:	95%
Minimum relative Humidity	:	10%
Average number of thunder storm in days per annum	:	60 days
Average number of rainy days per annum	:	90 days
Number of months of tropical monsoon conditions	:	3 months
Average annual rainfall	:	125 cm
Wind Pressure	:	100 Kg/Sq.m
Altitude not exceeding	:	1000 meters.

4.0 PRINCIPAL PARAMETERS:

4.0.1 The distribution transformers shall be suitable for outdoor installation with 3Phase, 50 Hz , 11 KV system in which the neutral is effectively/solidly earthed and they should be suitable for service with fluctuations in supply voltage upto plus 12.5 % to minus 12.5 % and fluctuation in frequency upto plus 5% to minus 5%.

4.0.2 The transformers shall conform to the following specific parameters.

S.No.	DESCRIPTION	:	TECHNCIAL PARAMETERS
i.	System Voltage (Maximum)	:	24 KV
ii.	HV Rated Voltage	:	22 KV
iii.	LV Rated Voltage	:	433 V
iv.	Frequency	:	50 Hz. Subject to fluctuations of +/-5%
v	Number of Phases	:	Three
vi.	HV Connection	:	Delta
vii. a	LV Connection	:	Star (Neutral brought out)
b.	LV Neutral Earthing	:	Neutral point of the secondary winding –LV shall be brought out in a separate insulated terminal and shall be solidly earthed.
viii.	Vector Group	:	D y n 11
ix.	Type of Core	:	CRGO
x.	Winding	:	HV/LV Windings shall be wound with relevant IS , Specification and GTP.
xi.	Rating	:	100 KVA
xii.	Type of Cooling	:	ON AN
xiii.	Percentage Impedance at 75 ° C at principal tap.	:	4.5% +/- IS Tolerance.
xiv.	Maximum temperature rise over an ambient .	:	i.Top oil temperature rise measured by thermometer : 35 ° C
			ii.Winding temperature rise by resistance method: 40 ° C

xv.	Tapping	:	Not Applicable
xvi.	Audible sound level at rated voltage and frequency.	:	51 decibels
xvii.	Neutral Current	:	shall not be more than 2% of rated full load current.
xviii.	No Load Voltage Ratio	:	22000/433 V

4.1 MATERIALS AND WORKMANSHIP:

All the materials used in the construction of the distribution transformers and accessories shall be of the highest quality. The entire design and construction should be capable of withstanding the severest stresses likely to occur in actual services and capable of resisting rough handling during transport. The workmanship shall be of the highest grade and entire construction in accordance with the best modern practice.

4.2 FLUCTUATION IN VOLTAGE:

The distribution transformers shall be rated suitable for operation for voltage upto plus or minus 12.5% on the H.V. side and frequency variation plus or minus 5%.

4.3 NATURE OF LOAD:

The distribution transformers will be used for supplying a mixed power and lighting loads.

4.4 OVER LOADING CAPACITY OF THE DISTRIBUTION TRANSFORMER:

The distribution transformers shall be capable of carrying without injury, momentary and alternatively sustained overloads of duration as per Indian Standards under various conditions of operation, rated voltage and frequency being maintained. The overload capacity of distribution transformers for two hours (i) Starting from cold and (ii) after continuous full load run shall be clearly stated.

4.5. NEUTRAL CURRENT:

The neutral current shall not be more than 2% of the rated full load current.

4.6 PARALLEL OPERATION:

All the distribution transformers of the same voltage ratio shall be exactly the same design and operating characteristics such that they shall give perfectly satisfactory operation when run in parallel and share the load in proportion of their rated KVA within the limits of tolerance laid down in IS:2026 of latest issue. The distribution transformers of the same rating shall be absolutely identical and inter-changeable in all respect.

5.0 LOSSES :

The standard total losses at 75 ° C will be as follows. The supplier shall guarantee within the maximum allowable value but the total load losses at 100 % load condition and at 50% load condition at rated frequency at 75 ° C shall not exceed the value as mentioned below.

Voltage Ratio	Rating in KVA	Maximum total load loss at 100 % Loading (No Load Losses + Load Losses @100%)	Maximum total load loss at 50 % Loading (No Load Losses + Load Losses @ 50%)
22000/ 433 V	100	1733 Watts	499 Watts

NOTE: AS PER THE AMENDMENT NO:4 MARCH 2021 TO IS:1180(PART-I): 2014

6.0 TRANSFORMER CORE :

FOR CRGO:

- The core shall be stacked type:

The core shall be of high grade cold rolled grain oriented (CRGO) annealed steel of M4 grade or superior having low loss and good grain properties, with inter lamination resistance and rust inhibiting property. The complete design of core must ensure permanency of the core losses with continuous working of the transformers.

ii. The supporting frame work of the core shall be so designed so as to avoid the presence of pocket which would prevent complete emptying of tank or cause trapping of air during filling.

iii. The core shall conform to latest IS: 3024- Grain Oriented Electrical Sheet Steel and Strip and IS 649 – 1983- Method of Testing of steel sheets and strips for magnetic circuits.

iv. The grade of core lamination shall be superior than M4 grade or better. The successful bidder shall be required to submit the manufacturer's test report showing the losses in Watt per Kg and the thickness of the core lamination to ascertain the quality of core materials. The purchaser reserves the right to get sample of the core material tested at any Government recognized laboratory.

v. The transformer core shall not be saturated for any value of V / f ratio to the extent of 112.5 % of the rated value of V / f (i.e 22000 V / 50 Hz) (due to combined effect of voltage and frequency) up to 12.5 % voltage and 5% frequency variation without injurious heating at full load condition and will not get saturated. The bidder shall furnish necessary design data in support of this situation.

vi. FLUX DENSITY:

Flux density should not be more than 1.60 Tesla at the rated voltage and frequency and core shall not get saturated up to 112.5% of rated voltage with 5% variation of frequency. The value of the flux density allowed in the design shall be clearly stated in the offer along with graph.

vii. The no load current at rated voltage shall not exceed the percentage given in the table below.

KVA Rating	At rated Voltage	At 112.5 % rated Voltage
100	3% of the full load current in LT winding.	6% of the full load current.

viii. The minimum

a. Effective core area.

b. Number of core steps.

c. Internal Clearance and (a),(b) & (c) shall be as per **bidders design**.

ix. Number of steps of core shall be as per **bidders design**.

x. Weight of core alone and weight of core & windings should be furnished in SCHEDULE-B-GTP failing which tender is liable for rejection.

xi. 1 % tolerance is permissible **for applicable dimension of core**.

7.0 CORE CLAMPINGS:

7.1 The assembled core shall be securely clamped with uniform pressure to minimize the noise level.

7.2 MS Channel 100X50 mm on top and bottom shall be used for clamping the core.

7.3 **Suitable number of 12mm High Tensile horizontal bolts in parallel in each end shall be provided and shall be effectively insulated with kraft paper/fibre tube.**

7.4 Channel on LV side to be reinforced at equidistant if hole cutting is done for LT lead so as to avoid bending of channel.

7.5 MS Channels are to be painted by varnish and corrosion and oil resistant paint before use.

7.6 Flat or cut channel shall not be used.

7.7 Clamping arrangement should be strong enough to withstand mechanical force. The mechanical strength should be proven by short circuit test.

- 7.8 Core clamping frame shall be provided with lifting holes for tanking and de tanking and the core is to be electrically connected by tinned copper strip of adequate size to the core frame for earthing through the tank at two different points to drain off the electrostatic potential that may build -up.
- 7.9 **TIE RODS:**
 Suitable number of vertical tie rods of High Tensile steel of 12 mm diameter are to be used. Tie rods to be effectively insulated with kraft paper/fiber tube of suitable thickness.
 a) All top and bottom yoke nuts, bolts and tie rods shall be painted with oil and corrosion resistant paint for use.
 b) The flat provided at the core shall not be cut through the length.
 c) Tie rods shall be effectively earthed.

8.0 WINDINGS:

- 8.1.1 HV windings and LV windings shall be wound with Covered copper conductor with insulation covering as per approved design /GTP and relevant IS .
- 8.1.2 The windings shall be so designed that all coil assemblies of identical voltage rating shall be interchangeable. Joints in the coils shall be avoided.
- 8.1.3 The winding shall be assembled on the core centrally for magnetic balance & symmetrically for electrical balance. The arrangement of oil duct to ensure the absence of hot spots.
- 8.1.4 The number of HV coils per phase per limb shall be six.
- 8.1.5 LV windings shall be cylindrical and concentric with HV windings on the outer side.
- 8.1.6 The LV windings shall be in even layers so that the neutral formation will be at top.
- 8.1.7 The current density for HV & LV winding should not be more than 2.8 A / Sq.mm for copper and 1.6A /Sq.mm for aluminium conductor. The tenderer should mention the design value of the same in the SCHEDULE-B -GTP.
- 8.1.8 If the axial length of HV / LV coils is required to be on the higher side due to practical problems during manufacture, the increase the axial length is accepted and this shall be accommodated by the end insulation space of 40 mm provided for both at the top and bottom.
- 8.1.9 TAP CHANGING SWITCH: If applicable
 The tap changing & the tap changing mechanism shall have the following characteristics.
 a) tap changing shall be carried out with the distribution transformer off circuits.
 b) tappings shall be provided on the HV windings for variation of voltage on H.V. side from - 5% to +2.5% of the rated voltage in steps of 2.5% and shall be controlled by an externally hand operated off-circuit tap changing switch. The tap changing gear should be provided with an indicator arrangement in aluminium anodized plate to show the tap position. The tap switch position No.1 shall correspond to the maximum plus tapping. Provision shall be made for locking the tapping switch handle in position. The operating lever of tap switch should be provided at the side of the tank and not on top of the tank cover.

9.0 INSULATION:

- 9.1 All insulating materials to be used in the transformer shall be of Class A insulation as specified in the Indian Standard. The paper insulation shall be dry and free from puncture and other defects. Solid insulation shall be of best quality, wooden support, if used, shall be well seasoned and compatible with hot transformer oil.
- 9.2 Press Board block at top and bottom of each coil assembly shall be provided as per the IS 1576.(As per bidders design).
- 9.3 Minimum vertical/axial wedges shall be provided between LV and HV windings as per bidders design.

- 9.4 The neutral connection of LT winding shall be formed using copper strip of same size as that of S type link of size as per bidders design.
- 9.5 The delta formation of HV winding shall be made using copper jumper leads of larger size. The leads shall be enclosed in Kraft insulated paper tube.
- 9.6 HV and LV winding insulation shall be as per bidders design with relevant IS.
- 9.7 The insulation of end turns of HV windings shall be so designed as to withstand the Lightning Impulse test as per latest IS : 2026 (PART-3)
- It may clearly be indicated as to whether reinforcement to the end turns insulation is provided or not and if provided, the extent of and turns for which insulation reinforcement is provided shall be furnished.

10.0 CLEARANCES:

- 10.1 Radial clearance of LV coil to Core to be specified by the bidders.
- 10.2 LV inter layer clearance to be specified by the bidders.
- 10.3 Radial clearance between HV and LV coils to be specified by the bidders.
- 10.4 Phase to Phase clearance between HV coils to be specified by the bidders.
- 10.5 The electrical clearance between the winding and body of the tank to be specified by the bidders.
- 10.6 End insulation to be specified by the bidders.

11.0 INTERNAL CONNECTION:

11.1 H.V. WINDINGS:

- i. In case of HV windings, all jumpers from winding to bushing shall have cross section larger than winding conductor.
- ii. The delta joints shall be with crimping and brazing only.
- iii. Lead from delta joint shall be brazed to the lug strip which in turn is to be connected to the bushing rod.

11.2 L.V. WINDINGS:

- i. L.V. star point shall be formed of copper flat of sufficient length lead from winding shall be connected to the flat from crimping / brazing.
- ii. Firm connection of LV winding to bushing shall be made of adequate size of 'L' shaped flat. Connection of LV coil lead to 'L' shape flat shall be with crimping and brazing. Alternatively 'L' shape lug of adequate capacity effectively crimped shall be provided.
- iii. 'L' shape flat / lug shall be clamped to LV bushing metal part by using nut, locknut and washers.

12.0 TANK:

- 12.1 The transformers tank shall be made up of prime quality M.S. sheets of rectangular shape. The transformers tank shall be of robust construction. Horizontal or vertical joints in side walls of tank and bottom or top plate of tank will not be allowed.

Side wall thickness	:	3.15 mm (Minimum)
Top and bottom plate thickness	:	5 mm (Minimum)

- 12.2 All the joints of the tank and fittings should be oil tight and no bulging shall occur during service. The tank design shall be such that the core and windings can be lifted freely. The tank plates shall be of such strength that the complete transformer when filled with oil may be lifted by means of the lifting lugs provided. Tank should be sand blasted or cleaned by chemical process and then coated with paint conforming to IS : 5 of latest issue. The inside of the tank shall be painted by oil resistant paint.
- 12.3 Top cover plate shall be slightly sloped approximately 10mm towards HV bushing so as to avoid stagnation of water at top cover plate. The edge of the

top cover should project beyond the sides and shall be bent downwards all round the tank to a depth of 10 mm so as avoid entry of water through the cover plate gasket.

- 12.4 Reinforcement on all the outside walls on the edge of tank to form two equal compartments shall be as per bidders design. The permanent deflection is not more than 5mm for the length upto 750 mm length and 6.5 mm for the length upto 1250 mm when the transformer tank without oil is subject to air pressure test and vacuum test as per IS:1180(PART-I):2014.

- 12.5 All welding operations to be carried out by MIG process.

- 12.6 **VERTICAL CLEARANCE :**

The height of the tank shall be specified by the bidders.

- 12.7 **LIFTING LUGS:**

4 Nos. welded heavy duty lifting lugs of MS plate of 10 mm thickness suitably reinforced by vertical supporting flat of same thickness as of lug welded edgewise below the lug on the side wall, upto reinforcing angle. They shall be so extended that cutting of bending plate is not required.

- 12.8 **PULLING LUGS:**

4 Nos. welded heavy duty pulling lugs of MS plate of 10 mm thickness shall be provided to pull the transformer horizontally.

- 12.9 **TOP COVER FIXING BOLTS:**

a) 6 mm neoprene cork oil resistance gaskets of RC 70- A grade, C Type conforming to latest IS: 4253(Part-2) :2008 of Nucork Brand or equivalent shall be placed between tank and cover plate.

b) GI bolts and nuts shall be of size 12mm X 40 mm with one plain and one spring washer suitably 100 mm apart to press the cover.

- 12.10. **PROVISION FOR RESISTANCE TEMPERATURE DETECTOR- RTD (PT100)**

Provision for RTD (Type : PT100) sensor for analyzing the top oil temperature rise should be made at the top cover of main tank.

The dimensions for PT100 provision shall be 10 mm Dia., 50 mm Depth with female thread size of 1/2" BSP at the head or it should be suitable for fixing any reputed RTD with type of PT100 sensors available in the market.

- 13.0 HEAT DISSIPATION:**

a) Heat dissipation by tank walls excluding top and bottom *should have maximum* .

b) Tenderer shall submit the calculation sheet.

c) The guaranteed temperature rise of oil and winding shall be found by conducting temperature rise test in presence of the representative of the purchaser.

- 14.0 TOTAL MINIMUM OIL VOLUME:**

14.1 Oil shall be filled under vacuum.

14.2 The volume of New Oil should be filled as such the core and coil assembly should be submerged after the oil being absorbed by core and coil assembly (AS per Bidder Design) **(Density of oil 0.89g/cm cube). The Grade and Characteristics of the oil filled is of IS:335 /2018 Type -II (Latest Amendment).**

14.3 If the absorption of oil in the core and the windings is more than the permissible value, the first filling oil volume should be increased accordingly and detailed calculation of absorption shall be submitted.

- 15.0 CONSERVATOR:**

15.1 The total volume of the conservator shall be such as to contain 10 % of total quantity of oil. Normally 3% quantity of the total quantity of oil will be contained in the conservator.

- 15.2 The oil gauge and the breather device shall be fixed to the conservator which shall also be provided with a drain plug and a filling hole (1¼ quarter nominal size thread sec. also as per latest IS: 8999 with cover). In addition the cover of the main tank shall be provided with an air release plug to enable air trapped within to be released.
- 15.3 The prismatic oil level indicator shall be provided on the side which will be fully covered with detachable flange with single neoprene gasket and tightened with M.S. Bolt and nuts.
- 15.4 The inside diameter of the pipe connecting the conservator to the main tank shall be within 30 to 50 mm and it should project into the conservator in such a way that its end is approximately 20 mm above the bottom of the conservator so as to create a sump for collection of impurities. The minimum oil level should be above sump level. (50% of conservator tank capacity).
- 15.5 The pipe from conservator tank connecting to main tank shall be sloping so that the oil falling from the pipe shall not fall directly on the active parts and shall fall on the side walls only.
- 15.6 The conservator shall be provided with the drain plug and filling hole with cover. In addition the cover of the main tank shall be provided with an air release plug.

16.0 BREATHERS:

- 16.1 Breather joints shall be of bolted type. It shall have die cast aluminum body/polypropylene and inside container for silica gel shall be suitable material.
- 16.2 The volume of breather shall be 500 grams of silica gel breather shall be provided for 100 KVA Distribution Transformer.
- 16.3 The breather shall have an inspection window to view the condition of the silica gel breather.
 - i) shall be fabricated from high quality aluminium alloy (M-6) & powder coated for corrosion resistance.
 - ii) special grade nitrile gasket to ensure water proof & air tight joints.
 - iii) glass / transparent UV stabilized polycarbonate for visualizing silica gel & oil level should be fixed by using screws to the main body with gasket to prevent leakage of oil.
- 16.4 Silica gel shall be conforming to IS: 3401/1992 with its latest amendments.
- 16.5 The breather shall be provided along with each distribution transformer with good quality to meet out the environmental/ climatic conditions and additional one number breather with same specification should be supplied along with each distribution transformer.

17.0 TRANSFORMER OIL:

The distribution transformers shall be supplied in complete shape with first filling of oil and the same shall comply with the latest IS:335/ 2018 (TYPE-II) standard (with latest revisions) with aging characteristics specified. Test certificates shall be furnished.

SL.NO.	PROPERTY	LIMITS
A. FUNCTION		
1	Viscosity at 40° c	15mm ² /s, (Max)
2	Pour Point	-10°C (Max)
3	Water Content	40 mg/kg (Max)
4	Break down voltage(Electric strength)with 2.5 mm gap	
	a) New unfiltered oil as in received condition	30 KV (Min)
	b)After filtration	70 KV (Min)
5	Density at 20° c	0.895g/ml, (Max)
6	DDF (Dielectric Dissipation Factor) at 90° C	0.005(Max)

B. REFINING/STABILITY		
7	Appearance	Clear, free from sediment and suspended matter
8	Acidity	0.01 mg KOH/g (Max)
9	Interfacial Tension	40 mN/m (Min)
10	Corrosive Sulphur	Not Currosive
11	Inhibitors	Uninhibited Mineral oil: not detectable (< 0.01%)
		Trace inhibited oil: <0.08%
		Inhibited oils: 0.08%-0.40%
12	2 Furfural and related compound content	Not detectable(<0.05 mg/kg) for each individual compound
C. PERFORMANCE		
13	Oxidation Stability	
	a. Total Acidity	1.2 mg KOH/g. (Max)
	b. Sludge	0.8% (Max)
	c. DDF at 90° C	0.500 (Max)
D. HEALTH, SAFETY AND ENVIRONMENT (HSE)		
14	Flash Point	135° C
15	PCA Content	3% Max
16	PCB Content	Not detectable(< 2 mg/kg)

17.1 INSPECTION AND TESTING OF TRANSFORMER OIL:

The manufacturer shall make arrangements for testing of transformer oil to be used in the transformers and testing will be done at manufacturer's cost in TNPDC Lab. One percent of ordered quantity subject to a minimum one number of distribution transformer among the ordered transformers after supply of DTs. to TNPDC stores, shall be selected from each manufacturer, at random. The oil shall be tested at nearby TNPDC R&D Lab and it shall comply with latest IS :1866 Table -I (with latest revisions). These tests shall be carried out before taking stock of the DTs. If the transformer oil fails to meet the technical specification the quantity of transformers ordered will be forthwith rejected.

All tests to verify the characteristics mentioned as above shall be carried out in accordance with **IS:335-2018**. The cost for oil testing shall entirely be borne by the supplier.

In general, the B.D.V. test should be conducted in the ratio of 1 in 10 or if the number of DTs to be supplied is less than 10, one among this lot at the special maintenance wing of the respective circles before stock taking.

The distribution transformer oil shall be new , uninhibited transformer oil complying with IS 335/2018 (TYPE-II) and to ascertain the quality of the distribution transformer oil, the original manufacturer's test report should be submitted at the time of inspection.

18.0. RADIATORS:

18.1. Heat dissipation by fin type radiator thick shall be worked out on the basis of manufacturers data sheet. The tenderer should submit the calculation sheet.

18.2. The radiators may be fixed at right angle to the sides or diagonally. The size of the radiator shall be such that it covers **maximum of 50%** of the bottom yoke, full core and complete top yoke.

18.3. The adequate radiators must be provided. There should be a clear gap of 75 mm between the tank/stiffner if any and the radiators so that the belting angles one on each longer side of the tank can be fixed. The radiators shall not hinder the passage of belting angles.

19.0. BUSHING TERMINALS:

- 19.1. Brass rods with 12 mm diameter for HT and Copper rods with 12 mm for LT for 100 KVA Distribution Transformer.
- 19.2. The HV and LV winding conductor shall not be terminated to the bushing rod directly.
- 19.3. HT/LT bimetallic connectors shall be provided to avoid bimetallic action at the point of connections to the external aluminum cables/conductors.
- 19.4. HV winding shall be linked through a terminal lug and copper jumper lead of larger size. The leads shall be enclosed in Kraft paper tube.
- 19.5. LV winding shall be terminated using inverted S type link with suitable size flat.
 - a) All the leads / links shall be immersed in oil.
 - b) All the leads/link shall be taken neatly strapped on an insulated Press Board / wooden bus bar.
 - c) The metallic connector shall be L type for LT bushing.
- 19.6 The bimetallic connectors for HT/LT conforming to IS: 5561 shall be provided.

20.0. BUSHINGS:

- 20.1. For 22KV , single piece type of rating 24KV rating shall be used.
- 20.2. For LV, double piece type of rating 1.0 KV rating shall be used.
- 20.3. Bushings of the same voltage class shall be interchangeable.
- 20.4. Bushings with plain sheds as per IS:3347 shall be mounted on side of the tank and shall have an inclination of more than 30 degrees from the vertical as per CBIP manual and IS: 2099-1986.
- 20.5. Only sheet metal pocket with turret shall be provided for mounting HT bushing.
- 20.6. Creepage distance shall not be less than 25mm/KV as per IS: 2099-1986.
- 20.7. All jumpers from windings to bushing shall have a cross section larger than the winding connectors. The minimum phase to phase and phase to earth external clearances for HV & LV bushings shall be as follows:

MINIMUM CLEARANCES		
	PHASE TO PHASE (IN MM)	PHASE TO EARTH (IN MM)
22 KV- HV BUSHINGS	330	230
LV BUSHINGS	75	40

21.0. BUSHING METAL PART & TERMINALS:

- 21.1 The bushing porcelain and metal parts shall conform to the following specifications:

Voltage Class	For Porcelain Parts	For Metal Parts
Upto 1.0 KV Bushings	IS:3347(PART-I/Sec-I)	IS:3347(PART-I/Sec-II)
24 KV Bushings	IS:3347(PART-IV/Sec-I)	IS:3347(PART-IV/Sec-II)

22.0. TANK BASE CHANNEL:

- 22.1 ISMC 75X 40 mm channel shall be used for base. The tank base channels shall of sufficient length so as to facilitate for pole mounting. Base channel shall be welded to the bottom of the tank across the longitudinal side of the tank.

23.0. EXPLOSION VENT:

- 23.1. The explosion vent like swan's neck is to be fitted at an angle of about 75 deg. to the horizontal to avoid direct splashing of rain water on the diaphragm. The diaphragm shall be made of Hylem Sheet of thickness 0.3 mm to avoid absorption of moisture.

- 23.2. Aluminium net with bigger holes may be provided before the diaphragm and the distance shall be **12 mm** minimum. Aluminium net should rupture along with diaphragm and oil shall come out through the explosion vent during fault or during abnormal pressure developed in the distribution transformers thereby preventing the burst / huge damage to the transformer. The pipe diameter of the explosion vent shall be **70 mm** fixed by welding on sufficient size of hole on the top of the tank to handle more oil to flow out in quicker time and to reduce pressure inside the tank.
- 23.3. The thickness of pipes in the case of vent pipe and the conservator shall be sufficient to avoid weak metal parts which would give way under pressure. The inside of the vent pipe shall be treated with anti corrosive paints as done in the case of main tank.

24.0. PAINTINGS:

(A) PROCEDURE FOR PAINTINGS:

- (i) All prepared steel surfaces should be primed before visible re-rusting occurs or within 4 hours, whichever is sooner. Chemical treated steel surfaces shall be primed as soon as the surface is dry and while the surface is still warm.
- (ii) Where the quality of film is impaired by excess film thickness (wrinkling, mud cracking or general softness) the supplier shall remove the unsatisfactory paint coating and apply another coating. As a general rule, dry film thickness should not exceed the specified minimum dry film thickness by more than 25%.

(B) PAINTING FOR DAMAGED PORTION:

- (i) Any damage occurring to any part of a painting scheme shall be made good to the same standard or corrosion protection and appearance as that was originally applied.
- (ii) Any damaged paint work shall be made good as follows:-
 - (a) The damaged area, together with an area extending 25 mm around its boundary, shall be cleaned down to bare metal.
 - (b) A priming coat shall be immediately applied, followed by a full paint finish equal to that originally applied and extending 50 mm around the perimeter of the original damage.
 - (c) The repainted surface shall present a smooth surface. This shall be obtained by carefully chamfering the paint edges before and after priming.

(C) DRY FILM THICKNESS:

- i. To the maximum extent practicable the coats shall be applied as a continuous film of uniform thickness and free of pores. Overspray, skips, runs, sags and drips should be avoided. The different coats may or may not be of the same colour.
- ii. Each coat of paint shall be allowed to harden before the next is applied as per manufacturer's recommendation.
- iii. Particular attention must be paid to full film thickness at the edges.
- iv. The requirements for the Dry Film Thickness (DFT) of paint and the materials to be used shall be as given below:

S.No	Paint Type	Area to be painted	No. of Coats	Total Dry Film Thickness,(Min) (microns)
1.	Thermo setting powder paint	Inside outside	01 01	30 60

2.	Liquid paint			
	a) Epoxy (primer)	Outside	01	30
	b) Polyurethane paint (finish coat)	Outside	02	25 each
	c) Hot oil resistant paint / varnish.	Inside	01	35/10

(D) TESTS FOR PAINTED SURFACE:

- The painted surface shall be tested for paint thickness.
- The painted surface shall pass the cross hatch adhesion test and impact test as acceptance tests and Salt spray test and Hardness test as type test as per the relevant ASTM standards.

(E) COLOUR:

The colour of the finishing coats for tank and radiators shall be dark admiralty grey conforming to IS:5 of 2007 ((ISC. No: 632) colours for ready mixed paints)

25.0. TERMINAL MARKINGS:

- The physical positions of terminals relative to one another shall be as per **IS: 2020** of latest issue.
- HV windings shall be marked both on the terminal board inside the tank and on the outside with Capital letters 1U, 1V and 1W and LV windings of the same phase marked by corresponding letters 2u,2v and 2w and neutral point terminals being indicated by the letters N and E indicating distribution transformer **neutral and service neutral and both should be linked internally.**
- Letters shall be assigned to the windings respectively from the left to the right facing the side carrying HV terminals.
- Vector diagram plate shall clearly indicate the methods adopted for marking the terminals both interior and outside.

26.0 DETAILS OF RATING PLATE:

The details and the size of the rating plate for three phase distribution transformers shall be as per the IS:1180(PART-I) :2014. The entries of the rating plate shall be in indelibly made by etching, engraving or stampings as specified in IS: 2026 .

26.1 UNIQUE IDENTIFICATION NUMBER:

Unique Identification Numbering system is proposed for implementation/adoption for Distribution Transformers during the period of supply by the manufacturers.

The template of the unique numbering system and the methodology that needs to be adopted for Distribution Transformers is as below:

T	D	1	0	0	2	G	E	N	5	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

- The first two digit represents the entity (i.e.,) TNPDC / TANTRANSCO
- The 3 to 5 digits represents the capacity of the Distribution Transformers
- The sixth digit represents the Voltage Ratio (i.e.,) 11KV/22KV
- The 7 to 9 digits represents the firm name to be supplied.
- The 10 to 15 digits represents the running number which is proposed to be maintained at DT Division.

The Unique Identification Number should be assigned continuously in a separate plate and to be riveted on the body of the Transformer for the ordered quantity.

27.0 FITTINGS:

Rating and Terminal marking Plate	: 1 No.
Earthing Terminals with earthing symbol ,lugs and markings	: 2 No.
Lifting Lugs for cover and main tank	: 2 No & 4No.
Oil filling hole with cap	: 1 No.
Breathing device	: 1 No.
Drain cum sampling valve of diameter 20 mm with steel plug	: 1 No
Filtration valve of diameter 20 mm with steel plug	: 1 No
Air Release Plug	: 1 No
Pulling Lugs	: 4 No.
Radiators	: Adequate area.
HT and LT Bushing	: 3 Nos. of HT Bushing and

: **LT Bushing shall be provided as per bidders design.**

Each bushing should be provided with 3 Nos. of brass nuts and 2 plain brass washers.

Bi-metallic connectors HV Side Brass / Aluminium : 3 Nos.

LV Side Copper/ Aluminium : **as per bidders design**

28.0. CURRENT TRANSFORMERS: **NOT APPLICABLE**

29.0 TESTS ON DISTRIBUTION TRANSFORMER:

Type tests, Special tests, routine tests and acceptance tests shall be conducted on distribution transformers, of each capacity. All the equipments offered, shall be fully type tested as per the relevant standards, In case the equipment of the type and design offered has already been type tested in an independent NABL accredited Lab, the supplier shall furnish (in four sets) the type test reports before offering the material for inspection. These test must not have been conducted earlier than five years from the date of tender opening.

29.1 TYPE TEST:

The following shall constitute the types as per IS-1180 (Part I) 2014 and IS:2026/CBIP manual.

A. TYPE TESTS:

- Lightning impulse test – IS:2026 (PART-3)
- Temperature rise test – IS: 2026 (PART-2)
- Short –circuit withstand test- IS:2026 (PART-5)
- Pressure test with explosion vent – IS:1180 (PART-I) 2014.

B. SPECIAL TESTS:

- No load current at 112.5 percent voltage.

NOTE:

- All type and special tests shall be conducted once in five years and also for every change in design at any independent NABL accredited Laboratory like CPRI, ERDA etc.
- If necessary , random samples of materials supplied will be tested (**both routine & type tests and any other special tests**) departmentally or through approved Govt. Laboratory at purchaser's cost. If any non-conformity to relevant IS and TNPDC specification , full supplies will be rejected. If initial payment had already been made , the balance payment will be forfeited and any other losses or damages including testing charges will also be claimed. Future supplies in such cases will be accepted and paid for only after the results of the samples tested are satisfactory . In addition, the guarantee period will also be extended for subsequent supplies at the discretion of the purchaser.

- C) The transformer so selected at random vide item (B) shall also be subject to strip test after all the type tests are conducted. After the strip test the distribution transformer shall be subjected to physical inspection as per ISS. If the distribution transformer fails to meet out the requirement of type tests & special tests, the quantity of transformers ordered on them will be forthwith rejected. If any subsequent tests to be conducted as per the TNPDC approval, it shall be at the cost of the supplier.

29.2. TYPE TEST REPORTS:

29.2.1 The attested copy of the type test and special test reports as mentioned in clause 29 of SECTION – VI of this Specification should be submitted along with the tender offer. Otherwise the tender offer will summarily be rejected. The Attestation should be obtained from NABL Lab in which the above testing was carried out.

29.2.2 If the type tests and special test would have been conducted within five years as on the date of tender opening, otherwise the reports will be considered as invalid.

29.2.3 Proof for taking out the distribution transformers from the factory to the NABL accredited lab and bringing back to the company along with the clear xerox copy of inward and outward gate pass entries of the lab for both the Short Circuit Lab and the High Voltage Division Lab for conducting the tests should be enclosed.

29.2.4 Tests to be done on one single unit only.

29.2.5 Test piece should be available for verification if needed, till completion of contract.

29.3 ROUTINE TESTS:

All distribution transformers manufactured shall be subjected to the following routine test, at the manufacturer's works in accordance with IS:1180 (PART- I):2014.

- a) Measurement of winding resistance- IS: 2026 (PART-I).
- b) Measurement of voltage ratio and check of phase displacement - IS:2026 (PART-I)
- c) Measurement of short- circuit impedance (Principal tapping when applicable) and load loss at 50% and 100% load -IS:2026 (PART-I)
- d) Measurement of no-load loss and current - IS:2026 (PART-I)
- e) Measurement of insulation resistance- IS:2026 (PART-I)
- f) Induced over voltage withstand test- IS:2026 (PART-III)
- g) Separate source voltage withstand test - IS:2026 (PART-III)
- h) Air pressure test as per IS:1180 (PART-I):2014
- i) Oil leakage test as per IS:1180 (PART-I):2014

The test certificates shall include a statement of efficiency of the distribution transformers of various loads at unity and 0.8 power factor lag.

29.3 .1 UNBALANCE /NEUTRAL CURRENT TEST:

The value of zero sequence current in the star winding shall not be more than 2% of the full load current.

29.3. 2 PRESSURE AND VACUUM TEST:

The tank shall be fixed with a dummy cover with all fittings including bushing in position and be subjected to following pressure/vacuum created inside the tank

i) 80 kPa above atmospheric pressure for 30 minutes.

ii) a vacuum corresponding to 250 mm of mercury.

Permanent deflection of flat plate after pressure has been released shall not exceed the values given below:

LENGTH OF PLATE	DEFLECTION
Upto 750mm	5 mm
751-1250mm	6.5 mm
1251-1750mm	8 mm

Supplier should ensure that each fabricated tank is subjected to pressure and vacuum test at his works and confirmation to this effect is submitted in the test certificate along with routine test certificate while offering the material for final inspection.

29.3 .3 VECTOR GROUP TEST:

All the distribution transformers must be complied with requirements to confirm the vector group of Dyn11.

29.4.0

1. All the type, special and routine tests as stipulated in the relevant standards shall be carried out by the supplier in the presence of TNPDC representative.
2. Immediately after finalization of the programme of type/ special/acceptance/ routine tests, the supplier shall give fifteen days advance intimation to the TNPDC representative to enable to depute its representative for witnessing the tests. The cost for the inspection of TNPDC representative shall be borne entirely by the supplier. The routine test certificate shall be submitted along with the inspection offer.

29.4.1 ACCEPTANCE TESTS:

The following tests shall be witnessed by the purchaser at the firm's works.

- i) all the routine tests as mentioned in the clause 29.3 above shall be performed on minimum 10% quantity of offered lot.
- ii) heat run test- on one unit of total ordered quantity.
- iii) verification of active parts on one unit of each rating of offered quantity.
- iv) weightment of the complete unit.
- v) Power Frequency Test shall be conducted at 50 KV for 1 minute.

29.5 STRIP TEST:

29.5.1. One Unit will be subjected to strip tests at supplier's premises during the course of stage inspection by the TNPDC. The transformers are liable to be rejected if purchase order requirements are not met in respect of the minimum / maximum values specified in the P.O. or GTP. The BDV, Water Content and Resistivity should be tested from the randomly selected DT during the stage inspection for the first lot of DTs offered for inspection in all the Purchase orders. The cost for the oil tests shall be borne by the supplier.

29.5.2. TNPDC is at liberty to conduct strip test for 2% of the ordered quantity subject to a minimum of one number will be subjected to strip test at TNPDC stores in the presence of supplier's representative within 15 days from the date of receipt of intimation by the Superintending Engineer/MM II. If it is found that the distribution transformer is not meeting the specification requirements and is not meeting the specified values and values specified in P.O. or GTP, then all the distribution transformers in that particular consignment are liable to be rejected.

29.5.3. Dismantling and reassembling charges will be borne by the supplier. However minor facilities such as transport (store to special maintenance) drying, oven, cranes etc needed for conducting the strip test and subsequent reassembly by the supplier shall be provided by the consignee Superintending Engineers at free of cost.

30.0. TOLERANCES:

Unless otherwise specified herein, the values of different parameters of the transformers supplied shall be within the tolerance permitted in the IS:1180 (PART-1):2014 on the guaranteed values. Positive tolerance is not applicable for losses and negative tolerance not applicable for cross sections of winding specified.

31.0 GUARANTEED TECHNICAL PARTICULARS:

The guaranteed technical particulars as per SCHEDULE - B to be filled-in (except the guaranteed values) and submitted by the Tenderer. The distribution transformers to be supplied against this order shall have the value as per technical specifications. If any deviation in GTP mentioned, should be furnished in deviation schedule separately. The GTP should be furnished as per SCHEDULE- B. Supplies received with variation/ deviation from the guaranteed values will be liable for rejection.

32.0 DOCUMENTARY EVIDENCE:

The successful bidder shall have to furnish the routine test certificates along with the central excise gate pass and the purchase invoices for the purchase of CRGO sheet, core material, oil and aluminum wire, bushings, steel (required for fabrication of the transformer tank) etc., at the time of routine testing of the fully assembled transformer.

33.0 REJECTION :

Apart from rejection due to failure of distribution transformers to meet the specified test requirements the transformer shall be liable for rejection on any one of the following reasons:

1. No load total losses at 50% and 100 % loading exceeds the specified values mentioned in clause 5.0 above.
2. Impedance voltage value exceeds the guarantee value as mentioned in clause 4.0 above.
3. Type test and special test are not carried out as per the clause no. 29.1 of the specification.
4. Drawings are not submitted as per the clause No. 38 of the specification.
5. GTP not submitted as per the clause No. 31 of the specification.
6. Maximum temperature rise exceeds the specified values mentioned in clause 4.0 above.

34.0 TESTING FACILITY:

The supplier shall have adequate testing facility to conduct the routine and acceptance tests.

35.0 (a) TESTING OF NO LOAD AND FULL LOAD LOSSES :

After inspection of the new distribution transformers at factory for acceptance of the lot, all the distribution transformers will be tested for no load and full load losses at all stores. Supplier has the liberty to be present at the time of testing, the distribution transformers having losses exceeding from the GTP –SCHEDULE-B, will be rejected.

35.0 (b) Tests and Verifications to be carried out during Pre-Dispatch Inspection (PDI) FOR THE TRANSFORMERS:

The following which shall be included in the P.O. and the directions for the inspecting officials:

1. The following tests are to be carried out for all the distribution transformers by the inspecting official of TNPDC during PDI at the Manufacturer premises.

- (i) DC Resistance
- (ii) Loss at No Load
- (iii) Loss at 50 % Load
- (iv) Loss at 100 % Load

2. Further, the oil testing may be carried out in random samples of the Distribution Transformers.
3. The top cover of the DT has to be sealed in all the four corners, after completion of Tests at factory in presence of inspecting official of TNPDC.
4. The serial number of the DT has to be imprinted in the top cover also.
5. In the Enquiry, floated for procurement of DTs, the DC Resistance column is kept blank and the same is being filled by the tenderer. The value filled by the tenderer has to be compared with the type test report.
6. The No load current and Full load current has to be mentioned in the GTP.
7. At present, the earlier supply of Distribution Transformers, by the Suppliers are directly issued to the field and utilized for our works without any sample testing and the samples for Testing are selected in the subsequent supplies, in the middle of the supply period or in the final supply against a Purchase Order. Hence, it is suggested that a sample DTs may be selected in the first lot or if required in additional quantity also and sent to NABL lab / CPRI and acceptance has to be done based on the outcome of Tests only.
8. Further, the following tests are to be carried out mandatorily for the transformers supplied by the suppliers and received at Circle level and recorded at the Special Maintenance Lab in presence of supplier or his representative (and witnessed preferably by EE/MRT or EE/General or EE/O&M)

- (i) DC Resistance
- (ii) Loss at No Load
- (iii) Loss at 50 % Load
- (iv) Loss at 100 % Load

If provision for 100 % loading of DTs is not available, at least 50 % load loss can be tested and recorded. The test report for the DTs tested for each PO at Stores should be submitted to CE/MM/HQ.

(C) 100 % VISUAL VERIFICATION CHECKLIST TO BE CARRIED OUT FOR ALL THE DTs (at factory premises by the inspecting authority and after receipt of the DTs in the Stores by the concerned Special Maintenance):

1. BILL OF MATERIAL:

- CONSERVATOR WITH OIL FILLING PIPE, CAP AND DRAIN PLUG
- HV BUSHING WITH METAL PARTS
- LV BUSHING WITH METAL PARTS

- OIL LEVEL GAUGE
- LIFTING LUG WITH TOP COVER
- LIFTING LUG WITH TANK
- RATING AND TERMINAL DIAGRAM NAME PLATE
- DRAIN VALVE WITH PLUG
- FILTER VALVE WITH PLUG
- EARTHING TERMINALS WITH LUGS
- TANK BASE CHANNEL
- RADIATORS
- THERMOMETER POCKET AND POCKET EXTENSION FOR RT100
- AIR RELEASE PLUG
- EXPLOSION VENT PIPE

2. DIMENSION CHECK WITH APPROVED DIAGRAM:

- TANK OVER ALL DIMENSION (LXBXH) WITH AS PER IS TOLERANCE (+/-10%)
- CONSERVATOR OVER ALL DIMENSIONS WITH IS TOLERANCE (+/-10%)

3. BUSHING CLEARANCE FOR OUTDOOR TRANSFORMER:

CLASS	HV-(PH-PH)	HV(PH-E)	LV(PH-PH)	LV(PH to E)
11 KV	255 MM	140 MM	75 MM	40 MM
22 KV	330 MM	230 MM	75 MM	40 MM
33 KV	350 MM	320 MM	75 MM	40 MM

4. RADIATOR DIMENSIONS:

- L X W X NO OF COOLING FINS

5. Transformer Weight in Kg.(with Transformer oil)

6. OIL LEVEL GAUGE WITH CONSERVATOR

7. OIL LEVEL GAUGE WITHOUT CONSERVATOR

8. (i)The entire testing of DTs has to be recorded as video file.

(ii) Video file has to be uploaded.

36.0 QUALITY ASSURANCE PLAN:

In respect of raw materials such as core stamping, winding, conductor, insulating paper and oil, the manufacturer shall use these materials manufactured/supplied by the standard manufacturers and furnish the manufacturers test certificates as well as the proof of purchase from these manufacturers (excise gate pass) for information of TNPDC.

The bidder shall invariably furnish the following information along with his offer, failing which his offer, shall be liable for rejection.

Statement giving list of important raw materials including but not limited to:

- a) Core material
- b) Winding material
- c) Insulation paper and press boards.
- d) Transformer oil
- e) Bushings
- f) Tanks, conservator and radiators

Names of sub supplier for the raw materials, List of standards according to which the raw materials are tested, list of tests normally carried out on raw materials in presence of Bidder's representatives, copies of test certificates.

1. Information and copies of test certificates in respect of bought out accessories.
2. List of areas in manufacturing process where stage inspections are normally carried out for quality control and details of such tests and inspections.
3. Special features provided in the equipment to make it maintenance free.
4. List of testing equipment available with the bidder for final testing of transformers vis-à-vis, the type, special, acceptance and routine tests specified in the relevant standards. The limitations shall be very clearly brought out in the relevant schedule i.e., schedule of deviations from specified test requirements.

The supplier shall within 30 days of placement of order, submit following information to the purchaser.

- a) List of raw materials as well as brought out accessories and the names of sub suppliers selected from those furnished along with offer.
 - b) Type test certificates of the raw material and bought out accessories.
 - c) Quality Assurance Plan (QAP) with hold points for purchaser's inspection. The quality assurance plans and hold points shall be as per SCHEDULE- C.
- The supplier shall submit the routine test certificate of bought out items and raw material, at the time of routine tests of the fully assembled distribution transformer.

37.0 INSPECTION:

The supplier shall give 15 days advance intimation to the purchaser to organize stage inspection of the Distribution Transformer in which the assembly of core and the winding could be inspected. The TNPDCCL may at its option, open a Distribution transformer supplied to the stores, in the presence of the supplier at site or at TNPDCCL stores. If any of the technical particulars are seen to be at variance with the GTP the whole lot of transformers will be rejected and risk purchase resorted to.

38.0 DOCUMENTATION:

- 38.1 All drawings shall conform to international standards organization (ISO) 'A' Series of drawing sheet- **A3 Size**. All drawings shall be in ink and suitable for micro filming. All dimensions and data shall be in SI Units.
- 38.2 List of Drawings and Documents to be enclosed:
 - 1) DT1 – General drawing showing the dimensions, clearances and active parts for tendered rating of Distribution Transformer.
 - 2) DT2– Dimensional sketch showing the internal dimensions and clearance for tendered rating of Distribution Transformer.
- 38.3 The suppliers are to manufacture and supply the transformers strictly as per the specifications and as detailed in the above drawings only, and no deviations are permitted.
The supplier shall furnish all the details of constructional feature showing the details of all the items in the plan, sectional elevation and the side elevation and indicate these details/dimensions
- 38.4 The supplier shall furnish the magnetization characteristic curve for the core material of the transformer.
- 38.5 Two sets of the type test reports and special test reports, duly approved by the TNPDCCL shall be submitted by the supplier for distribution before commencement of supply.

- 38.6 The manufacture of the equipments shall be strictly in accordance with the approved drawings and no deviation shall be permitted without written approval of the TNPDC. All manufacturing and fabrication work in connection with the equipment prior to the approval of tile drawing shall be at tile suppliers risk.
- 38.7 Approval of drawings / work by TNPDC shall not relieve the supplier of his responsibility and liability for ensuring correctness and correct interpretation of the drawings for meeting the requirement of the latest revision of applicable standards, rules and codes of practices. The equipments shall conform in all respects to high standards of engineering design workmanship and latest revisions of relevant standards at the time of supply and the TNPDC shall have the power to reject any work or materials which in his judgment is not in full accordance there with.

39.0 PACKING AND FORWARDING:

The packing shall be done as per the manufacturer's standard practice. However, it should be ensured that the packing is such that, the material would not get damaged during transit by Rail/ Road/ Sea. The marking on each package shall be as per the relevant IS.

40.0 HISTORY BOOKS :

The tenderer (as per the enclosed ANNEXURE-III(a) to(e)) shall be supplied for all the individual distribution transformers along with the History Book in A4 Size.

41.0 PUNCH MARKING OF TRANSFORMER SERIAL NUMBER.

The serial number of the distribution transformer shall be punch marked on the transformers tank and also on the top cover in addition to that indicated on the name plate as per relevant clause.

42.0 PERFORMANCE GUARANTEE OF DISTRIBUTION TRANSFORMERS:

1. If during the course of **60 months** subsequent to the date of despatch of consignment, any of the goods found to be defective in materials or workmanship or develops defects during service, they will have to be replaced / repaired by the suppliers at free of all charges. All necessary arrangements on this account will be made by the suppliers.
2. The distribution transformers if required to be repaired /replaced shall be collected by the supplier / firm from stores at their own cost and at their own responsibility. The same will like-wise be returned duly repaired / replaced and tested subsequently by the supplier to the destination at their cost in a reasonable time of 60 days from the date of intimation by stores.
3. Unit once failed within guarantee period and returned to stores duly repaired at free of charges, shall be guaranteed for a minimum of 12 months or un-expired guarantee period left as on the date of failure of the unit, whichever is later.
4. The outage period i.e. period from the date of failure till unit is repaired, shall not be counted for arriving at the guarantee of **60 months**. The period of failure and repairs, thus, shall be excluded from the guaranteed service **of 60 months**.
5. Further, it is clarified that all the charges towards carrying out repairs including packing / forwarding, loading /unloading shall be borne by the supplier. The amount deposited / BG furnished under security cum performance Guarantee clause shall also cover the performance guarantee of repaired / replaced units.

6. The actual cost of dismantling and replacement of the equipments with new one may be charged to the supplier's account.
7. The Transportation cost towards To & fro such failed equipments shall be borne by the supplier.
8. In the event of the supplier's inability to adhere to the aforesaid provisions, suitable penal action will be taken against them which may inter-alia include black listing of the firm for future business with the company for a certain period.

9. DEFECTIVE SUPPLIES :

The intimation of failure of Distribution transformer shall be given by the any TNPDC field offices from TNPDC stores. The failed Distribution Transformers is to be replaced/repared by supplier at free of all charges at the earliest but in any case within 60 days from the date of receipt of intimation by the consignee. In case defective / failed Distribution transformers are not replaced / repared and returned to the area stores within the prescribed period of 5 months. TNPDC has right to recover the cost of the Transformer or to withhold payment till Distribution Transformer is repaired.

43.0. TRAINING OF TNPDC'S PERSONNEL AT MANUFACTURERS' WORKS:

The supplier shall arrange to train personnel deputed by TNPDC, one AE/Foreman and one Winder for every 50 Nos. of transformers ordered, at their factory, free of cost. The training shall cover all aspects of manufacture of Distribution transformers like windings, assembly, etc.

44.0. DRAWINGS:

The General Arrangement drawing showing all the details of active parts externally and the Internal Arrangement drawing showing all the internal dimensional details **in A3 Sheets only** without omitting the guaranteed technical values in line with the type tested drawings shall be furnished for approval to the Superintending Engineer/ Materials Management- II, 4th Floor Eastern Wing, N.P.K.R.R. Maaligai , No.144, Anna Salai, Chennai – 600 002 within 15 days from the date of receipt of the Purchase Order. The TNPDC will not be held responsible for delay on this account.

45. SCHEDULES & DRAWINGS:

The tenderer shall fill- in the following SCHEDULES which is a part of the Tender Specification & Offer. If the SCHEDULES & DRAWINGS are not submitted duly filled- in along with the offer, the offer shall be liable for rejection.

SECTION	:	I	EARNEST MONEY DEPOSIT
SECTION	:	II	BID QUALIFICATION REQUIREMENTS
SECTION	:	III	REJECTION OF TENDERS
SECTION	:	IV	INSTRUCTIONS TO THE TENDERERS
SECTION	:	V	COMMERCIAL
SECTION	:	VI	TECHNICAL
SCHEDULE	:	A	PRICE SCHEDULE / BOQ.
SCHEDULE	:	B	GUARANTEED TECHNICAL VALUES , PARTICULARS , DIMENSIONS OF CORE AND WINDINGS.
SCHEDULE	:	C	TESTS TO BE CARRIED OUT INCLUDING QUALITY PLAN ENFORCEMENT.
SCHEDULE	:	D	DECLARATION FORM
SCHEDULE	:	E	STATEMENT OF SUPPLY ORDERS EXECUTED/ UNDER EXECUTION DURING THE PRECEDING TEN YEARS.
SCHEDULE	:	F	QUESTIONNAIRE - A & B
SCHEDULE	:	G	MONTHLY PRODUCTION CAPACITY
ANNEXURE	:	I	FORMAT FOR e-BANK GUARANTEE FOR EMD
ANNEXURE	:	II	UNERTAKING TOWARDS JURISDICTION OF LEGAL PROCEEDINGS.
ANNEXURE	:	III a	HISTORY CARD OF THE DISTRIBUTION TRANSFORMER.
ANNEXURE	:	III b	TEST RESULTS OF THE DISTRIBUTION TRANSFORMER
ANNEXURE	:	III c	FLOW CHART OF THE DISTRIBUTION TRANSFORMER
ANNEXURE	:	III d	REPAIRS TO THE DISTRIBUTION TRANSFORMER
ANNEXURE	:	III e	MAJOR REPAIRS AT SITE TO THE DISTRIBUTION TRANSFORMERS
ANNEXURE	:	IV	FORMAT FOR SECURITY DEPOSIT CUM PERFORMANCE BANK GUARANTEE
ANNEXURE	:	V	UNDERTAKING TOWARDS THE RECOVERY OF DUES TO TNPDC
ANNEXURE	:	VI	FORMULA FOR PRICE VARIATION CLAUSE
ANNEXURE	:	VII	TENDER ACCEPTANCE LETTER
ANNEXURE	:	VIII	DECLARATION TO BE FURNISHED BY THE BIDDERS FOR ITC BENEFIT.
ANNEXURE	:	IX	FORMAT FOR DELIVERY SCHEDULE
ANNEXURE	:	X	DECLARATION PURSUANT TO SECTION 194Q OF IT ACT.
ANNEXURE	:	XI	GUIDELINES FOR RELEASING GST PORTION TO SUPPLIERS / CONTRACTORS
ANNEXURE	:	XII	FORMAT FOR UNDERTAKING FOR E.M.D.
ANNEXURE	:	XIII	FORMAT FOR UNDERTAKING FOR ACCEPTANCE OF TEST RESULT OF THE DT.

SCHEDULE-A
SCHEDULE OF PRICE

(To be filled- in by the Tenderer)

SPECIFICATION No: M-253/2026-27 Tentative Tendered Quantity : 3500 Nos.

Name of Material	Quantity offered	UNIT PRICE		GST Amount & Percentage		All-Inclusive Unit Price including GST (3+4+6)
		Ex-Works Price (VARIABLE)	Freight & Insurance Charges. Amount			
	Nos.	Rs. P.	Rs. P	%	Rs. P	Rs. P.
1	2	3	4	5	6	7
100KVA /22 KV/433V, Three Phase, 50 Hz, Copper Wound, CRGO core , Dyn11 Vector Group Oil Immersed Air Natural Oil Natural (ONAN)Type, Energy Efficiency Level-1 Distribution Transformers with all fittings (Clause 27 of Section-VI) including first filling of oil and confirming to IS:1180 (PART-1):2014 and as per Specification No: M-253/2026-27 with relevant BIS Mark. HSN CODE: 8504						

TO BE QUOTED ONLINE

SIGNATURE :
DESIGNATION :
OFFICE :
COMPANY SEAL :
DATE :

Note :

- 1) Freight and Insurance under column (4) should not be quoted with WORD as Nil and to be filled up with arithmetic whole numbers only.**
- 2) The ex- works price indicated in column (3) and the all- inclusive price in column (7) above should be inclusive of any discount offered . Discount should not be mentioned separately and such offers are liable for rejection.**
- 3) Rates quoted shall be both in Words & Figures.**
- 4) In case of discrepancy between prices quoted in words and in figures, lower of the two will be taken for evaluation.**
- 5) While quoting the rates the bidder shall indicate the HSN Code and Account Code for all the tendered items as per GST Act.**

SCHEDULE – B
GENERAL TECHNICAL PARTICULARS AND PARAMETERS –GTP FOR
100 KVA/22KV/ 433V ENERGY EFFICIENCY LEVEL-1 DISTRIBUTION TRANSFORMER

S.No.	PARTICULARS	PARAMETERS (Blank Parameters to be filled by the Bidders)
A.	Manufacturer's Name and Address of Factory& Works	
B.	i. Phone No:	
	ii. Fax. No:	
	iii. E-mail Id:	
C.	BRAND NAME	
1.	System Voltage- Max.	* 24KV
2.	Rated HV Voltage	* 22KV
3.	Rated LV Voltage	* 433V
4.	Frequency in Hz or CPS with Tolerance +/- 5%	* 50 Hz
5.	Number of phases	* THREE
6.	Connection of HV	* DELTA
7.	Connection of LV	* STAR
8.	Neutral Earthing	* Neutral point of the secondary winding shall be brought out in a separate insulated terminal to be solidly earthed.
9.	a. Maximum Continuous Rating in KVA	*100 KVA
	b. Type of Cooling	*ON AN
10.	Normal Voltage Ratio of Transformation	*22000/433V
11.	Method of Connection/Vector Group	*Dyn11
12.	i. Maximum Hot Spot Temperature (Ambient Air temperature shall be taken as 50 ° C)	98 ° C
	ii. Maximum top oil temperature rise from the ambient temperature(measured by thermometer).	*35° C
	iii. Maximum winding temperature rise from the ambient temperature(measured by resistance method).	*40° C
13.	Flux Density at rated voltage and frequency in Tesla (Calculation sheet is to be enclosed along with core area and flux density)	*1.60 (Max)
14.	Type of Distribution Transformer	*CORE TYPE
15.	CORE:	
a.	Core material and Grade	*CRGO & SUPERIOR THAN M4
b.	Number of core steps in Nos. (Calculation sheet to be enclosed)	
c.	Dimension of core steps in mm x mm	
d.	Diameter of Core in mm	

S.No	PARTICULARS	PARAMETERS
e.	Leg centre in mm	
f.	Window Height in mm	
g.	Gross Core Area in square cm (Minimum)	
h.	Effective Core Area in square cm (Minimum)	
i.	Core Height including Base Channel with Insulation in mm.	
j.	Insulation between bottom of core and base channel in mm	
k.	Numbers and Dimensions of MS channel used for clamping of core	
l.	Size of support channel for base of the Core Coil Assembly (cut channels are not acceptable)	
m.	Size and Number of Key Studs/ core bolts	
n.	Size and Number of Tie rods	
o.	Insulation of Key Studs- core bolts	*Kraft Paper/Fibre Tube
p.	Insulation of Tie rods	*Kraft Paper/Fibre Tube
q.	Painting of core channel, key studs and tie rods.	
r.	Whether top yoke is cut or holes are made for connections. If yes whether reinforcement is done.	
s.	Weight of core alone in Kg.	
t.	Whether top yoke construction is in one piece	
u.	Whether bottom yoke construction is in one piece	
v.	Whether the serial number of the transformer has been punched on the core yoke frame.	*To be punched
w.	Neutral current measured by Ammeter	*2% of Full Load Current
x.	No load magnetizing current and no-load losses (% of rated/full load current).	
i.	at 100% voltage	*Less than 3 % of Full Load Current –FLC
ii.	at 112.5% voltage	*Less than 6 % of FLC
y.	Power factor of magnetizing current (Maximum) in Lagging.	*0.2
z.	Audible Sound level at rated voltage and frequency in dB(Decibels) as per NEMA Standards.	*51
16.	CURRENT DENSITY :	
a.	HV Winding in Amps/ square mm (Specify the design value)	
b.	LV Winding in Amps/ square mm (Specify the design value)	

S.No	PARTICULARS	PARAMETERS
17.	WINDINGS :	
a.	Material of HV Windings	*Copper
b.	Material of LV Winding	*Copper
c.	Size of wires for HV Winding (BARE) in mm	
d.	Size of Strip for LV Winding (BARE) in mm x mm	
e.	Arrangements of HV conductors/Windings	
f.	Arrangements of LV conductors/ Windings	
g.	Total cross sectional Area of HV conductors in sq.mm	
h.	Total cross sectional Area of LV conductors in sq.mm	
i.	Resistance/Phase of HV Winding at 75 ° C (Maximum)	
j.	Resistance/Phase of LV Winding at 75 ° C (Maximum)	
k.	Type of insulation and thickness of HV Winding	
l.	Type of insulation and thickness of LV Winding	
m.	Internal and External Diameter of HV Coil in mm	
n.	Internal and External Diameter of LV Coil in mm	
o.	Number of Coils/Phase for HV side	
p.	Number of Coils/Phase for LV side	
q.	Number of Turns /Phase for HV side	
r.	Number of Turns /Phase for LV side	
s.	Height / Axial Length of HV Coils in mm	
t.	Height / Axial Length of LV Coils in mm	
18.	METHODS OF CONNECTION OF WINDING ENDS TO BUSHING TERMINALS:	
a.	For HV - The one end of HV winding brazed with suitable size of wire and suitable material and other end of wire bolted with HV stud by forming eye loop and using washer of proper size.	
b.	For LV- Other end of LV winding crimped with suitable size of lugs with suitable material and then bolted with LV stud terminals with proper size of washers.	
19.	METHOD OF FORMING STAR CONNECTION ON LV SIDE: All the three ends of LV Windings crimped with proper size of lugs with material and then bolted with suitable size of flat with suitable thickness and wrapping over it with cotton tape .	

S.No	PARTICULARS	PARAMETERS
20.	FORMATION OF DELTA CONNECTION ON HV SIDE:	
a.	Material of the conductor	*Copper
b.	Diameter of the conductor in mm	
21.	GUARANTEED LOSSES:	
a.	No load loss at normal ratio at 75 ° C in Watts.	
b.	Total load loss at 50% loading at normal ratio at 75 ° C in Watts-Maximum	*499 Watts
c.	Total load loss at 100% loading at normal ratio at 75 ° C in Watts- Maximum	*1733 Watts
d.	Tolerance on total load losses at normal ratio at 75°C (Maximum)	*No positive tolerance
22.	i. Impedance Voltage between HV and LV Windings at normal ratio at 75°C	*4.5%
	ii. Tolerance in Percentage	+/- 10 (%)
23.	Lightning Impulse voltage level of HV and LV Windings at 1.2/50 micro second wave.	*AS PER IS 1180(PART-I):2014
24.	INSULATION MATERIALS USED &THICKNESS:	
a.	Between Core and LV Windings in mm	
b.	Interlayer thickness of LV in mm	
c.	Between HV and LV Windings in mm	
d.	Between Phase-Phase/Inter phase in mm	
e.	End Insulation in mm	
f.	Insulation between HV plain Coils in mm .	
g.	Base Flat Insulation in mm	
h.	Thickness of Wedges and Width in mm and mm	
i.	Number of Spacers between HV coil/circle in Nos.	
j.	Frame Channel insulation in mm	
25.	CLEARANCES:	
a.	Core to LV Winding (Radial) in mm	
b.	Between HV and LV (Radial) in mm	
c.	Between Phase to Phase (In between HV Conductor with provision of minimum of 2 x 2 mm PCPB to cover the tie rods/Phase Barrier).	
d.	Between Winding and Body – LENGTH WISE in mm	
e.	Between Winding and Body – BREADTH WISE in mm	

S.No	PARTICULARS	PARAMETERS
f.	End Insulation in mm	
g.	Thickness of locking spacers between HV Coils in mm	
h.	Numbers and Thickness of Axial Wedges between HV and LV Coils in Nos. and in mm	
i.	Vertical clearance between top cover and top most live part of tap changer or top yoke.	
26.	TANK:	
a.	Type of tank	*PLAIN
b.	Shape	*RECTANGULAR
c.	Thickness of tank sheets for top and bottom	*5 mm(Minimum)
d.	Thickness of tank sheets for side walls	*3.15 mm(Minimum)
e.	Thickness and Width of tank sheets for collar	
f.	Tank Test Pressure(Minimum)- For Routine test	*35 kPa for 10 minutes.
g.	Tank Test Pressure (Minimum)- For Type test	*80kPa for 30 minutes and 250 mm of mercury for 30 minutes.
h.	Numbers and Size of MS Base channel for main tank	*2Nos. and 75 x 40 mm
i.	INTERNAL DIMENSION OF THE TANK:	
i.	Length in mm (Minimum)	
ii.	Breadth in mm (Minimum)	
iii.	Height on LV side in mm (Minimum)	
iv.	Height on HV side in mm (Minimum)	
v.	Top cover slope towards HV Bushings- Approx.	*10 mm
27.	GASKET USED BETWEEN TOP COVER AND TANK:	
a.	Material must be the best quality and oil resistant	*Cork sheet –RC 70-A grade, C type
b.	Thickness in mm	*6 mm
c.	Whether the gasket is joint less and one piece.	
28.	PULLING LUGS:	
a.	Total numbers	*4 Nos.
b.	Thickness in mm	
c.	Position of Fixing	Side
29.	LIFTING LUGS:	
a.	Numbers for tank cover and for main tank in Nos.	*2 Nos. and 4 Nos.
b.	Thickness for tank cover and for main tank in mm	

S.No	PARTICULARS	PARAMETERS
c.	Reinforcement of main tank sides by providing MS Angle with 50 x 50 x 6 mm at one/two places.	
d.	Whether all the transformers tanks which are to be supplied, will be complied with the pressure and vacuum test as per technical specifications.	
e.	Whether the top cover of the main tank is having the following provision.	
i.	Air Release Plug.	* 1No.
ii.	Thermometer pocket	*1No.
iii.	Lifting Lugs	*2No.
iv.	RTD- PT100	*1No.
v.	Explosion vent	*1No.
30.	BUSHINGS:	
A.	CHARACTERISTICS:	
a.	i. Dry withstand Voltage-HV	50kV rms
	ii. Dry withstand Voltage-LV	Not Applicable
b.	i. Wet withstand Voltage-HV	50kV rms
	ii. Wet withstand Voltage-LV	Not Applicable
c.	i. Impulse withstand Voltage-HV	125kVp(Peak)
	ii. Impulse withstand Voltage-LV	Not Applicable
B.	MATERIAL OF THE COMPLETE BUSHING STUDS:	
a.	Bushing rods- HV & LV	*Brass & Copper
b.	Number of Bushing Rods on HV side	
c.	Number of Bushing Rods on LV side	
d.	Caps, Nuts, Chuck nuts and Washers- HV & LV	
e.	Size of bushing rods- HV & LV in mm	*12 mm & 12 mm
f.	Mounting of bushing on side walls/ top cover	
g.	External clearance of bushing terminals after providing HT and LT Bimetallic connectors on the bushing rods.	
i.	Phase to Phase on 22KV - HV side(Minimum) in mm	*330 mm
ii.	Phase to Phase on 1.1KV- LV side(Minimum) in mm	*75 mm

S.No	PARTICULARS	PARAMETERS
iii.	Phase to Earth on 22KV-HV side(Minimum) in mm	*230 mm
iv.	Phase to Earth on 1.1KV- LV side(Minimum) in mm	*40 mm
h.	Arrangements of studs provided for fixing of HV Bushings should be in diamond shape so that arcing horns are positioned vertically.	
31.	BIMETALLIC CONNECTORS:	
a.	Normal current rating of connectors for HV	
b.	Normal current rating of connectors for LV	
c.	Short time current rating of connectors for HV	As per relevant IS
d.	Short time current rating of connectors for LV	As per relevant IS
e.	Tensile strength for HV connectors	As per relevant IS
f.	Tensile strength for LV connectors	As per relevant IS
g.	Whether HT and LT Bimetallic connectors are provided as per relevant IS.	
32.	BREATHER:	
a.	Whether breathers are provided as per relevant IS.	
b.	Make	
c.	Capacity	
d.	Material of the Body	*Die cast aluminium / Polypropylene
33.	CONSERVATOR:	
a.	Dimension of Diameter and Length in mm	
b.	Volume in Litres (10% of total volume of main tank)	
c.	Internal Diameter of pipe used for connecting conservator and main tank.	
d.	Please confirm whether pipe projected into the conservator 20 mm above the bottom of the conservator	*To be provided
e.	Whether the arrangements made so that oil does not fall on the active parts.	
34.	RADIATORS: (Heat dissipation calculation is to be enclosed)	
a.	Total Number of Radiators	
b.	Total Number of fins/radiators	
c.	Size of each fin in mm x mm	
d.	Number of radiators fixing on HV side	

S.No	PARTICULARS	PARAMETERS
e.	Number of radiators fixing on LV side	
f.	Thickness of the Radiator Fins	
35.	EXPLOSION VENT:	
a.	Diameter of the Pipe	
b.	Material of Diaphragm	
c.	Thickness (Maximum)	
d.	Distance between wire mesh and Diaphragm (Max)	
36.	OIL TO BE FILLED-IN :	
a.	Minimum quantity of Oil for filling after absorption by core and winding (specific gravity=0.89 gm/cubic cm) in Litres	
b.	Grade and Characteristics of oil.	*AS PER IS: 335:2018
c.	Volume of Oil in Main Tank in Liters	
d.	Weight of Oil in Main Tank in Kgs.	
e.	Volume of oil in Conservator in Litres	
f.	Weight of Oil in Conservator in Kgs.	
g.	Volume of Total oil filled-in the transformers in Litres	
h.	Weight of Total oil filled-in the transformers in Kgs.	
37.	OVERALL DIMENSIONS OF TRANSFORMER:	
a.	Length in mm	
b.	Breadth in mm	
c.	Height in mm	
38.	DETAILS OF RATING PLATE:	*AS PER 1180(PART-I):2014
a.	Whether all entries are provided.	
b.	Whether rating plate with riveted of maximum 8 SWG aluminium anodized material sheet.	
c.	Whether the entries in the rating plate are made by etching or engraving.	
d.	TERMINAL MARKINGS:	*AS PER 1180(PART-I):2014
39.	WEIGHT OF WINDINGS AND DT:	
a.	Weight of HV Windings (Dry/without oil soaking) in Kgs.	
b.	Weight of LV Windings (Dry/without oil soaking) in Kgs.	
c.	Weight of core assembly with core channels, core bolts, tie rods, insulation materials etc., in Kgs.	

S.No	PARTICULARS	PARAMETERS
d.	Un tanking Weight of Core Assembly with Windings including oil absorption in Kgs.	
e.	Weight of Tank and Fittings including radiators, conservators, Explosion vent etc., in Kgs.	
f.	Total Weight of complete transformer with oil including all fittings and oil absorption in Kgs. (i.e) 36(h)+39(d)+39(e)	
40.	DRY FILM THICKNESS OF PAINTING OF COMPLETE TRANSFORMER:	*AS PER IS 1180 (PART-I):2014
a.	Colour of Main Tank and Radiators.	*Dark Admiralty Grey-ISC No:632
b.	Colour of Conservator .	*Dark Admiralty Grey-ISC No:632
41.	DETAILS OF TYPE TEST AND SPECIAL TEST REPORTS:	
a.	Lightning Impulse Test:	
	Serial No. of the Transformer:	
	Report No. and Date :	
	Name of the NABL LAB:	
b.	Short Circuit Withstand Test:	
	Serial No. of the Transformer:	
	Report No. and Date :	
	Name of the NABL LAB:	
c.	Temperature Rise Test:	
	Serial No. of the Transformer:	
	Report No. and Date :	
	Name of the NABL LAB:	
d.	Pressure Test with Explosion vent:	
	Serial No. of the Transformer:	
	Report No. and Date :	
	Name of the NABL LAB:	
e.	No- load current at 112.5 percent Voltage.	
	Serial No. of the Transformer:	
	Report No. and Date :	
	Name of the NABL LAB:	

S.No	PARTICULARS	PARAMETERS
42.	CURRENT TRANSFORMERS:	NOT APPLICABLE
43.	HISTORY CARD AND OTHERS AS PER SPECIFICATION:	
	Whether the leaflet of history card, test results, flow chart, repairs and major repairs at site of distribution transformers as per ANNEXURE-III (a to e) is provided along with each DT. at the time of supplying of DT.	*To be provided.

NOTE:

1. The tenderer should furnish the above particulars as per the type tested design and type test reports and special test reports .
2. The general arrangement and internal arrangement drawings should contain all the active parts and all the dimension of core and windings and etc. with all applicable guaranteed values/parameters(*).
3. If any deviation is found in the type tested drawing when compared with the technical specification of this tender, the same will be treated as technical deviation.
4. In the SCHEDULE-B, wherever the * mark is put , all the technical parameters are guaranteed values/parameters to be adopted by the tenderer.
5. The offers which does not contain all the above will be treated as technical deviation and the offers of the firms will be summarily rejected.

SIGNATURE :

DESIGNATION :

OFFICE :

COMPANY SEAL :

DATE :

SCHEDULE-C

TESTS TO BE CARRIED OUT INCLUDING QUALITY PLAN ENFORCEMENT

The completely assembled distribution transformers & accessories shall be subjected to the following tests at manufacturer's works/Government Institutes/Undertaking before supply, except where otherwise stated, in accordance with IS:1180 (PART-I) 2014, IS:2099 and IS: 1866 (TABLE-I) of the latest issue.

A.ROUTINE TESTS:

- a) Measurement of winding resistance- IS: 2026 (PART-I).
- b) Measurement of voltage ratio and check of phase displacement - IS:2026 (PART-I)
- c) Measurement of short- circuit impedance (Principal tapping when applicable) and load loss at 50% and 100% load -IS:2026 (PART-I)
- d) Measurement of no-load loss and current - IS:2026 (PART-I)
- e) Measurement of insulation resistance- IS:2026 (PART-I)
- f) Induced over voltage withstand test- IS:2026 (PART-III)
- g) Separate source voltage withstand test - IS:2026 (PART-III)
- h) Air pressure test as per IS:1180 (PART-I):2014
- i) Oil leakage test as per IS:1180 (PART-I):2014

The test certificates shall include a statement of efficiency of the distribution transformers of various loads at unity and 0.8 power factor lag.

B. TYPE TESTS:

- a) Lightning impulse test – IS:2026 (PART-3)
- b) Temperature rise test – IS: 2026 (PART-2)
- c) Pressure test – IS:1180 (PART-I) 2014.(with Explosion vent)
- d) Short –circuit withstand test- IS:2026 (PART-5)

C.SPECIAL TESTS:

- a) No load current at 112.5 percent voltage.

D.TESTS AT SITE:

The purchaser reserves the right of conducting any or all the above tests vide A, B and C on the distribution transformers after arrival at site and the contractor shall guarantee the test certificate figures under actual service conditions.

E. STRIP TEST :

i) One Unit will be subjected to strip tests at supplier's premises during the course of stage inspection by the TNPDC/ Third Party Inspection Agency authorised by the TNPDC. The transformers are liable to be rejected if purchase order requirement are not met in respect of the minimum / maximum values specified in the P.O. or Guaranteed Technical Parameters and Particulars as per ANNEXURE-B of the Specification.

ii) TNPDC is at liberty to conduct strip test for 2% of the ordered quantity subject to a minimum of one number will be subjected to strip test at TNPDC stores in presence of supplier's representative within 15 days from the date of receipt of intimation by the Superintending Engineer/Materials Management- II. If it is found that the distribution

transformer is not meeting the specification requirements or not meeting the specific requirements or the values specified in P.O or GTP, then all the distribution transformers in that particular consignment are liable to be rejected.

iii) Dismantling and re-assembling charges will be borne by the supplier. However minor facilities such as transport (store to special maintenance), drying, oven, cranes etc., needed for conducting the strip test shall be provided by the consignee, Superintending Engineers at free of cost and subsequent re-assembly will be done by the supplier.

F.QUALITY PLAN:

Stage inspection will be carried out by the purchaser's representative at the following consumer's hold points.

1. On completion of core & winding assembly.
2. After fabrication of tank.

At the time of these inspections, the raw materials such as core sheets, winding conductor, insulating paper, oil and M.S. plate will be verified for quality, by scrutiny of the documentary evidences for the purchase of these materials from the standard manufacturers and along with the test certificates and 15 days advance intimation should be given for arranging these inspection.

SIGNATURE OF THE TENDERER

SCHEDULE - D
DECLARATION FORM
(To be signed by the tenderer)
Strike off, whichever is not applicable:

To
The Chief Engineer ,
Materials Management,
Fourth Floor, Western Wing,
N.P.K.R.R Maaligai, Electricity Avenue,
No.144, Anna Salai, TNPDC ,
Chennai - 600 002.

Dear Sir,

1. Having examined the above specification together with the accompanying schedules etc., we hereby offer to supply the equipments/ materials covered in this Specification at the rates entered in the attached schedule of prices.
2. We hereby guarantee the particulars entered in the schedules attached to the Specification.
- 3 **OPTION I** : (those who opt to furnish DD/Banker's Cheque/ Pay Order or Irrevocable Bank Guarantee)

The successful tenderer should furnish a Security Deposit cum Performance guarantee in the form of DD/Banker's Cheque/ Pay Order or Irrevocable Bank Guarantee for 5% of the value of materials to be delivered for which indents are placed to the suppliers wherever materials are required to be delivered based on indents against Rate Contracts placed. The Security Deposit cum Performance guarantee shall be valid for a period of **60 months** from the date of receipt of consignment of goods/materials at site in good condition. In case of delay in supply, the Security Deposit cum Performance Guarantee should be extended suitably. The SD cum Performance Guarantee will be released on expiry of guarantee period after ensuring that defects/damages during the guarantee period are rectified/replaced.

4. Our company is not a potentially Sick Industrial Company or a Sick Industrial Company in terms of Section-23 of Section-15 of the Sick Industrial Companies (Special Provisions) Act, 1985.

Yours faithfully,

PLACE	:	SIGNATURE	:
DATE	:	DESIGNATION	:
COMPANY SEAL	:	COMPANY	:

SCHEDULE-E**(Specn. No. M-253/2026-27)****STATEMENT OF SUPPLY ORDERS EXECUTED /UNDER EXECUTION DURING THE
PRECEDING TEN YEARS AS ON DATE OF TENDER OPENING.****(To be filled -in by the tenderer)**

Sl No	Name & Address of the Organisation	KVA / KV Rating of Distribution Transformer	P.O.No. & Date	Qty.	Value of Order in Rs.Lakhs	Scheduled Date of completion of order	Actual Date of Completion of order
1	2	3	4	5	6	7	8

COMPANY SEAL :
SIGNATURE :
DESIGNATION :
COMPANY :
DATE :

SCHEDULE-F
QUESTIONNAIRE-A
(SPECN. No: M-253/2026-27)100 KVA/22KV/433V ENERGY EFFICIENCY LEVEL-1
DISTRIBUTION TRANSFORMER
(TO BE KEPT IN THE "COMMERCIAL AND TECHNICAL BID")
BID QUALIFICATION REQUIREMENT & COMMERCIAL CONDITIONS

INSTRUCTIONS:

- (a) Strike off, whichever is not applicable
(b) Separate sheets should be used, wherever necessary:

S.No.	PARTICULARS	BIDDERS'S RESPONSE
1.	Name and Address of the Firm/Company	
	a. Registered Office	
	b. Factory/Works Address	
	c. Fax. No:	
	d. e-mail Id:	
	e. Whether your firm is registered in TNPDC ERP Module? If yes, furnish the TNPDC ERP Vendor ID.	
2.	Name, Designation and Address of the person signing the tender.	
3.	a. Whether the Company is Small Scale/Medium Scale/Large Scale Unit.	
	b. If so, writ the Registration No.	
	c. Is SSI Unit requested with DIC/Tamil Nadu/NSIC period of validity to be mentioned.	
	d. Permanent Account Number- PAN	
	e. Legal Status of the Firm/Company.	
	f. GSTIN Number.	
4.	Confirm whether tenderer is actual manufacturer of distribution transformer.	YES/NO
5.	Whether manufactured and supplied satisfactorily a minimum of 35 Nos. as specified in CLAUSE -3 under SECTION-II during the preceding ten years period to SEBs/Power Utilities.	YES/NO
6.	Whether the copies of purchase orders executed during the last ten years are uploaded and furnished in the tender, as specified in CLAUSE- 3 under SECTION-II of this Specification and the details required as per SCHEDULE- E are also uploaded and furnished. NOTE: The above details mentioned in Sl. No.4,5 & 6 should be uploaded and furnished.	YES/NO
7.	Whether the annual turnover of the bidder during any one of the last three years (2022-23 , 2023-24 & 2024-25) exceeds Rs.5 Crore.	YES/NO
8.	Whether the proof for evidence there for has been uploaded and furnished as required in CLAUSE - 4 under SECTION-II of this Specification.	2022-23: 2023-24: 2024-25:
9.	EARNEST MONY DEPOSIT:	
	a. Mode of Payment: e-Bank Guarantee / e-payment through NEFT /RTGS/Account Transfer through www.tntender.gov.in portal as mentioned in Clause- 2 of SECTION-I for an amount of Rs.1,75,41,600 /- (Rupees One Crore Seventy five Lakhs Forty one Thousand and Six Hundred Only)	U.T.R.No:

S.No.	PARTICULARS	BIDDERS'S RESPONSE
	b. If exempted , state whether the bidder is i. Tamil Nadu / SSI Unit / SSI Unit registered with NSIC /Tamil Nadu Govt. Dept./ Undertakings.(The documentary evidence regarding exemption from EMD is uploaded and furnished.	
	NOTE: After confirming the EMD paid / Exemption uploaded, then only the system will allow to submit the technical and financial bids.	
	ii. Audited attested copy of Profit and Loss Account, Balance Sheet along with the proof for exemption from the payment of EMD.	YES/NO
	iii. Plant and Machinery as per tenderer's financial statement.	YES/NO
	c. Whether Permanent EMD of Rs. 1,00,00,000/- is available with TNPDC (Documentary evidence about acceptance of PEMD is uploaded and furnished. NOTE: If item (a) or (b) or (c) is not uploaded along with the tender offer containing Commercial & Technical Bids will not be opened.	YES/NO
10.	TYPE TEST AND SPECIAL TEST CERTIFICATES:	
	Whether the copy of the Type Test and Special Test Certificates in respect of the tendered rating of distribution transformer as per technical terms of this specification is uploaded and furnished. NOTE: If the copy of Type Test and Special Test Certificates are not uploaded and furnished, the tender offer will be summarily rejected. Type tests and Special Test should have been conducted within five years as on the date of tender opening. Otherwise the Type Test and Special Test reports will be considered as invalid.	YES/NO Name of LAB: Date of Test:
11.	COST OF SPECIFICATION:	
	Whether the specification has been downloaded from the website.	YES/NO
12.	VALIDITY:	
	Whether your offer is valid for a period of 180 days from the date of tender opening of Commercial / Technical Bids (Offers with validity period of less than 180 days are liable to be rejected)	YES/NO
13.	PRICE:	
	a. Whether the price quoted is variable .	YES/NO
	b. Whether the following break-up details for the quoted Unit Price have been mentioned in SECHEDULE-A of the specification such as Unit Ex-Works Price, Freight and Insurance (Firm) and GST applicable (in Percentage & Amount),	YES/NO
	c. Whether SGST/CGST/IGST (in Percentage and Amount) applicable has been mentioned .	YES/NO
	d. Whether you are agreeable for charging GST applicable.	YES/NO

S.No.	PARTICULARS	BIDDERS'S RESPONSE
	e. Confirm that any additional amount of GST due to upward revision on account of increase in annual turnover during the contractual period shall be borne by you.	YES/NO
	f. Confirm that price quoted is after accounting for Input Tax Credit (ITC) credit relief available to them on account of GST already paid. A certificate to this effect may be uploaded along with the tender.	YES/NO

	g. Whether you are agreeable, in case of delayed delivery, the GST prevailed on the date of actual delivery or the GST applicable on the date of contractual date of delivery whichever is less shall only be payable.	YES/NO
	h. Confirm that Freight & Insurance charges quoted are applicable for delivery to any of the TNPDCCL stores in Tamil Nadu.	YES/NO
	i) Confirm whether you are agreeable for PRICE VARIATION CLAUSE- 4B & DELIVERY CLAUSE-10. NOTE: If break-up details for the quoted price is not given, the offer will be liable for rejection.	YES/NO
14.	GST REGISTRATION CERTIFICATE:	
	Whether GST registration certificate is uploaded along with the offer.	YES/NO
15.	Whether you are agreeable for the following CLAUSES specified under SECTION- V of the specification.	
	a. Price (CLAUSE-4.A)	YES/NO
	b. Payment terms.(CLAUSE-8.0)	YES/NO
	c. Security Deposit cum Performance Guarantee. (CLAUSE-9.0)	YES/NO
	d. Delivery.(CLAUSE-10.0)	YES/NO
	e. Liquidated Damages.(CLASUE-12.0)	YES/NO
	f. Guarantee. (CLAUSE-14.0)	YES/NO
	g. Jurisdiction for Legal Proceedings.(CLAUSE-27.0)	YES/NO
	h. Recovery of dues to TNPDCCL. (CLAUSE-22.0)	YES/NO
16.	QUANTITY OFFERED:(Minimum 350 Nos.)	in Nos.

DATE :
PLACE :

SIGNATURE OF THE TENDERER
NAME :
DESIGNATION:
(SEAL OF THE COMPANY)

UNDERTAKING

I _____, Sole Proprietor / Partner of
M/s. _____ give undertaking that details
given in the above QUESTIONNAIRE- A are correct to the best of my knowledge and I agree to
abide by all your Tender / Order terms and conditions.

DATE :
PLACE :

SIGNATURE OF THE TENDERER
NAME :
DESIGNATION:
(Seal of the company)

SCHEDULE-F
QUESTIONNAIRE-B
SPECN.NO: M-253/2026-27 - 100 KVA /22KV/433V ENERGY EFFICIENCY
LEVEL - 1 DISTRIBUTION TRANSFORMER
(TO BE KEPT IN THE COMMERCIAL AND TECHNICAL BID)
TECHNICAL TERMS

INSTRUCTIONS:

- a. Strike off, whichever is not applicable
- b. Separate sheets should be used, wherever necessary.

S. No	PARTICULARS	BIDDER'S RESPONSE
1.	Whether materials offered is exactly as per the Technical Specification (SECTION- VI & SCHEDULE – B consisting of 2 Set of Drawings and 1 No. Statement) (Tender offers with deviation in technical terms are liable to be rejected) If not, give details of technical deviation.	
2.	Whether Type Tests and Special Tests under Section - VI of this Specification as per TNPDC's specified design have been conducted on the tendered rating Distribution Transformer and the attested copy of the Type Test and Special Test Certificates are uploaded and furnished.	
3.	Whether you have filled-up all details as per the type tested design in the SCHEDULE-B and in the Drawings of 2 Set.	
4.	Whether the testing facilities for conducting routine tests, acceptance test ,Temperature rise test, Air pressure test and Oil Leakage test as per relevant ISS are available with your factory or not.	
5.	Whether you agree for stage inspection to be carried out by the purchaser's representative at the following consumer's hold points: (a) On completion of core and winding assembly. (b) After fabrication of Tank. (c) One Unit will be subjected to STRIP TEST at supplier's premises during the course of stage inspection and the dismantling and assembling charges to be borne by the supplier.	
6.	Whether you agree for acceptance test, Temperature rise test, Air Pressure test and Oil Leakage test on one unit of the ordered quantity and Routine Tests (SCHEDULE-C) on minimum 10% of the offered quantity.	

DATE :
PLACE :

SIGNATURE OF THE TENDERER
NAME :
DESIGNATION:
(SEAL OF THE COMPANY)

UNDERTAKING

I _____, Sole Proprietor / Partner
of M/s. _____ give undertaking that
details given in the above QUESTIONNAIRE- B are correct to the best of my
knowledge and I agree to abide by all your Tender / Order terms and conditions.

DATE :
TENDERER
PLACE :

SIGNATURE OF THE

NAME :
DESIGNATION:

(Seal of the company)

SCHEDULE-G
SPECN. No: M-253/2026-27
MONTHLY PRODUCTION CAPACITY

S.NO.	CAPACITY in KVA/KV	MONTHLY PRODUCTION CAPACITY AS PER CLAUSE 28.0 OF SECTION – V COMMERCIAL
	Electricity Service Connection (SC) Number:	

Date :
Place :

SIGNATURE OF THE TENDERER
NAME:
STATUS IN THE COMPANY:
(Affix Seal of the company)

ANNEXURE-I
FORMAT FOR e-BANK GUARANTEE FOR E.M.D.
(TO BE FURNISHED IN NON-JUDICIAL STAMP PAPER OF VALUE NOT LESS THAN Rs.500/-)

Beneficiary: THE FINANCE DEPARTMENT, PROCUREMENT CELL,
Government of Tamil Nadu .

Date:

Bid Guarantee No:

We have been informed that M/s..... (here after called "the bidder") has submitted to you its bid dated (herein after called, "the bid") for TNPDC e-Tender Specification No: M-.... / 2026-27.

Furthermore, we understand that, according to the conditions, bids must be supported by a Bid Guarantee.

At the request of the bidder, we the..... BANK, Banking company, a body corporate, constituted under the Banking companies (Acquisition and Transfer of Undertakings) act, 1970, with their head office at, and having among others at branch office at, India hereby irrevocably undertake to pay you a sum or sums not exceeding in total an amount of **Rs./- (Rupees Only/-)** upon receipt by us of your first demand in writing accompanied by a written statement stating that the bidder is in breach of its obligation(s) under the bid conditions, because the bidder :

- a) has withdrawn its bid during the period of bid validity specified by the Bidder in the form of bid ;or
- b) having been notified of the acceptance of its bid by the TNPDC during the period of validity
 - i. fails or refuses to execute the contract form, if required ,or
 - ii. fails or refuses to furnish the Security deposit cum performance Bank Guarantee, in accordance with the instructions to Bidders.

This Guarantee will expire:

- a) if the bidder is the successful Bidder, upon our receipt of copies of the contract signed by the bidder and the security deposit cum Performance Bank Guarantee issued to upon the instruction of the bidder and
- b) if the bidder is not successful Bidder, upon the earlier of
 - i. our receipt of copy of the notification to the Bidder of the name of the successful Bidder or
 - ii. Six months after the expiration of the Bidder's Bid.

Consequently, any demand for payment under this Guarantee must be received by us at the office on or before that date.

This Guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No.758.

NOTWITHSTANDING ANYTHING CONTAINED HEREIN:

1. Our liability under this Bank Guarantee shall not exceed Rs./-
(Rupees Only/-)
2. The Bank Guarantee shall be valid up to
3. We are liable to pay the guarantee amount or any part thereof under this Bank guarantee only and only if you serve upon us a written claim or demand on or before (mention period of the guarantee as found under clause (2) above plus claim period)”

IN WITNESS WHERE OF THIRU and THIRU..... . acting for and on behalf of the Bank has signed this deed on the day, month and year first above written.

In the presence of witnesses:

- 1.
- 2.

(Signature with seal of the Bank (Name in Block letters) and

(Name in capitals to be subscribed with designation, address of office or residential)

ANNEXURE - II

UNDERTAKING TOWARDS JURISDICTION FOR LEGAL PROCEEDINGS
(TO BE FILLED BY THE TENDERER IN A NON-JUDICIAL STAMP PAPER OF
VALUE NOT LESS THAN Rs.500/-)

THIS DEED OF UNDERTAKING executed at.....on this day of by M/s..... a company registered under Companies Act, 1956 having its Registered Office athereinafter called the “TENDERER” (which expression shall where the context so admits mean and include its successors in office and assigns) with the TAMIL NADU GENERATION AND DISTRIBUTION CORPORATION LIMITED, a statutory authority created under the powers vested with the Electricity Act 2003, having its office at 144, Anna Salai, NPKRR Maaligai, Chennai – 600 002, hereinafter called the purchaser (which expression shall where the context so admits mean and include its successors in office and assigns).

WHERE AS the contract is for the supply ofin terms of the Purchase Order No.....Dated.....AND WHEREAS in accordance with clause (Payment Clause) and Clause (Jurisdiction for Legal Proceedings) of the above said P.O. certain terms were stipulated for the above supply.

AND WHEREAS in accordance with Clause of the above mentioned Purchase Order, the supplier has to furnish an undertaking that no suit or any proceedings in regard to any matter arising in any respect under this contract shall be instituted in any court other than in the High Court, Chennai , City Civil Court of Chennai or other court of small causes at Chennai.

In consideration of the TNPDCCL having agreed to accept the undertaking, the undertakes that no suit or any proceedings in regard to any matter arising in any respect under this contract shall be instituted in any court, other than the High Court , Chennai, City Civil court at Chennai or the Court of Small Causes at Chennai. It is also agreed that no other court shall have the jurisdiction to entertain any suit or proceedings, even though part of the cause of action might arise within their jurisdiction. In case any part of cause of action arises within the jurisdiction of any of the Courts in Tamil Nadu and rest within the jurisdiction of Courts outside Tamil Nadu, then it is agreed to between the parties that such suits or proceedings shall be instituted in Court within the State of Tamil Nadu and no other Court outside Tamil Nadu shall have jurisdiction, even though any part of the cause of action might arise within the jurisdiction of such Courts.

IN WITNESS WHERE OF THIRU..... of the Tenderer hereby put his hand and seal for the Undertaking in the presence of the following witnesses.

SIGNATURE OF THE TENDERER WITH SEAL

In the presence of Witnesses :

1. Signature

(Name and Address)

2. Signature

(Name and Address)

ANNEXURE – III(a)

HISTORY CARD

- | | | |
|------------------|---|-------|
| 1. Make | : | _____ |
| 2. Serial No. | : | _____ |
| 3. Capacity | : | _____ |
| 4. Voltage HV/LV | : | _____ |
| 5. Current HV/LV | : | _____ |

6. Impedance in % : _____
7. Quantity of oil : _____ in Lt/Kgs.
8. (a) Total weight of the Transformer. : _____ in Kgs.
- (b) Total weight of Core and Windings. : _____ in Kgs.
9. History Register Vol. : _____ Page: _____
10. Dept. No. : _____
11. P.O. No. : _____
12. New /Repaired : _____
13. If repaired at Company : _____
14. Guarantee Period upto : _____
15. Date of first issue : _____

SIGNATURE OF TENDERER

ANNEXURE- III(b)
TEST RESULTS OF DISTRIBUTION TRANSFORMER

1. **DATE OF TEST :**
2. **OIL SAMPLE TEST:**
3. **INSULATION & CONTINUITY TEST:**

HV-E	LV-E	HV-LV	CONTINUITY	
			HV	LV

4. **RATIO TEST:**

Applied _____ Volts to HT and LT measured.

Sy. Volts	an	bn	cn	ab	bc	ca
Tap position 1						
2						
3						
4						
5						

Final Tap Setting at _____

5. **INDUCED VOLTAGE TEST:**

- i) _____ V Applied on SY with PY open for _____ minutes and found OK.
- ii) _____ V Applied on PY and SY shorted and earthed for _____ minutes and found OK.
- iii) _____ V applied on SY and PY shorted and earthed for _____ minutes and found OK.

6. **SHORT CIRCUIT TEST:**

_____ Volts applied on primary and secondary shorted.

Secondary in Amps.	n	a	b	c
Tap position 1				
2				
3				
4				
5				

7. **CHECKS FOR:**

Breather	Oil level	Relief Vent

8. **REMARKS:**

SIGNATURE OF TENDERER

ANNEXURE – III(c)
FLOW CHART OF THE DISTRIBUTION TRANSFORMER
(TO BE FILLED -UP BY THE O&M OFFICERS AT THE TIME OF ENERGISATION)

PARTICULARS	1	2	3
Name of the Section.			
Name of the SS / Distribution.			
Date of Drawal.			
Requisition No. and Date.			
Date of energisation.			
Total Connected Load.			
Date of Failure / Release.			
Reason for release failure / enhancement.			
Date of Devolution No. and Date:			
Period served			
Signature			

SIGNATURE OF TENDERER

ANNEXURE – III(d)

REPAIRS TO THE DISTRIBUTION TRANSFORMER

S. No	Brief description of repairs carried out	By C /SM	Cost (Rs.)	Date of Receipt	Date of Issue	Period (6-5)
1	2	3	4	5	6	7

SIGNATURE OF TENDERER

ANNEXURE – III(e)

MAJOR REPAIRS TO THE DISTRIBUTION TRANSFORMER AT SITE (EXCEPT ROUTINE MAINTENANCE)

Sl. No	DATE	MAINTENANCE/ REPAIR WORKS CARRIED OUT	BY SPECIAL MAINTENANCE OR O&M

SIGNATURE OF TENDERER

Note :

The formats annexed in the Tender Specification such as ANNEXURE- III (a),(b), (c) , (d) and ANNEXURE- III(e) should be printed in A4 Size in the thick card board sheet and made as leaflet/pamphlet and the same is to be supplied along with each and every DT.

ANNEXURE-IV

FORMAT FOR SECURITY DEPOSIT CUM PERFORMANCE BANK GUARANTEE

**(TO BE FURNISHED BY THE TENDERER IN A NON-JUDICIAL STAMP PAPER OF
VALUE NOT LESS THAN Rs.500/- AS PER CLAUSE 9.0 OF COMMERCIAL)**

THIS DEED OF GUARANTEE made on this day of only
by the Bank of..... (Branch name & address) (herein
after called "the Bank") to and in favour the TNPDC, a company registered under Companies
Act, 1956 having its office at NPKRR Maaligai , Electricity Avenue, 144, Anna salai , Chennai –
600 002, herein after called the " TNPDC " (which expression shall where the context so
admits mean and include the successors in office and assigns " having its Registered Office at
Anna Salai, Chennai – 600 002 represented by the CHIEF ENGINEER / MATERIALS
MANAGEMENT/TNPDC/ CHENNAI- 600 002 (hereinafter called "The Purchaser").
WHETHERAS Messrs.(hereinafter called "The Contractor") have
by virtue of the contract entered into with the purchaser as per P.O. No.
DATED..... agreed with the purchaser to supply of In
accordance with the terms and conditions contained therein: AND WHEREAS in accordance
with the terms of the contract in P.O. No. DATED. The contractor has
to pay a sum of Rs...../- (Rupees.....only)
towards combined Security Deposit cum Performance Guarantee from a Nationalised Bank/
Scheduled Bank. AND WHEREAS the contractor has requested the purchaser to accept bank
guarantee in lieu of combined Security Deposit cum Performance Guarantee for a sum
equivalent to 5% (Five Percent) of the Value of the Contract for the satisfactory performance
of the Contract. AND WHEREAS the Bank has at the request of the Contractor agreed to
guarantee the payment of the said sum in case the contract is not performed in accordance
with the specifications indicated in the terms and conditions in P.O. No..... DATED
..... or in the letter DATED

NOW THIS DEED WITNESSES AS FOLLOWS:

1. In consideration of the purchaser having agreed to accept the Bank Guarantee from a
Nationalised Bank /Scheduled Bank towards combined Security Deposit cum Performance
Guarantee for a sum equivalent to Rs...../-
(Rupees..... only) the Bank do hereby guarantee that if the
contractor fails to perform the contract in accordance with the specifications and conditions of
the contract as subsequently amended, the Bank shall pay forthwith merely on demand
without any demur to the purchaser such amount or amounts, as the Bank may be called upon
to pay be the purchaser: PROVIDED that the liability of the Bank under this deed shall not at
any time exceed the said amount of Rs...../- (Rupees.....
..... only) PROVIDED further that the guarantee hereunder furnished shall
be released as soon as the contractor has performed his part of the contract in accordance

with the terms of the contract and the period of performance guarantee is over and a certificate to that effect is issued by the Purchaser.

2. The Bank further undertakes to indemnify the purchaser against any loss or damage that may be caused or suffered by the purchaser by reason of any breach of the terms and conditions in the said P.O. No.....DATED.....

3. The guarantee herein contained shall remain in force till the terms and conditions of the P.O. No.....DATED have been fully and properly carried out by the said contractor and in any case, the guarantee shall not hold good after expiry of

4. The bank further agrees with the purchaser that the purchaser shall have the fullest liberty (without the consent of the Bank and without affecting in any manner the obligations of the bank hereunder) to vary any of the terms and conditions of the contract or to extend the time of performance of the contract by the said contractor from time to time or to postpone from time to time any of the powers exercisable by the purchaser against the said contractor and to forbear or to enforce any of the terms and conditions relating to the said contract and the Bank shall not be relieved of its liability by the reason of any such variations, or extension being granted to the reason to the said contractor or by reasons of any forbearance, act or omission on the part of the purchaser or any indulgence by the purchaser to the said contractor or by any such matter or thing what - so - ever which under the law relating to sureties would but for these provisions have the effect of so relieving than bank.

5. Any account settled between the purchaser and the contractor shall be the conclusive evidence against the bank for the amount due and shall not be questioned by the Bank.

6. The expressions 'Bank', 'Contractor' and 'Purchaser' herein before used shall include their respective successors and assigns.

This Bank Guarantee shall be effective only when the BG message is transmitted by the issuing branch through SFMS portal to Canara bank , Mount Road, Chennai- 600 002 , Account No: Account No: 0911201003004 IFSC: CNRB0000911 (Bank of Beneficiary) and written confirmation to the effect is issued by Bank of Beneficiary.

IN WITNESS WHERE OF THIRU and THIRU..... . acting for and on behalf of the Bank has signed this deed on the day, month and year first above written.

In the presence of witnesses:

- 1.
- 2.

(Signature with seal of the Bank (Name in Block letters) and
(Name in capitals to be subscribed with designation, address of office or residential)

ANNEXURE-V

UNDERTAKING TOWARDS RECOVERY OF DUES TO TNPDC

(TO BE FURNISHED BY THE TENDERER IN A NON-JUDICIAL STAMP PAPER OF VALUE NOT LESS THAN Rs.500/- AS PER CLAUSE 22.0 OF COMMERCIAL)

THIS DEED OF UNDERTAKING executed at.....on this.....day of

.....by M/s.....

hereinafter called the "TENDERER" (which expression where the context so admits mean and include their agents, their representatives, successors in office and assigns).

TO AND IN FAVOUR OF THE TAMIL NADU GENERATION AND DISTRIBUTION CORPORATION LIMITED, a body corporate constituted under the Electricity Act 2003 having its office at NPKRR Maalgai, New No. 144, Anna Salai, Electricity Avenue, Chennai – 600 002, hereinafter called the "TNPDC" (which expression shall where the context so admits mean and include the successors in office and assigns).

WHEREAS the TNPDC has called for an undertaking from the Tenderer empowering the TNPDC to recover the dues if any,

NOW THIS UNDERTAKING WITNESSETH that the TNPDC is empowered to recover any dues against this contract in any bills /Security Deposit / E.M.D. due to the Tenderer either in this contract or any other contracts with the TNPDC. Further, the Tenderer hereby authorizes the TNPDC to recover any dues against any other contract of the Tenderer with the TNPDC/TANTRANSCO/TNEB Ltd with the available amount due to the Tenderer against this contract.

IN WITNESS WHERE OF THIRU.....acting for and on behalf of the Tenderer has signed this deed on the day, month and year herein before first mentioned.

SIGNATURE OF THE TENDERER.

In the presence of witnesses.

1. Signature

(Name in capital letters with address)

2. Signature

(Name in capital letters with address)

ANNEXURE- VI

FORMULA FOR PRICE VARIATION CLAUSE

IEEMA/PVC/DIST-CU_ upto 2.5 MVA/2021

Effective from:01 September 2021

PRICE VARIATION CLAUSE FOR COPPER WOUND DISTRIBUTION TRANSFORMERS

COMPLETE WITH ALL ACCESSORIES AND COMPONENTS

**(For Single & Three Phase of ratings upto 2,500 KVA and voltage class upto 33KV)
supplied against domestic contracts**

This price variation clause is applicable for "Copper Wound Distribution Transformers", with rating upto and including 2,500 KVA and voltage up to 33 KV supplied against domestic contracts. A separate price variation clause IEEMA/PVC/DIST-CU_ upto 2.5 MVA/DE/2021 has been evolved for above types of Transformers supplied against export/deemed export contracts under special imprest licensing scheme.

The price quoted/confirmed is based on the input cost of raw materials/components and labour cost as on the date of quotation and the same is deemed to be related to prices of raw materials and all India average consumer price index number for industrial workers as specified in the price variation clause given below. In case of any variation in these prices/indices, the price payable shall be subject to adjustment, up or down in accordance with the following formula:

$$P = \frac{Po}{100} \left(7 + 41 \frac{C}{Co} + 23 \frac{ES}{ESo} + 10 \frac{IS}{ISo} + 5 \frac{IM}{IMo} + 8 \frac{TO}{TOo} + 6 \frac{W}{Wo} \right)$$

Wherein,

P = Price payable as adjusted in accordance with the above formula

Po = Price quoted/confirmed

Co = Price of CC copper rods (refer notes)

This price is as applicable for the month, ONE month prior to the date of tendering.

ESo = The price of CRGO Electrical Steel Lamination (refer notes)

This price is as applicable for the month, ONE month prior to the date of tendering.

ISo = Price of HR Coil of 3.15 mm thickness (refer notes)

This price is as applicable for the month, ONE month prior to the date of tendering.

IMo = Price of insulating Materials (refer notes)

This price is as applicable for the month, ONE month prior to the date of tendering

TOo = Price of Transformer Oil (refer notes)

This price is as applicable for the month, ONE month prior to the date of tendering.

Wo = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base:2016:100)

This index number is as applicable for the month, THREE months prior to the date of tendering.

For example, if date of tendering falls in December 2021, the applicable prices of Copper (Co), Transformer Oil (TOo), CRGO Steel Sheets (ESo), HR Coil (ISo) and Insulating material (IMo) should be as on 1st November 2021 and all India average consumer price index no. (Wo) should be for the month of September 2021.

The above prices and indices are as published by IEEMA vide circular reference number IEEMA (PVC) /PWR_DIST_TRF/(R-1)/ _/_ One month prior to the date of tendering.

- C = Price of CC copper rods (refer notes)
This price is as applicable for the month, ONE month prior to the date of delivery.
- ES = Price of CRGO Electrical Steel Lamination (refer notes)
This price is as applicable for the month, ONE month prior to the date of delivery.
- IS = Price of HR coil of 3.15 mm thickness (refer notes)
This price is as applicable for the month, ONE month prior to the date of delivery.
- IM = Price of Insulating Materials (refer notes)
This price is as applicable for the month, ONE month prior to the date of delivery.
- TO = Price of Transformer Oil (refer notes)
This price is as applicable for the month, ONE month prior to the date of delivery.
- W = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base 2016=100)
This index number is as applicable for the month, THREE months prior to the date of delivery

For example, if date of delivery in terms of clause given below falls in December 2022, applicable prices of Copper (C), Transformer Oil (TO), CRGO Steel Sheets (ES), HR Coil (IS) and Insulating material (IM) should be as on 1st November 2022 and all India average consumer price index no. (W) should be for the month of September 2022.

The above prices and indices are as published by IEEMA vide circular reference number IEEMA(PVC)/PWR_DIST_TRF(R1)/_/ ONE month prior to the date of delivery.

The date of delivery is the date on which the transformer is notified as being ready for inspection/despatch (in the absence of such notification, the date of manufacturer's despatch note is to be considered as the date of delivery) or the contracted delivery date (including any agreed extension thereto), whichever is earlier.

Notes:

- All prices of raw materials are exclusive of GST amount and exclusive of any other central, state or local taxes etc.
- Date of Tendering is the due date of tender submission or tender opening whichever is earlier.
- The details of prices are as under:
 - Price of 8 mm CC copper rods (in Rs./ MT) is ex-works price as quoted by the primary producer.
 - The price of CRGO Electrical Steel Lamination suitable for Transformers of voltage up to 33 KV is the average price as quoted by processing centres of overseas mills and lamination suppliers.
 - Price of steel is the average retail price of HR coil 3.15 mm thickness published by Joint Plant Committee (JPC) in Rs./MT.
 - The average price of Insulating materials (in Rs./Kg) of pre-compressed pressboards of size 3 mm and 10 mm thick, 3200 mm x 4100 mm C& F price in free currency per MT converted into Indian Rupees with applicable exchange rates prevailing as on 1st working day of the month as quoted by primary suppliers. This price is the landed cost, inclusive of applicable customs duty only but exclusive of countervailing duty.
 - The price of Transformer Oil (in Rs./K.Ltr) is the average price on ex-refinery basis as quoted by two manufacturers for supply in drums.
- Some purchasers are purchasing oil immersed Transformers from manufacturers without first filling of oil. Oil for first filling is procured and filled by the purchasers. For such supplies PVC formula, excluding Oil will apply as under :

$$P = \frac{Po}{92} \left(7 + 41 \frac{C}{Co} + 23 \frac{ES}{ESo} + 10 \frac{IS}{ISo} + 5 \frac{IM}{IMo} + 6 \frac{W}{Wo} \right)$$

where description of P, Po, C, ES, IS, IM, W etc. remains same as mentioned earlier.

ANNEXURE -VII

(To be signed with company seal on letter head and uploaded in the technical Bid)

TENDER ACCEPTANCE LETTER

(To be given on Company Letter Head) Date:

To,

Sub : Acceptance of Terms & Conditions of Tender.

Tender Reference No :

Name of Tender/Work :

Dear Sir,

1. I/We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely: -----

----- as per your advertisement, given in the above mentioned website(s).
2. I/We hereby certify that I/We have read the entire terms and conditions of the tender documents from page No.----- to -----(including all documents like annexure(s), schedule(s), etc.,) which form part of the contract agreement and I/We shall abide hereby the terms / conditions / clauses contained therein.
3. The corrigendum(s) issued from time to time by your department/ organization too has also been taken into consideration, while submitting this acceptance letter.
4. I/We hereby unconditionally accept the tender conditions of above mentioned tender document(s) corrigendum(s) in its totality / entirety.
5. In case any provisions of this tender are found violated, then your department / organization shall without prejudice to any other right or remedy be at liberty to reject this tender/bid including the forfeiture of the full said earnest money deposit absolutely.
6. I / We hereby unconditionally accept to pay the amount equivalent to EMD along with applicable GST, together with the costs if any, in the event of non- fulfilment of the conditions in the tender specifications.

Yours faithfully,
(Signature of the bidder, with official Seal)

ANNEXURE- VIII

**DECLARATION TO BE SUBMITTED BY THE BIDDERS FOR ITC BENEFITS IN
NON -JUDICIAL STAMP PAPER OF VALUE NOT LESS THAN Rs.500/-**

To
The Chief Engineer,
Materials Management,
4th Floor, Western Wing,
N.P.K.R.R. Maaligai, TNPDC.
No.144, Anna Salai, Chennai- 600 002.

We hereby declare and confirm that we are registered vendor under GST Act having
GSTIN..... in State of Our
applicable GST% for the above reference job is under code..... .

We hereby declare and confirm that we are registered vendor under composite
scheme having GSTIN.

We are aware that as per Sec. 171 of CGST Act, any reduction in rate of tax on any
supply of goods or services or the benefit of input tax credit should be passed on to
TNPDC by way of commensurate reduction in prices and as such we hereby declare that
we are extending Rs...../- of % as rebate in my awarded price against input
tax credit benefit.

We hereby declare that we do not have any input tax credit benefit on account of
GST applicable against this job. If it is established that we have availed input tax credit
benefit against this job, the differential tax benefit will be returned to TNPDC failing which
TNPDC may take appropriate action.

SIGNATURE OF BIDDER WITH COMPANY SEAL.

Note:

Supplier / Bidder may strike out the para not applicable.

ANNEXURE-IX
FORMAT FOR DELIVERY SCHEDULE
(WILL BE ISSUED AT THE TIME OF AWARD OF CONTRACT TO THE
SUCCESSFUL BIDDER)
E-TENDER SPECIFICATION NO: M-251/2026-27
25KVA/22KV/433V ENERGY EFFICIENT LEVEL-1 DISTRIBUTION
TRANSFORMERS
INDENT FOR THE QUANTITY TO BE SUPPLIED
Total Ordered Quantity: Nos.

Quantity to be Supplied during the contract period	Quantity to be Supplied during the month	Quantity to be supplied during the month in Nos.	Remarks
1 st month	Preparatory period		
2 nd month	First month		
3 rd month	Second month		
4 th month	Third month		
5 th month	Fourth month		
6 st month	Fifth month		
7 th month	Sixth month		
8 th month	Seventh month		
9 th month	Eighth month		
10 th month	Nineth month		
11 th month	Tenth month		
12 th month	Eleventh month		
TOTAL			

The preparatory period is one month from the date of receipt of award of contract. Thereafter the quantity indented as above may be delivered at the monthly rate of quantity mentioned above.

The delivery against this purchase shall be programmed in such a way that the backlog, if any, in respect of the earlier order placed on you shall be made good initially and without detriment to the delivery schedule already committed against the earlier order.

ANNEXURE – X

DECLARATION PURSUANT TO SECTION 206AB

(To be obtained from applicable Suppliers)

This is to declare that(Name of the supplier)
have filed the Return of Income (ROI) under the relevant provisions of the Income
Tax Act, 1961 for the Assessment Year 2019-20 and 2020-21 (FY 2018-19 and FY
2019-20) and we shall file the ROI for Assessment Year 2021-22 (Financial Year
2020-21) within the due date as per the provisions of the said Act.

Permanent Account No. (PAN) of our Company/Firm/Individual is
..... The details of Return of Income filed are as below:

S. No	Assessment Year	Acknowledgement No	Date of Filing
1	2019-20	_____	_____
2	2020-21	_____	_____
3	2021-22	_____	_____
4	2022-23	_____	_____
5	2023-24	_____	_____
6	2024-25	_____	_____

Place :

Date :

(Authorized Signatory)
Signature & Seal

ANNEXURE- XI

GUIDELINES FOR RELEASING GST PORTION TO SUPPLIERS / CONTRACTORS

As per GST guidelines TNPDCCL / TANTRANSCO has to ensure the remittance of GST to Govt. made without omissions by the supplier / contractors, since GSTR 2A is getting updated regularly.

Hence the following guidelines were issued to the Supplier / Contractor:

1. The Tax invoices shall have the details of rates, quantity and admissible rate of GST.
2. The suppliers shall pay the GST and file the returns under GST promptly to avoid delay in processing / payment of invoices could be avoided/ minimized. If the supplier paid the GST, their invoices would be exhibited in the GSTR-2A and the same will be taken as GST compliance of Supplier/contractor.
3. The running bills will be passed after verification of the GST paid in the previous month. In case of high value bills (say 10 lakh or above) the GSTR-2A will be verified before passing the bills.
4. In case of one and only bill against the PO/W.C, the bill will be passed after verification of GSTR-2A only.
5. The updated GSTR-2A available in the portal will be utilized in lieu of documentary proof for any GRT claim.
6. Instead of insisting for the hard copy of any document proof such as returns filed, Challons remitted, CA certificate, GSTR-3B the GSTR-2A will be verified for admitting invoices.

The Tax supplier who has availed the scheme of quarterly filing of returns (i.e when turnover is upto 150 Lakhs) the following mechanism will be adopted for passing the bills.

- i. If it is only one bill, the GST payment of the supplier's bill will be verified during PO closure.
- ii. If there are multiple bills, then
 - (a) Bills related to first 3 months i.e Initial quarter will be admitted inclusive of GST without verifying with GSTR-2A reports.
 - (b) Bills for the subsequent quarter will be passed if GST payment of bills raised on TNPDCCL in the earlier processed quarter has been updated and exhibited in GSTR-2A.

If discrepancies arises between the value shown in the GSTR-2A and the invoices available, the liability towards GST may be restricted to the lower of the above two.

ANNEXURE-XII

UNDERTAKING FOR E.M.D.

(TO BE FURNISHED IN NON-JUDICIAL STAMP PAPER OF VALUE NOT LESS THAN Rs.500/-)

THIS DEED OF UNDERTAKING executed at.....

..... on thisday of

..... hereafter called 'TENDERER' (which expression shall where the context so admits mean and include their Agents, Representatives, Successors – in – office and Assigns).

TO AND IN FAVOUR OF THE TAMIL NADU GENERATION AND DISTRIBUTION CORPORATION LIMITED, a body corporate constituted under the Electricity Act, 2003 having its office at NPKRR Maaligai , 144, Anna Salai, Chennai – 600 002, herein called the "TNPDC" (which expression shall where the context so admits mean and include its successors in office and Assigns)

WHERE AS the Tenderer is required to pay Earnest Money Deposit of Rs...../- (Rupees.....Only) for participation in the tender for supply of in terms of Specification No.....

AND WHERE AS the Tenderer is exempted by the TNPDC from payment of EMD in the form of cash, subject to the tenderer executing an undertaking to the value of Rs...../- (RupeesOnly) representing the amount equivalent to the amount of EMD/ **Security Deposit or actual amount equal to loss incurred by TNPDC** specified to be paid to the TNPDC in the event of non-fulfillment of breach of any of the conditions of the tender by Tenderer as mentioned hereunder.

AND WHEREAS in consideration of the acceptance by the TNPDC of the above proposal, the tenderer has agreed to pay to the TNPDC the said amount of Rs...../- (RupeesOnly) in event of –

1. Withdrawing his tender before the expiry of the validity period OR
2. Withdrawing his tender after acceptance , OR
3. Violating any of the conditions of the tender issued by the competent authority.

NOW THIS UNDERTAKING WITNESETH that in pursuance of the said agreement the Tenderer hereby doth covenant with the TNPDC that in consideration of the "TNPDC" waiving the condition of payment of EMD in cash in terms of the said specification, the Tenderer has agreed to pay to the TNPDC Rs. (only) in the event of:

- i) Withdrawing his tender before the expiry of the validity period.
- ii) Withdrawing his tender after acceptance.
- iii) Violating any of the conditions of the tender issued by the competent authority.

NOW THE CONDITIONS OF THE above written undertaking is such that if the tenderer shall duly and faithfully observe and perform the conditions specified as above, then the above written undertaking shall be void, otherwise it shall remain in full force.

The tenderer undertakes not to revoke this guarantee till the contract is completed under the terms of contract.

The expression, ' TENDERER' and the 'TNPDC' hereinafter before used shall include their respective successors and assigns in office.

IN WITNESS WHERE OF THIRU..... acting
for and on 'behalf' of the Tenderer has signed this deed on the day, month and year
herein before first mentioned.

SIGNATURE :

NAME IN BLOCK LETTERS :

SEAL OF THE COMPANY :

In the presence of Witnesses :

1. Signature

(Name and Address)

2. Signature

(Name and Address)

ANNEXURE -XIII

**(TO BE SIGNED WITH COMPANY SEAL ON LETTER HEAD)
UNDERTAKING FOR ACCEPTANCE OF TEST RESULT TESTED AT CIRCLE LEVEL**

(To be given on Company Letter Head) Date:

To,

Sub : Acceptance of Test Results carried in the Supplied Distribution Transformer.

P.O No & Date :

Capacity of the DT Supplied :

No. of DTs Supplied. :

I / We have suppliedNos. ofKVA/.....KV/433V Energy Efficient Level – Distribution Transformers to the EDCircle as per the Dispatch Instruction issued on

I / We hereby certify that I/We have read the entire Test & Verifications to be carried out during Pre-Dispatch Inspection (PDI) for the Transformers.

The following tests are to be carried out mandatorily for the transformers supplied by the suppliers and received at Circle level and recorded at the Special Maintenance Lab in presence of supplier or his representative (and witnessed preferably by EE/MRT or EE/General or EE/O&M)

(i) DC Resistance

(ii) Loss at No Load

(iii) Loss at 50 % Load

(iv) Loss at 100 % Load.

I / We hereby accept the test results carried out for the transformers supplied to the EDC, as the test are to be carried out in presence of the supplier or his representative, for which we are not in a position to assign our representative to theEDC.

Yours faithfully,
(Signature of the bidder, with official Seal)
