

TENDER SPECIFICATION

STN- 1259 /2024

FOR

**11KV/ $\sqrt{3}$ /250V, 25 KVA SINGLE PHASE
CSP ALUMINIUM WOUND
DISTRIBUTION TRANSFORMERS WITH
BIS ENERGY EFFICIENCY LEVEL - 1**

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NOTE:

1. Payment terms, Delivery period, Performance Bank Guarantee, applicable GST” should be in line with the terms and conditions of the specification. If any bidder does not meet any one of the conditions, such tender will not be considered. Please note that the conditional offers are also not considered. Hence the bidder shall submit the tender in line with the terms and conditions of the specification.
2. The bidders shall check the website www.tgsouthernpower.org and www.tender.telangana.gov.in for amendments, if any, upto one day prior to the date of tender opening. The amendments shall be binding on the bidders.
3. The purchaser will not be responsible for any damage that may be caused to the samples at any time.
4. The bidder shall furnish required Bid Security amount and validity as per specification. If the bidder fails to furnish bid security amount and bid validity as stipulated in the specification, such tender bid will not be considered for further evaluation.
5. The prospective bidders shall attend the pre-bid meeting (date and time in NIT) for any queries. The discussed queries shall be submitted in the form of a letter during pre bid meeting or within 24 hrs of pre bid meeting. Any new queries received after pre bid meeting are not liable to be considered.
6. The bid evaluation will be carried out based on the documents uploaded through www.tender.telangana.gov.in against this tender.
7. The Bids received with any details pertaining to prices in the offline mode will be liable for rejected.
8. **The bidder should quote price schedule only in online and specify the price of the Materials / equipment EXWORKS, Freight and Insurance separately (mandatory) and all the duties, taxes as per the applicable GST.**
9. **In e-procurement commercial stage, if F&I charges are applicable then mention Frieght and Insurance separately (mandatory) as per the applicable GST.**
10. Exemption of EMD is considered Only for Government firms.
11. Applicable tax collected at source (TCS) is as per Government of India.

Phones : 040 - 23431035, 23431360

Sd/-
CHIEF ENGINEER (P&MM)/TGSPDCL



**SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA
LIMITED
TGSPDCL (erstwhile TSSPDCL)**

e-Procurement Tender Notice (Paper Notification)

TGSPDCL intends to float tenders for procurement of (1) Android Spot Billing Machines, (2) 5 MVA Power Transformers, (3) 8 MVA Power Transformers, (4) 11KV CTPT set 40/5A, 02s accuracy, (5) 1Ph 25 KVA DTRs with BIS EEL-1 (Star-1) on e-procurement platform

For further details of each item above, please visit www.tgsouthernpower.org
www.tender.telangana.gov.in and www.auction.telangana.gov.in.

Phone: 040-23431360, 1033, 1035, 1026

Sd/-
CHIEF ENGINEER (P&MM)

SECTION - I
ONLINE VERSION
Tender Notice No: STN- 1259 /2024

Notice Inviting Tender Details		
S.No	Description	
1	Department Name	Southern Power Distribution Company of Telangana Limited
2	Office	Purchases & Material Management Wing, Corporate Office, TGSPDCL, Hyderabad
3	Tender Number	STN- 1259 /2024
4	Tender Subject	Single phase 25 KVA CSP Aluminium wound Distribution Transformers with BIS Energy Efficiency Level-1.
5	Delivery Schedule	The delivery of materials shall commence within one month and complete within three months thereafter. The quantities that can be delivered per month shall be quoted.
6	Tender Type	Open
7	Tender Category	NA
8	Bid Security (INR)	(i) Bidders shall furnish an amount equivalent to 2% of Ex-works quoted value (plus GST applicable) towards bid security (or) (ii) Exemption letter of Bid Security in case of Govt. firms.
9	Bid Security Payable to	In the form of DD in favour of Pay Officer/TGSPDCL / Hyd (or) Bank Guarantee from Nationalized Bank/Scheduled Bank in favour of "The Chief Engineer(P&MM), Corporate Office, TGSPDCL, Hyderabad".
10	Processing Fee (INR)	NIL
11	Transaction Fee	Transaction fee: All the participating bidders who submit the bids have to pay an amount @ 0.03% of their final bid value online with a cap of Rs. 10,000/- for quoted value of purchase upto Rs.50 crores and Rs.25, 000/- if the purchase value is above Rs.50 crores & GST applicable as levied by Govt. of India on transaction fee through online in favour of M/s. TGTS, Hyderabad. The amount payable to M/s. TGTS, Hyderabad is non refundable. Corpus Fund: Successful bidder has to pay an amount of 0.04% on quoted value through demand draft in favour of Managing Director, TGTS, and Hyderabad towards corpus fund at the time of concluding agreement.
12	Transaction Fee Payable to	M/s. TGTS, Hyderabad
13	Date & Time of pre-bid meeting with manufacturer	22 -11-2024 at 12:00 hrs.
14	Schedule Sale opening date	14 -11-2024 from 17.00 Hrs
15	Schedule Sale closing Date	29 -11-2024 Upto 13:00 Hrs.
16	Bid Submission Closing Date & time	29 -11-2024 Upto 13:00 Hrs
17	Bid submission	Online
18	Pre-Qualification & Technical Bid Opening Date (Qualification and Eligibility Stage and Technical Bid Stage)	29 -11-2024 at 15:00 Hrs.
19	Price Bid Opening Date (Financial Bid stage)	06 -12-2024 at 12:00 Hrs
20	Place of Tender Opening	O/o Chief Engineer/P&MM TGSPDCL, 4th Floor, Corporate Office, Mint Compound, Hyderabad – 500 004.
21	Officer Inviting Bids/ Contact Person	Chief Engineer /P&MM/TGSPDCL/HYDERABAD
22	Address/E-mail id	O/o. Chief Engineer /P&MM

		TGSPDCL, 4th Floor, Corporate Office, Mint Compound, Hyderabad – 500 004
23	Contact Details/Telephone, Fax	Ph. No. 040-23431319
24	Eligibility Criteria	As per Section IV
25	Procedure for Bid Submission	<p>Bids shall be submitted online on www.tender.telangana.gov.in platform</p> <ol style="list-style-type: none"> 1. The participating bidders in the tender should register themselves free of cost on e-procurement platform in the website www.tender.telangana.gov.in. 2. Bidders can log-in to e-procurement platform in Secure mode only by signing with the Digital certificates. 3. The bidders who are desirous of participating in e-procurement shall submit their technical bids, price bids as per the standard formats available at the e-market place. 4. The bidders should scan and upload the following documents in support of technical bids. The bidders shall sign on all the statements, documents certificates uploaded by him, owning responsibility for their correctness/authenticity: <ol style="list-style-type: none"> a) Bid Security should be furnished <ol style="list-style-type: none"> i) In the form of DD in favour of Pay Officer/TGSPDCL/Hyderabad or BG from any Nationalized Bank in favour of <u>Chief Engineer</u> /P&MM/ TGSPDCL/Hyd. <li style="text-align: center;">(or) ii) If exempted give details of Bid Security exemption (in case of Govt. organizations) b) “Sales Tax Clearance Certificate” for the latest Financial year. c) Details of previous supplies as per tender document d) Performance certificates e) Copies of previous supply orders in support of above. f) Type test certificates from any recognized NABL Labs g) Duly filled and signed proforma as per Format A. h) Transaction fee payable to TSTS, Hyderabad. 5. The rates should be quoted in online only <p>6. After uploading the documents, original Demand Draft/BG in respect of Bid Security (except the Price of bid/offer/break-up of taxes) are to be submitted by the bidder to the Chief Engineer/P&MM/TGSPDCL so as to reach before the date and time of opening of the technical bid. Failure to furnish original BG/DD, before the date and time of opening of technical bid will entail in rejection of the bid. The Department shall not hold any risk on account of postal delay. Similarly, if any of the certificates, documents, etc., furnished by the tenderer are found to be false/fabricated/ bogus, the bidder will be disqualified, blacklisted, action will be initiated as deemed fit and the Bid Security will be forfeited.</p> <p>7. The department will not hold any risk and responsibility regulating non-visibility of the scanned and uploaded documents.</p>

		<p>8. The Documents that are uploaded online on e-market place will only be considered for Technical Bid Evaluation.</p> <p>9. Important Notice to manufacturers, Suppliers and Department users</p> <p>(i) In the endeavor to bring total automation of processes in e-Procurement, the Govt. has issued orders vide G.O.Ms.No. 13 dated. 5.7.2006 permitting integration of electronic Payment Gateway of ICICI/HDFC Banks with eProcurement platform, which provides a facility to participating suppliers/ contractors to electronically pay the transaction fee online using their credit cards.</p>
26	Rights reserved with the Department	TGSPDCL reserves the right to accept or reject any or all of the tenders received without assigning any reasons therefore. The TGSPDCL also reserves the right to split the tender and place orders on more than one tenderer at its discretion
27	General Terms and Conditions	As per tender documents.

SECTION-II
SALIENT FEATURES OF THE BID

SUPERSCRPTION ON THE TENDER COVER

- Specification No : **STN- 1259/2024**
 Material : **Single phase 25 KVA CSP Aluminium wound Distribution Transformers with BIS Energy Efficiency Level-1.**
- Officer to whom the bid will be addressed :
 Superscription on the bid cover and the outer envelope :
- a. Specification No. : **STN- 1259/2024**
 b. Due date and time for online submission : **29-11-2024 up to 13.00 Hrs**
 c. Date and time of online opening : **29-11-2024 at 15.00 Hrs**
 d. Payment of bid security
 i) If paid give details: DD/BG No._____ Dt._____ for Rs._____
 ii) If exempted give details
 e. Whether 90 days validity offered(yes/no).
 f. Whether bid is made accepting payment terms Clause....(yes/no).
 g. Whether delivery is as per delivery schedule indicated....(yes/no)
 h. Whether the sample (if specified) has been enclosed/sent...(yes/no)
 i. Whether the quotation is in two parts (Yes/no)

Content of Bidding Documents:

The materials / equipment required, bidding procedures, and contract terms are prescribed in the bidding documents as listed below:

- a. Notice Inviting Bids.
- b. Salient features of the contract.
- c. Standard General terms and conditions of contract.
- d. Standard Technical specification and drawings wherever necessary.
- e. Qualification Requirements.
- f. Schedule of requirements (Delivery Schedule)

SAMPLE FORMS.

- a. Bid Form
- b. Bid Security Form
- c. Performance Security form
- d. Contract Form
- e. Performance Statement
- f. Details to be furnished by the Manufacturer
- g. Schedule of Deviations (Technical & Commercial)
- h. Declaration

The Bidder is expected to examine all instructions, forms, terms and technical specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at Bidder's risk and may result in the rejection of its bid.

Deviations from standard bidding document

- i. General terms and Conditions of Contract
- ii Technical

The above deviations supersede the existing terms of GCC and Technical Specification

Sd/-
CHIEF ENGINEER (P&MM)/TGSPDCL

SECTION-III**GENERAL TERMS AND CONDITIONS****A. Introduction****1. Definitions**

1.1 In this Contract, the following terms will be interpreted as indicated:

- (a) "The Contract" means the agreement entered into between the Purchaser and the Supplier, as recorded in the contract Form signed by the Parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
- (c) "The Materials/equipment" means all of the equipment, machinery, and/or other materials which the Supplier is required to supply to the Purchaser under the Contract.
- (d) "The Services" means those services ancillary to the supply of the Materials / equipment, such as transportation and insurance, and any other incidental Services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.
- (e) "GCC" means the General Terms and Conditions of Contract contained in the section.
- (f) "The Purchaser" means the organization purchasing the Materials / equipment.
- (g) Vendor is a supplier who has registered with the purchaser for supply of materials/equipment.
- (h) "The Supplier" means the firm supplying the Materials / equipment and Services under this Contract.
- (i) "Day" means calendar day.

2. Applicability

2.1 These General Conditions of contract will apply to the extent that they are not superseded by provisions of Salient features of the Bid.

3(a) Standards

The Materials / equipment supplied under this Contract will conform to the Standards mentioned in the Technical specifications, and, when no applicable standard is mentioned, the authoritative standards appropriate to the Materials / equipment' i.e., BIS, such standards will be the latest. All material will be of the best class and will be capable of satisfactory operation under tropical conditions without distortion or deterioration.

3(b) Interchangeability:

All similar materials and removable parts of similar equipment will be interchangeable with each other. A specific confirmation of this should be furnished in the bid.

4. **Scope of Work:**

This specification covers design, manufacture, testing and delivery FADS (Free At Destination Stores) of the materials described at Section VII and Technical Specification at section-VI.

5. **Eligible Bidders:**

All the Manufacturers who have registered themselves with Department of Industries of State/Central Govt. with full manufacturing and testing facilities for supply of the material / equipment listed in Section No. VI, of Bid specification and meeting the qualification requirements described at section IV only need quote. Bids received from firms not meeting the above two criteria will not be considered.

B. THE BIDDING DOCUMENTS

6. **Contents of Bidding Document:**

6.1 The Materials / equipment required, bidding procedures, and contract terms are prescribed in the bidding documents as listed below:

1. Notice Inviting Bid
2. Technical Specifications
3. Schedule of Requirements (Delivery Schedule)
4. Bid Form and Price Schedules (online only)
5. Salient Features of the Bid
6. General Terms and Conditions of Contract
7. Qualification Requirements
8. Bid Security
9. Performance Security Form
10. Schedule of Deviations

6.2 The Bidder is expected to examine all instructions, forms, terms and Technical specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not responsive to the bidding documents in every respect will be at Bidder's risk and may result in the rejection of its bid.

7. **Clarification of Bidding Documents**

Clarification of Bidding Documents: A prospective Bidder requiring any clarification of the bidding documents may notify the Purchaser in writing or by cable (hereinafter, the term cable is deemed to include telex and facsimile) at the Purchaser's address. The Purchaser will respond in writing to any request for clarification of the bidding documents, which it receives no later than fifteen (15) days prior to the deadline for the submission of bids. Written copies of Purchaser's response (including an explanation of the query but without identifying the source of inquiry) will be put on Website of the purchaser or intimated by mail.

8. **Amendment to Bidding Documents:**

8.1 At any time prior to the deadline for submission of bids, the Purchaser, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, may modify the bidding documents by amendment.

8.2 All such amendments also would be made available on the website of TGSPDCL and e-procurement website and such amendments will be binding on the respective Bidders.

8.3 In order to allow prospective Bidders reasonable time in which to take the amendment into account in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids.

C. PREPARATION OF BIDS

9. Language of Bid:

The bid prepared by the Bidder including all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, will be in English.

10. Cost Associated with Bidding:

The Bidder will bear all costs associated with the preparation and submission of its bid, and the Purchaser, will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

11. Documents Constituting the Bid:

11.1 The bid prepared by the Bidder will comprise the following components:

- i. Bid Security in accordance with Clause No.21.
- ii. A Bid Form and appropriate Price Schedule (online) completed in accordance with Clause No.12 and 13.
- iii. Documentary evidence establishing in accordance with Clause No.19 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted.
- iv. Documentary evidence establishing that the Materials / equipment and ancillary services to be supplied by the Bidder are as per the Technical specification of the bidding documents; and
- v. Tax clearance certificate
- vi. Schedule of Deviations
 - (a) Commercial
 - (b) Technical

All the Schedules will be duly filled but not necessary in the sheets attached to the specification unless full details required in the schedules are furnished the Bids will be liable for rejection.

12. Bid Form:

12.1 The Bidder will complete the Bid form and the appropriate Price Schedule (online) furnished in the bidding documents, indicating the Materials/equipment to be supplied, a brief description of the Materials / equipment, quantity and prices.

13. Bid Prices:

13.1 The prices quoted shall be Variable. Bids will be called for with prices FADS inclusive of packing and forwarding GST and other legally permissible duties and levies wherever applicable, handling charges to cover the transport by road from destination railway station to site/stores, and insurance (transit and storage at site for 45 days).

13.2 Even though composite price is given, the break-up for all the duties, applicable GST, freight, insurance, packing and forwarding etc., shall be furnished.

13.3 It is the responsibility of the Bidder to inform himself of the correct rates of duties and applicable GST leviable on the materials at the time of bidding.

13.4 The proforma credit available to the bidder on the purchases of inputs (raw materials) consequent to the introduction of "MODVAT" Scheme may be taken into account while quoting the prices.

- 13.5 The Bidder shall indicate on the appropriate Price Schedule (online submission) the unit prices (where applicable) and total bid price of the Materials / equipment it proposes to supply under the contract.
Prices indicated on the Price Schedule (on-line) shall be entered separately in the following manner.

Note: Please quote the ex-works, Freight and Insurance separately (mandatory) as per the applicable GST.

The price of the Materials/equipment quoted EXWORKS and all excise and other duties and sales and other applicable GST” payable on the finished Materials/equipment with individual breakup for Taxes and Duties, packing and forwarding, freight and insurance, etc.

14. Variable prices & price variation basis:

- 14.1 Wherever prices quoted are not firm (variable), prices FADS, GST, freight, Insurance, packing, forwarding and other legally permissible duties and levies shall be given separately.
- 14.2 Quotations will be with prices subject to adjustment up or down as per specific variation formula with reference to the base prices of major raw-materials / components involved which will be detailed in the bid along with the respective percentage costs in the composite price for the finished goods.
- 14.3 Whenever IEEMA price variation formula is applicable, the Bidder may quote according to IEEMA formula in force at the time of bidding which will remain the same through out the execution and completion of the order.
- 14.4 The quoted prices shall be on FADS basis inclusive of transit cum 45 days storage insurance inclusive of all taxes and duties.
- 14.5 The prices of raw- materials / components will be those at which Bidder actually purchases from their principal suppliers (whose names will be invariably stated) and shall not be the landed cost at the Bidder's work including transport or any other charges. The basic price of raw materials so quoted shall remain unaltered during the period of validity of bid as well as during the execution of contract.
- 14.6 Where IEEMA formula is not applicable and where the raw materials such as Steel, Aluminium, Zinc, Lead and Copper are involved the SAIL / TISCO / MUKUND price of steel for Zinc and Copper as published by IEEMA and the BALCO / HINDALCO price of Aluminium shall be applicable for price variation. The Base and final prices/indices shall correspond to same manufacturers.
- 14.7 In case of conductors, where the bidder makes his own arrangements to get the Properzi Rod made out of Aluminium, Ingot, the price of Properzi Rod as prevailing at the time of the bidder obtaining the ingot from the primary producers shall only be taken into consideration for arriving at the price variation claims irrespective of whatever expenditure the bidder might have incurred in getting the ingot converted into Properzi Rod.
- 14.8 In cases where variable prices are quoted, if complete information as above is not given, the bid is liable for rejection.
Irrespective of the increase in the prices of raw materials the price variance (increase) will be limited to a maximum of 50% over the original quoted price and no ceiling on negative side.

- 14.9 If the date of delivery as defined in the P.V. formula is beyond the contracted delivery date the scheduled delivery date or the actual delivery date which ever is advantageous to the Purchaser will form the basis for calculation of price variation.
- 14.10 Notwithstanding the formula applicable for regulating the price variation, if at any time any documentary evidence proof or certificate in regard to the price variation bills is required by the Purchaser, the bidder will have to furnish the same to the Purchaser.
- 14.11 The price for inland transportation, insurance, packing and forwarding and other local costs incidental to delivery of the Materials / equipment to their final destination,
The price of other (incidental) services, if any.

15. Taxes and Duties

- 15.1 A bidder will be entirely responsible for quoting the correct taxes and duties, other local taxes or levies if any, license fees, etc., he has to incur until completion of the contract. For the purpose of evaluation the bidder should clearly indicate the taxes and any other levies payable. Failure to furnish the details leads to loading as indicated in the evaluation criteria.
- 15.2 If the rates of statutory levies assumed by the Bidder are less than the actual rates prevailing at the time of bidding, the Purchaser will not be responsible for such errors. If the rates of statutory levies assumed by the Bidder are later proved to be higher than the actual / correct rates prevailing at the time of bidding, the difference will be passed on to the credit of the Purchaser.
- 15.3. Deemed Export Benefits: This is not applicable for local purchases with TGSPDCL funds.
- 15.4 **Applicable TCS as per the GOI.**

16. Statutory Variations

Any variation up or down in statutory levy or new levies introduced after signing of the contract under this specification will be to the account of TGSPDCL provided that during delivery schedule. In cases where delivery schedule is not adhered to by the supplier and there are upward variation / revision after the agreed delivered date the supplier will bear the impact of such levies and if there is downward variation / revision, the TGSPDCL will be given credit to that extent.

In case of sub vendor items Taxes & Duties are inclusive in tender price. No Statutory variation is applicable. Further price variations in respect of sub-vendor items will be considered on tender prices". This is allowed only once during delivery period i.e. at the time of delivery of goods at factory".

17. Bid Currencies:

Prices shall be quoted in Indian Rupees; and will be paid in Indian Rupees Only.

18. Quantity to quote:

Bidder shall quote a minimum quantity of at least 20% of the total quantity indicated in the bid Specification. Offers less than the minimum prescribed are liable for rejection.

19. Documents Establishing Bidder's Eligibility and Qualifications

The Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted.

The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted will establish to the Purchaser's satisfaction:

- (a) that the Bidder has the financial, technical, and production capability necessary to perform the contract;
- (b) that the Bidder meets the qualification criteria listed in Section IV. In addition the Bidder may furnish full particulars regarding supply of the material in question made so far to TGSPDCL during the last 5 years and other reputed utilities.

20.1 Documents Establishing Materials / equipment Conformity to Bidding Documents.

The Bidder shall furnish as part of its bid, documents establishing conformity to the bidding documents of all Materials / equipment and services, which the Bidder proposes to supply under the Contract.

The documentary evidence of conformity of the Materials / equipment and the services to bidding documents may be in the form of literature, drawings, and data, and will consist of:

- (a) a detailed description of the essential technical and performance characteristics of the Materials / equipment;
- (b) the bidder should specifically mention about furnishing the test certificates and a specimen form of test certificate should be furnished along with the bid.
- (c) a list giving full particulars, including available sources and current prices of spare parts, special tools etc., necessary for the proper and continuing functioning of the Materials / equipment following commencement of the use of the Materials / equipment by the Purchaser; and
- (d) an item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the Materials / equipment and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.

For purposes of the commentary to be furnished pursuant to above, the Bidder will note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Purchaser in its Technical Specifications, are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names, and/or catalogue numbers in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

21. Bid Security

21.1 The Bidder shall furnish, as part of its bid, a Bid Security equivalent to 2% of Ex-works of quoted value (**plus GST applicable**), towards bid security for quoting 100% quantity and bidders quoting part quantity may furnish proportionate bid security. This amount should be paid by way of a crossed demand draft drawn on any nationalized/schedule bank in favor of the Pay Officer, TGSPDCL and payable at headquarters of the Purchaser. The crossed DD should invariably be furnished along with the bids. Alternatively the bidders may furnish a B.G. in original in lieu of DD as per the proforma attached. Fax / photocopies of the bid security will not be accepted and will be rejected.

21.2 The fact of having enclosed bid security by **DD/B.G.** along with the bid should be clearly super scribed on the bid envelope.

Bids, which do not have the above superscription, will be rejected and returned to the respective bidders unopened.

21.3 Submission of BID SECURITY by way of cheque, cash, money order, call deposit will not be accepted and will be considered as disqualification.

- 21.4 Payment of BID SECURITY will be waived at the discretion of the TGSPDCL in the case of fully owned Government undertaking of the Central or State Government. Such undertakings should immediately apply and obtain exemption before submitting their Bids. They need only refer to the details of such exemption in their Bids. Exemption accorded by any organization other than TGSPDCL will not be considered.
- 21.5 Requests for exemption from payment of BID SECURITY will not be entertained in any other cases.
- 21.6 Any bid not secured as above will be rejected by the Purchaser.
- 21.7 Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible as but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Purchaser.
- 21.8 The successful Bidder's Bid Security will be discharged upon the Bidder signing the contract.
- 21.9 The Bid Security may be forfeited:
- (a) if a Bidder:
 - i. Withdraws its bid or alters its prices during the period of bid validity specified by the Bidder on the Bid Form, or
 - ii. Does not accept the correction of errors pursuant to Clause No.30.2; or
 - iii. Offers post Bid rebates, revisions or deviations in quoted prices and / or conditions or any such offers which will give a benefit to the Bidder over others will not only be rejected outright but the original Bid itself will get disqualified on this account and the Bidder's BID SECURITY will be forfeited.
 - (b) In the case of a successful Bidder, if the Bidder fails:
 - i. To sign the contract in accordance with Clause No.38.
 - ii. To furnish performance security in accordance with Clause No.39.
- 21.10 In cases where the Bid Cover Contains superscription of having furnished Bid Security by way of DD/BG but if the same is not found within, such Bids will be rejected and bidder will run the risk of being banned.

NOTE :The bidder shall furnish required bid security amount and validity **(The validity of the bank guarantee shall be upto bid validity +45 days from the date of tender opening)** as per specification. If the bidder fails to furnish bid security amount and bid validity as stipulated in the specification, such tender bid will not be considered for further evaluation.

22. Period of Validity of Bids.

- 22.1 Bids shall remain valid for the period of ninety (90) days from the date of bid opening prescribed by the Purchaser. A bid valid for a shorter period will be rejected.
- The bidders should clearly super scribe on the sealed envelopes of the bids about the validity. Bids not containing superscription of validity will be rejected and returned unopened.
- 22.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses there to will be made

in writing (or by cable). The Bid Security provided under Clause No.21 will also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Security.

23. Tax Clearance Certificates:

- 23.1 Copies of Income Tax, Sales Tax and Turnover Tax certificates for the latest period from the appropriate authority will invariably be enclosed to the bid. In the case of proprietary or partnership firm it will be necessary to produce the certificate / certificates for the proprietor or proprietors and for each of the partners as the case may be. If the Bidder has already produced the certificate during the calendar year in which the bid is made, it will be sufficient, if particulars are given.

24. Service Conditions

- 24.1 The equipment / materials offered will be entirely satisfactory for operation under the climatic conditions indicated below:

(a)	Maximum ambient air temperature (in shade)	45° C
(b)	Maximum ambient air temperature (under sun)	50° C
(c)	Maximum daily average ambient air temperature	35° C
(d)	Maximum yearly average ambient air temperature	30° C
(e)	Maximum humidity	100%
(f)	Altitude above M.S.L.	Up to 1000M
(g)	Average No. of thunder storm days per annum	50
(h)	Average No. of dust storm days per annum	Occasional
(i)	Average No. of rainy days / annum	90
(j)	Average Annual Rain fall	925mm
(k)	Normal tropical monsoon period	4 months
(l)	Maximum wind pressure	150 kg/Sq.M.

- 24.2 Due consideration will be given to any special devices or attachments put forward by the Bidder which are calculated to enhance the general utility and the safe and efficient operation of the equipment / materials.

25. Format and Signing of Bid.

- 25.1 The Bidder shall submit one copy of the bid, clearly marking "ORIGINAL BID with page Nos. and Spiral Binded " However the bid evaluation will be done on the uploaded data on the e-procurement platform.
- 25.2 The original of the bid shall be typed and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. The person or persons signing the bid will initial all pages of the bid, except for printed literature.
- 25.3 Any interlineations, erasures, or overwriting will be valid only if they are initialed by the person or persons signing the bid.

D. Submission of Bids

26. Submission, Sealing and Marking of Bids.

- 26.1 The tenderers are required to submit their bids in two parts as under:

- (i) Part-I (a) : Bid Security, Technical & Qualification Requirements.
 (b) : Technical Bid shall contain full technical particulars and commercial terms and conditions but without prices. This should not contain any cost information whatsoever.

Part-II : Price Bid – containing Price (shall be on-line only)

Bids received with any details pertaining to prices in the offline mode will be rejected.

- (ii) The Part-I of the tender should be furnished in a sealed cover superscribing tender enquiry number, name of material, name of the bidder and date of tender opening.
- (iii) Part-I of the bid will be opened on the due date of tender opening. In case the bidders have been granted Bid Security exemption (clause-20.4), documentary evidence for the same must be furnished. The firms whose Bid Security and Transaction Fee is not received as specified in the tender document, the price bids will not be opened and their bids will be rejected summarily.
- (iv) The price bids of only those bidders whose technical bids, on examination, are determined to be technically and commercially acceptable and meeting the specified Qualification Criteria will be opened at a later date.

Sealing and Marking of Bids.

- 26.2 The Bidder shall seal the original bid in envelope.
- 26.3 The inner and outer envelopes will:
 - (a) Be addressed to the Purchaser.
 - (b) The sealed cover as well as outer envelope should be super scribed as noted below
- 26.4 The sealed cover as well as the outer envelope should be super scribed as follows:
 - (a) Bid Enquiry No.
 - (b) Due date and time for online submission.
 - (c) Date and time for online opening.
 - (d) Payment of Bid Security
 - (i) If paid, give details: D.D. No/BG No. Date:
 - (ii) If not paid or exempted, give details.
 - (e) Whether 90 days validity offered.....YES / NO
 - (f) Whether the quotation is made accepting Payment terms clause YES/NO
 - (g) Whether the delivery is as per delivery schedule indicated.... YES/NO
 - (h) Whether the sample (if specified) has been enclosed/ sent...YES/NO
 - (i) Whether the bid is quoted in two parts (clause 25.1).... (YES/NO)
- 26.5 Bids not super scribed as above are liable to be rejected.
- 26.6 The Bidder shall invariably complete the Bid in full. Details to be furnished by the bidder and Schedule of Prices (On-line only) attached to the specification and enclose the same to the bid without fail.
- 26.7 The bids shall be in bound volumes (With the documents in the volume not detachable). All pages of the bid except in-amended printed literature shall be initiated by the person/persons signing the bid. The page number shall be referred in Index. All pages including literature, type test reports of the bid shall be numbered and the page numbers shall be continuous. Soft copy of the technical and commercial bids and designs with drawings shall be given in CD/DVD also. Summary sheet in the given format on the top of the bid duly signed and sealed by the bidder.

- 26.8 The time of actual receipt in the office only will count for the acceptance of the bid and either the date of bid, date stamp of post office or date stamp of any other office will not count. The TGSPDCL will not be responsible for any postal or any other transit delays.
- 26.9 Telegraphic quotations will not be entertained under any circumstances. Clarification, amplifications, and / or any other correspondence from the Bidder subsequent to the opening of bid will not be entertained. The Bidders are advised to ensure that their bids are sent in complete shape at the first instance itself.
- 26.10 The inner envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late".
- 26.11 If the outer envelope is not sealed and marked as required above, the Purchaser will assume no responsibility for the bid's misplacement or premature opening.

27. Deadline for Submission of Bids.

- 27.1 Bids together with modifications if any, or other withdrawals must be received by the Purchaser not later than the deadline for submission of bids specified in the Salient features of the Bid.
- 27.2 The Purchaser may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

28. Late Bids

- 28.1 Any bid received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser will be rejected and returned unopened to the Bidder.

28.2 Modification and Withdrawal of Bids.

The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Purchaser prior to the deadline prescribed for submission of bids.

The Bidder's modification or withdrawal notice will be prepared, sealed, marked, and dispatched. A withdrawal notice may also be sent by cable, but followed by a signed confirmation copy, postmarked not later than the deadline for submission of bids. No bid may be modified after the deadline for submission of bids.

No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified. Withdrawal of a bid during this interval may result in the forfeiture of its Bid Security.

E. Opening and Evaluation of Bids

29. Opening of Bids by the Purchaser

- 29.1 The Purchaser will open all bids meeting above criteria, at the time, on the date, and at the place specified.
- 29.2 The Bidders' names, bid modifications or withdrawals, discounts, and the presence or absence of requisite Bid Security and such other details as the Purchaser, at its discretion, may consider appropriate, will be announced at the opening.
- 29.3 Bids that are not opened and read out at bid opening will not be considered further for evaluation, irrespective of the circumstances.

30. Clarification of Bids

- 30.1 During evaluation of the bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted.

31. Preliminary Examination

- 31.1 The Purchaser will examine the bids 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 bids are generally in order.
- 31.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price will prevail, and the total price will be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its Bid Security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail. If the supplier does not accept the correction of the errors, its bid will be rejected and its Bid Security may be forfeited.
- 31.3 The Purchaser may waive any minor informality, nonconformity, or irregularity in bid which does not constitute a material deviation, provided such waiver doesn't prejudice or affect the relative ranking of any Bidder.
- 31.4 Prior to the detailed evaluation, the Purchaser will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one, which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning Bid Security, and Taxes and Duties will be deemed to be a material deviation. The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.
- 31.5 If a bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

NOTE : Payment terms, Delivery period, Performance Bank Guarantee, Taxes and Duties" should be in line with the terms and conditions of the specification. If any bidder does not meet any one of the conditions, such tender will not be considered. Please note that the conditional offers are also not considered. Hence, the bidder shall submit the tender in line with the terms and conditions of the specification.

32. Evaluation and Comparison of Bids.

- 32.1 The Purchaser will evaluate and compare the bids, which have been determined to be substantially responsive.
- 32.2 The Purchaser's evaluation of a bid will take into consideration one or more of the following factors

All the bids, which are opened, read out and considered for evaluation will be checked for qualification requirements in respect of technical and commercial aspects. Such of the bids, which do not meet the qualification requirements, will not be evaluated further. The bid is to be checked for its conformity to the technical specification. If it does not meet the technical specification, the Bid will not be evaluated further. However, if in the opinion of the purchaser the bidder has offered equipment / material better than the technical specification the same may be considered. The bid may be rejected for the following reasons:

1. Not in the prescribed form
 2. Insufficient bid security or bid not accompanied by the required bid security or proof of bid security exemption
 3. Bids not properly signed
 4. The bidder is a vendor who is banned from further business transactions and the period of ban is still in force.
 5. Bid received after the due date and time
 6. The bid is through telegram or fax
- Further, the purchaser may enquire from the bidder in writing for any clarification of the bid. The response of the bidder will also be in writing. However no change in the prices or substance of the bid will be sought, offered or permitted.
 - Bids will be examined for completeness and for any computational errors.
 - Arithmetical errors will be rectified on the following basis.
 - Where there is a discrepancy between the unit price and total price, the unit price will prevail and the total price will be corrected accordingly.
 - Where there is a discrepancy between words and figures, the amount in words will prevail.
 - Failure on the part of the bidder to agree to the above corrections will result in rejection of his offer and forfeiture of his bid security.
 - It will be ensured that the required sureties have been furnished and that the documents have been properly signed.
 - The purchaser's evaluation of a bid will take into consideration one or more of the following factors
 - (a) Delivery schedule offered in the bid;
 - (b) Deviations in payment schedule from that specified in the general terms and conditions of the contract and technical deviations.
 - (c) The cost of components, mandatory spare parts, and service;
 - (d) The availability of spare parts and after-sales services for the equipment offered in the Bid;
 - (e) The projected operating and maintenance costs during the life of the equipment;
 - (f) The performance and productivity of the equipment offered;
 - (g) Other specific criteria indicated in the Bidding documents.

In addition the Purchaser's evaluation of a bid will take into account the net landed cost of the material at the final destination. For the purpose of evaluation net landed cost is arrived at by adding all elements of the basic price, allowable discount, GST, any other levies, packing & forwarding, freight charges, insurance (transit & storage) as quoted by the bidder, interest on advance if any, erection, servicing and other charges as called for.

In addition any variation up or down in taxes and duties / new levies introduced subsequent to bid opening and before award will be considered for comparison purposes.

The following criteria may be adopted for taxes and duties for evaluation

- a. It is the responsibility of the bidder to quote all taxes and duties correctly without leaving any column unfilled. Where taxes and duties are not applicable, the bidder should enter "NA". If no duty / tax is leviable the same may be entered as "NIL". If any column is left blank or filled vaguely like "as applicable", the same will be loaded with the maximum of the other eligible Bids.
 - b. Where there is an exemption of GST, the documentary evidence to that effect will be enclosed by the supplier.
 - c. The bidders for supply and works shall invariably possess the TIN number and PAN Number for the bids above Rs. 5.00 lakhs and this must be verified before entering into contract.
- Prior to detailed evaluation, the responsiveness of each bid will be determined. A substantially responsive bid is one that conforms to all the terms and conditions of the bidding documents without material deviations. For this purpose superscription, qualification requirement, bid security, validity, delivery, payment terms, price schedule, taxes and duties will be deemed to be the critical provisions and deviations in any one of these items will be deemed to be a material deviation.

The purchaser may waive any minor informality, non-conformity or irregularity in the bid which does not constitute a material deviation, provided such waiver does not affect the relative ranking of any bidder. The purchaser will clearly indicate in the bid specification the methodology for evaluation of bids.

- (a) Bid price, which will include all, costs of manufacture and services at manufacturing place as well as, Transportation to destination stores, packing and forwarding, insurance and all Taxes & other legally permissible duties & levies payable.
- (b) Delivery schedule offered in the bid.
- (c) Deviations in payment schedule from that specified in the general terms and conditions of the contract.
- (d) The cost of components, mandatory spare parts, and service
- (e) The availability of spare parts and after-sales services for the equipment offered in the Bid;
- (f) The projected operating and maintenance costs during the life of the equipment;
- (g) The performance and productivity of the equipment offered; and/or
- (h) Other specific criteria indicated in the Bid Specification.

32.3(a) The Purchaser's evaluation of a bid will take into account the Net Landed Cost of the Material at destination stores inclusive of all taxes and duties quoted by the Bidder. It is the responsibility of the bidder to quote all Taxes and Duties correctly without leaving any column unfilled. Where not applicable the column may be filled as "NA". If no

duty / tax is leviable, the same may be filled as "NIL". If any column is left blank, the same is loaded with maximum of other eligible Bids.

32.3(b) Any statutory variations of taxes and duties and new levies imposed after opening of the bid and before award of the contract will be taken into consideration for the purpose of evaluation.

32.4 A substantially responsive bid is one, which conforms to all the terms and conditions of the bidding documents without material deviations. For this purpose superscription, qualification requirement, bid security, validity, delivery, payment terms, price schedule, taxes and duties will be deemed to the critical provisions and deviations in any one of these things will be deemed to be a material deviation.

33. Contacting the Purchaser.

33.1 From the time of the bid opening to the time of contract award, if any Bidder wishes to contact the Purchaser on any matter related to the bid, it should do so in writing.

33.2 Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison, or contract award will result in the rejection of the Bidder's bid.

F. Award of Contract.

34. Post Qualification

34.1 In the absence of pre-qualification, the Purchaser will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily.

34.2 The determination will take into account the Bidder's financial, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualification submitted by the Bidder, as well as such other information as the Purchaser deems necessary and appropriate.

35. Award Criteria:

35.1 The Purchaser will award the contract to the successful Bidder / Bidders whose bid has / have been determined to be substantially responsive.

However it is not binding on TGSPDCL to accept the lowest or any other Bid. It reserves the right to place orders on different Bidders.

36. Purchaser's Right to Vary Quantities at Time of Award

36.1 The Purchaser reserves the right at the time of contract award to increase or decrease **by a certain percentage upto 50%** of the quantity of Materials / equipment and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.

36.2 The purchaser reserves the right to vary the ordered quantity by **+/- 50%** during the execution of the contract.

37. Purchaser's Right to Accept Any Bid and to Reject Any or All Bids

37.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders.

38. Notification of Award

- 38.1 Prior to the expiration of the period of bid validity, the Purchaser will notify the Successful Bidder in writing by registered letter or by cable, to be confirmed in writing by registered letter, that its bid has been accepted.
- 38.2 The notification of award will constitute the formation of the Contract.
- 38.3 Upon the successful Bidder's furnishing of the performance security, the Purchaser enters into contract with successful Bidder / Bidders. The Purchaser will notify each unsuccessful Bidder and will discharge its Bid Security.

39. Signing of Contract:

The Purchaser notifies the successful Bidder that its bid has been accepted. Within 30 (thirty days) of receipt of notification of award of Contract, the successful Bidder will sign and date the contract. Failure to comply with this stipulation will entail cancellation of the contract besides forfeiture of the bid security.

40. Performance Security:

- 40.1 Within Fifteen (15) days of receipt of the notification of Contract award. The successful Bidder will furnish to the Purchaser the performance security for an amount 10% of the contract value for proper fulfillment of the contract, which will include the warranty period, and completion of performance obligations including Warranty obligations. The Performance Security will cover 60 days beyond the date of completion of performance obligations including Warranty obligations. The Bank Guarantee shall be from any Nationalized/Scheduled banks.

In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected / replaced material will be extended to a further period of 12 months and the Performance Bank Guarantee for proportionate value will be extended 60 days over and above the extended warranty period.

- 40.2 The proceeds of the performance security will be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 40.3 The performance security will be...
- (a) A bank guarantee issued by a nationalized/scheduled bank acceptable to the Purchaser, in the form provided in the bidding documents.
 - (b) A banker's cheque or crossed DD or Pay Order payable at the Head quarter of the Purchaser in favour of the Purchaser drawn on any scheduled bank.
- 40.4 The performance security will be discharged by the Purchaser and returned to the Supplier not later than sixty (60) days after the expiry date.
- 40.5 Failure of the successful Bidder to comply with the above requirement will entail cancellation of the award and forfeiture of the Bid Security and the balance to make up the performance security deposit will be deducted from pending payments if any due to the tenderer from TGSPDCL on other orders in addition the company will also become liable for being blacklisted by TGSPDCL.

41. Corrupt or Fraudulent Practices

It is essential that the Purchaser as well as Bidder / supplier / contractor for the purposes of this provision, the terms set forth below as follows:

(i) "Corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution, and

(ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the purchaser, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the purchaser of the benefits of free and open competition;

(iii) Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

(iv) Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at anytime determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract.

42. Use of Contract Documents and Information:

42.1 The Supplier will not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, of any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person will be made in confidence and will extend only so far as may be necessary for purposes of such performance.

42.2 The Supplier will not, without the Purchaser's prior written consent, make use of any document or information except for purposes of performing the Contract.

42.3 Any document, other than the Contract itself, will remain the property of the Purchaser and will be returned (in all copies) to the Purchaser on completion of the supplier's performance under the Contract if so required by the Purchaser.

42.4 The Supplier will permit the Purchaser or his authorized representative to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the Supplier.

43. Patent Rights

43.1 The Supplier will indemnify the Purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Materials / equipment or any part thereof.

44. Places / Locations:

44.1 Particulars of site location and nearest rail heads to which the equipments / material have to be supplied will be given to successful Bidders.

45. Delivery:

45.1 Delivery period will be reckoned from the date of signing of the contract. The delivery quoted will be firm, definite, unconditional and on the basis of receipt of materials at destination in good condition without any bearing on the procurement of raw materials or any similar prerequisites. The commencement date and date of delivery will be indicated. The preferred delivery time, which is the essence of this specification, is

indicated in the schedule. Final deliveries are however, subject to confirmation at the time of Contract. Delay in delivery of materials FADS – (Free At Destination Stores) due to non-availability of railway booking, non-allotment of wagons and any such reasons will not be considered. It is the responsibility of the supplier to make alternative arrangements for transporting the materials by road or rail so as to see that the material reaches the destination within the stipulated period. The Purchaser reserves its right to defer the delivery date at any time after orders are placed without any change in the conclusion of contract other conditions supply. The delivery period, which will be reckoned from the date of the Contract, will be guaranteed under penalty as in Clause 61.

46. Inspections and Tests

- (i) The supplier will keep the Purchaser informed in advance of the time of the starting and the progress of manufacture of equipment in its various stages so that arrangement could be made for inspection. The accredited representative of the TGSPDCL will have access to the supplier's or his subcontractor's work at any time during working hours for the purpose of inspecting the materials during manufacturing of the materials/equipment and testing and may select test samples from the materials going into plant and equipment. The supplier will provide the facilities for testing such samples at any time including access to drawings and production data at no charge to Purchaser. As soon as the materials are ready the supplier will duly send intimation to TGSPDCL by Registered Post and carry out the tests in the presence of representative of the TGSPDCL.
- (ii) The TGSPDCL may at its option get the materials inspected by the third party if it feels necessary and all inspection charges in this connection will be borne by the TGSPDCL. In case of materials not of acceptable quality or not conforming to the specification, the materials will be rejected. You have to re-offer the material for inspection. In such a case the 2nd inspection charges are to the suppliers account. In case the materials are rejected in the 2nd inspection also, the TGSPDCL reserves the right to cancel the order.
- (iii) The dispatches will be affected only if the test results comply with the specification. The dispatches will be made only after the inspection by the TGSPDCL Officer is completed to the TGSPDCL satisfaction or such inspection is waived by the competent authority.
- (iv) The acceptance of any quantity of materials will in no way relieve the supplier of its responsibility for meeting all the requirements of this specification and will not prevent subsequent rejection if such materials are later found to be defective.
- (v) The supplier will give 15 days advance intimation to enable the Purchaser to depute his representative for witnessing the acceptance and routine tests.
- (vi) Should any inspected or tested materials / equipment fail to conform to the specification, the Purchaser may reject the materials and supplier will either replace the rejected materials or make alterations necessary to meet specifications requirements free of costs to the Purchaser.
- (vii) In the case of transformers, instrument transformers and meters, inspection will be conducted every year, for the first 5 years on a 2% sample of the quantities supplied. Samples will be collected at random to establish that the guaranteed technical parameters are as per the submitted bid by the supplier. In the case of non-adherence, the purchaser may take suitable action on the supplier including cancellation of vendor registration and banning further dealings, depending on the gravity of the deviation. These random inspections may be entrusted to a third party.
- (viii) Inspection not carried out due to non-readiness of the material even after contacting / confirmed over phone from the supplier about availability of material and physical verification at the supplier premises, the charges @ 0.21% of Ex-works price of material offered for inspection (inclusive of service tax and all other taxes & duties, travelling

expenses, boarding and lodging charges at the place of inspection and all incidental charges) shall be paid by supplier subject to a maximum of Rs. 10,000.00 .

47. Name Plate:

Equipment should be provided with name plate giving full details of manufacture, capacities and other details as specified in the relevant ISS or other specification stipulated. The contract No. and date and year of supply and the words "TGSPDCL" must be etched on the name plate.

48. Packing

- 48.1 The Supplier will provide such packing of the Materials / equipment as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. The packing will be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights will take into consideration, where appropriate, the remoteness of the Materials / equipment' final destination and the absence of heavy handling facilities at all points in transit.
- 48.2 The packing, marking, and documentation and outside the packages will comply strictly with such special requirements as will be expressly provided for in the Contract and in any subsequent instructions ordered by the Purchaser. The supplier will be required to make separate packages for each consignee, each package will be marked on three sides with proper paint / indelible ink with the following;
1. Contract Number
 2. Supplier's name
 3. Packing list reference number
- 48.3 The supplier, whenever dispatches material to a destination should prepare the following information in the form of packing slip in quadruplicate and send the same to the consignee and obtain his acknowledgement. The consignee will return to the supplier one copy of the packing slip with his remarks. The proforma of packing slip will be as follows:

PACKING SLIP

1. Contract No. & Date.
2. Quantity allotted to the stores and rate applicable.
3. Quantity so far supplied to the stores and the rate applied.
4. Quantity now supplied and the rate applied.
5. Total quantity supplied under the Contract with rates applied.
6. Programme for supplying the balance quantity to the Stores.

49. Delivery Documents

- 49.1 Delivery of the Materials/equipment will be made by the Supplier in accordance with the terms specified in the contract.
- The latest test certificates containing the result of the tests as per the relevant ISS or other specification stipulated must be submitted to the Chief Engineer(P&MM) and got approved by him.
- 49.2 Documents to be submitted by the Supplier are specified as under...
- (i) Insurance certificate;
 - (ii) Supplier's certificate certifying that the defects if any pointed out during inspection have been rectified (3 copies).
 - (iii) Manuals in Six sets and one set of reproducible drawings.

The Purchaser will receive the above documents soon after the dispatch of materials and if not received, the supplier will be responsible for any consequent expenses.

50. Insurance

- 50.1 The Materials / equipment supplied under the Contract will be fully insured against loss or damage incidental to manufacture or acquisition, transportation and delivery and also storage for 45 days at destination stores before taking into stock.
- 50.2 The bidder shall a) Initiate and pursue insurance claim till settlement, and b) Promptly arrange for repair and/or replacement of any damaged items in full irrespective of settlement of insurance claim by the under Writers. c) All costs because of insurance liabilities covered under the contract will be to supplier's account. The supplier shall provide the Purchaser with a copy of all insurance policies and documents taken out by him in pursuance of the 'Contract'. Such copies of documents shall be submitted to the purchaser immediately after such insurance coverage. The supplier shall also inform the Purchaser in writing at least sixty (60) days in advance, regarding the expiry, cancellation and/or change in any of such documents and ensure revalidation/renewal etc., as may be necessary well in time.

The risks that are to be covered under the insurance shall be comprehensive and shall include but not limited to, the loss or damage in transit, storage, due to theft, pilferage, riot, civil commotion, weather conditions, accident of all kinds, fire, flood, war risk (during ocean transportation) bad or rough handling etc. The scope of such insurance shall cover the entire contract value.

The insurance will be in an amount equal to 100% FADS value of Materials / equipment on all risks basis. The policy will have a provision for extension to cover further storage if necessary at destination stores / site at TGSPDCL cost. The insurance beneficiary shall be of TGSPDCL.

51. Transportation

- 51.1 The Supplier is required under the Contract to transport the Materials / equipment to a specified place of destination defined as normally the district stores, transport to such place of destination, including insurance and storage, will be arranged by the Supplier, and the related costs will be included in the Contract Price only.

52. Incidental Services

- 52.1 The Supplier may be required to provide any or all of the following services, including additional services, if any.
- (a) Performance or supervision of on-site assembly and/or start-up of the supplied Materials / equipment;
 - (b) Furnishing of tools required for assembly and/or maintenance of the supplied Materials / equipment;
 - (c) Furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Materials / equipment;
 - (d) Performance or supervision or maintenance and/or repair of the supplied Materials / equipment, during warranty period, provided that this service will not relieve the Supplier of any warranty obligations under this contract; and
 - (e) Training of the Purchaser's personnel, at the Suppliers' plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Materials / equipment.

53. Spare Parts

- 53.1 The Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier.
- (a) Such spare parts as the Purchaser may choose to purchase from the Supplier, provided that this election will not relieve the supplier of any warranty obligations under the contract; and
 - (b) In the event of termination of production of the spare parts:
 - (c) Advance notification to the Purchaser of the impending termination.
 - (d) Time to permit the Purchaser to procure needed requirement; and following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

54. Warranty

- 54.1 The supplier will warrant for the satisfactory functioning of the material/equipment as per specification for a **minimum period of 5 years (five years)** from the date of receipt of the material/equipment in good condition.
- 54.2 The Supplier warrants that the Materials / equipment supplied under the Contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise the special guarantee sought in technical specification. The supplier further warrants that all Materials / equipment supplied under this Contract will have no defect, arising from a design and / or materials as required by the Purchaser's specifications or from any act of omission of the Supplier, that may develop under normal use of the supplied Materials / equipment.
- 54.3 All the materials will be of the best class and will be capable of satisfactory operation in the tropics under service conditions indicated in clause 23.1 without distortion or deterioration. No welding filling or plugging of defective parts will be permitted, unless otherwise specified, they will conform to the requirements of the appropriate Indian, British or American Standards. (Where a standard specification covering the material in question has not been published, the standards of the American Society for testing of Materials should be followed).
- 53.4 The entire designs and construction will be capable of withstanding the severest stresses likely to occur in actual service and of resisting rough handling during transport.
- 54.5 Unless otherwise specified the warranty period will be 5 years from the date of acceptance of the Materials / equipment. The Supplier will, in addition, comply with the performance guarantees specified under the contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the supplier will at its discretion either, Make such changes, modifications, and/or additions to the Materials / equipment or any part thereof as may be necessary in order to attain the contractual guarantees specified in the contract at its own cost and expense and to carry out further performance tests as per the relevant standards.
- 54.6 The Purchaser will promptly notify the supplier in writing of any claims arising under this warranty.
- 54.7 "Upon receipt of such notice, the Supplier will within 30 days repair or replace the defective Materials / equipment or parts thereof, free of cost at the ultimate destination. The supplier will take over the replaced parts/Materials/equipment at the time of their replacement. No claim whatsoever will lie on the Purchaser for the replaced parts/Materials /equipment thereafter". In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material will be extended to a further period of 12 months.

54.8 ***In case of delay in repair of WGP failed Distribution Transformers beyond 30 days from the receipt of intimation of defects, will attract Penalty @ 1% of value of unit cost per week of delay till the date of rectification / replacement. The above penalty for the period of delay to the extent of failed units will be deducted from the subsequent bills / bank guarantee. If the period of delay exceeds a maximum of three months, the purchaser has the right to recover the cost of unit from the pending bills if any or from the available performance Security Deposit.***

54.9 If the Supplier, having been notified, fails to remedy the defect(s) within the above period, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense duly deducting the expenditure from subsequent bills / bank guarantee and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

55. Payment

55.1 **100% payment** along with F&I, applicable GST will be made on or after 30 days reckoned from the date of receipt of material/ equipment at destination/ stores (**i.e., 103 entry in SAP module**), duly transferring the said amount to the bank account of the supplier by the purchaser bank. The supplier will have to predefine the Bank details while entering into contract for electronic transfer of payments.

55.2 The 100% payment mentioned above is subject to submission of performance security as per Clause 40 by the supplier.

55.3 The supplier should invariably submit test certificates and other documents, the purchaser specifies as soon as dispatch is made so that they can be checked and approved well in advance.

55.4 The performance guarantee to be executed in accordance with this specification will be furnished on a stamp paper of value Rs.100/-. The Bank Guarantee will be extended if required suitably. In accordance with the provisions of Clause No.39. The Bank Guarantee shall be from any of the nationalized /scheduled banks.

55.5 If the supplier has received any over payments by mistake or if any amounts are due to the TGSPDCL due to any other reason, when it is not possible to recover such amounts under the contract resulting out of this specification, the TGSPDCL reserves the right to collect the same from any other amount and / or Bank Guarantees given by the company due to or with the TGSPDCL.

55.6 When the supplier does not at any time, fulfill his obligations in replacing/rectifying etc. of the damaged/defective materials in part or whole promptly to the satisfaction of the TGSPDCL Officers, the TGSPDCL reserves the right not to accept the bills against subsequent dispatches made by the supplier and only the supplier will be responsible for any demurrages, wharf ages or damage occurring to the consignments so dispatched.

56. Prices

56.1 Prices charged by the Supplier for Materials / equipment delivered and Services performed under the Contract will not vary from the prices quoted by the supplier in its bid, with the exception of any price adjustment authorized in the contract.

57. Change Orders

57.1 The Purchaser may at any time, by a written order given to the Supplier make changes within the general scope of the Contract in any one or more of the following:

- (a) Drawings, designs, or specifications, where Materials / equipment to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) The method of shipment or packing;
- (c) The place of delivery; and/or
- (d) The Services to be provided by the Supplier.

58. Contract Amendments

- 58.1 No variation in or modification of the terms of the Contract will be made except by written amendment by the Purchaser and accepted by the supplier.

59. Assignment

- 59.1 The Supplier will not assign, in whole or in part, its obligations to perform under this Contract, except with the Purchaser's prior written consent.

60. Delays in Supplier's Performance

- 60.1 Delivery of the Materials / equipment will be made by the Supplier in accordance with the time schedule prescribed by the Purchaser in the Schedule of Requirements.
- 60.2 If at any time during performance of the Contract, the Supplier should encounter conditions impeding timely delivery of the Materials / equipment, the Supplier will promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser will evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension will be ratified by the parties by amendment of the Contract.
- 60.3 Except as provided under force majeure clause a delay by the Supplier in the performance of its delivery obligations will render the Supplier liable to the imposition of liquidated damages unless an extension of time is agreed upon without the application of liquidated damages.

61. Penalty for delay in supplies

The time for and the dates for delivery mentioned in the contract will be deemed to be the essence of the contract. Subject to force majeure Clause No.65, if the Supplier fails to deliver any or all of the Materials / equipment or to perform the Services within the period(s) specified in the Contract, the Purchaser will, without prejudice to its other remedies under the Contract, deduct from the **total ex-works value**, as liquidated damages, a sum equivalent to 0.5% per week on the undelivered portion subject to a maximum of 5% of the cost of the undelivered portion within the scheduled time. The number of days would be rounded off to the nearest week and penalty calculated accordingly. Once the maximum is reached the Purchaser may consider termination of the contract.

The check measurement date i.e., the date of receipt of materials at destination stores in good condition will be taken as the date of delivery. For calculation of penalty, the date of receipt of material at the destination stores is the date of delivery subject to the condition that the goods/ material is received in good condition. Materials/Equipment which are not of acceptable quality or are not conforming to the specification would be deemed to be not delivered. For penalty, the number of days would be rounded off to the nearest week and penalty calculated accordingly.

The penalty specified above will be levied and would be adjusted against subsequent pending bills.

In cases where new vendors fail to meet the requirement of the Contract there would be no penalty to such vendors but they will be excluded from the next bid for the particular item of the material.

Any failure on the part of new vendors for a second time would cause them to be removed from the list of registered vendors.

62. RISK PURCHASE:

In case of supplier who has not adhered to the delivery schedule, the TGSPDCL reserves the right to purchase the balance quantity from the open market/floating another tender and recover the extra expenditure thus incurred from the supplier.

63. Termination for Default

63.1 The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:

i. If the Supplier fails to deliver any or all of the Materials / equipment within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser.

ii. If the Supplier fails to perform any other obligation(s) under the Contract.

iii. If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

63.2 In the event the Purchaser terminates the Contract in whole or in part, the Purchaser may procure, upon such terms and in such manner, as it deems appropriate, Materials / equipment or services similar to those undelivered, and the Supplier will be liable to the Purchaser for any excess costs for such similar Materials / equipment or Services. However, the Supplier will continue performance of the Contract to the extent not terminated.

64. Termination for Insolvency

64.1 The Purchaser may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or not affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.

65. Termination for Convenience

65.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination will specify the termination is for the Purchaser's convenience, the extent to which performance of the supplier under the Contract is terminated, and date upon which termination becomes effective.

65.2 However the Materials / equipment that are complete and ready for shipment within thirty (30) days after the supplier's receipt of notice of termination will be accepted by the Purchaser at the Contract terms and prices.

66. Force Majeure

- 66.1 The Supplier will not be liable for forfeiture of its performance security, penalty for late delivery, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contact is the result of an event of Force Majeure.
- 66.2 For purposes of this clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, wars or revolutions fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 66.3 If a Force Majeure situation arises, the supplier will promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier will continue to perform its obligations under the Contract as far as is reasonably practice, and will seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- No price variance will be allowed during the period of force majeure.

67. Settlement of Disputes

- 67.1 If any dispute or difference of any kind whatsoever will arise between the Purchaser and the Supplier in connection with or arising out of the Contract, the parties will make every effort to resolve amicably such dispute or difference by mutual consultation.
- 67.2 If, after thirty (30) days the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.
- 67.3 Any dispute of difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause will be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Materials / equipment under the Contract.
- 67.4 Arbitration proceedings will be conducted in accordance with the following rules of procedure. The dispute resolution mechanism will be as follows:
- (a) In the case of a dispute or difference arising between the Purchaser and a Supplier relating to any matter arising out of or connected with this agreement, such dispute or difference will be settled in accordance with the Arbitration and Conciliation Act. 1996. The Arbitral Tribunal will consist of three Arbitrators one each to be appointed by the Purchaser and the supplier the Third Arbitrator will be chosen by the two Arbitrators so appointed by the parties and will act as Presiding Arbitrator. In case of failure of the two Arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the Arbitrator appointed subsequently, the Presiding Arbitrator will be appointed by The Institution of Engineers (India).
 - (b) If one of the Parties fails to appoint its Arbitrator in pursuance of Sub-Clause (a) within 30 days after receipt of the notice of the appointment of its Arbitrator by The Institution of Engineers (India), will appoint the Arbitrator. A certified copy of the order of the Institution of Engineers (India), making such an appointment will be furnished to each to the parties.
 - (c) Arbitration Proceedings will be held at Purchaser's Headquarters, and the language of the Arbitration Proceedings and that of all documents and communication between the parties will be English.

- (d) The decision of the majority of Arbitrators will be final and binding upon both parties. The cost and expenses of Arbitration Proceedings will be paid as determined by the Arbitral Tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc., of its proceedings as also the fees and expenses paid to the Arbitrator appointed by such party or on its behalf will be borne by each party itself.
- (e) Where the value of the Contract is Rs. One Crore and below, the disputes or differences arising will be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority namely The Institution of Engineers (India).

67.5 Notwithstanding any reference to arbitration herein,

- (a) The parties will continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) The Purchaser will pay the Supplier any monies due to the Supplier.

68. Jurisdiction

68.1 All and any disputes or differences arising out of or touching this contract will be decided by the Courts or Tribunals situated in Purchaser's Headquarters only. No suit or other legal proceedings will be instituted elsewhere.

69. Notices

- 69.1 Any notice given by one party to the other pursuant to this Contract will be sent to the other party in writing or by cable, telex, or facsimile and confirmed in writing to the other party's address.
- 69.2 A notice will be effective when delivered or on the notice's effective date, whichever is later.

70. Foreign Exchange

70.1 No Foreign Exchange is available or expected for this purchase. Offers which do not require release of F.E. or procurement of import license by TGSPDCL only will be considered. Where some of the components are to be imported the manufacturer will have to make their own arrangements for import license etc., and should not look for any assistance from TGSPDCL.

71. Extension Order

All supply contracts will contain a provision for increasing or decreasing the quantity to be supplied by an agreed percentage during the schedule delivery period. In the case of any emergency, increasing the quantity to the extent provided in the contract may be necessary. In the case of piling up of stock or if prices have generally reduced, decreasing the quantity may be considered with the approval of the concerned Director and Director (Finance).

**SECTION – IV
QUALIFICATION REQUIREMENTS**

1. The bidder should be a manufacturer who must have designed, manufactured, tested and supplied to Power Utilities at least 40% of the quoted quantity of the goods/equipment of same or higher rating of distribution transformers indicated in the “Schedule of Requirement” in one continuous period of 12 months during the last 5 years period and its financial turnover during any one year of the last five years should have been equal or more than 100% value of the material now quoted.

At least 20% of similar material offered against this Specification should be in successful operation since 2 years as on the date of opening of the Bid with documentary evidence. Fresh bidders can be given offer upto 15% of the total quantity as trial orders if equipment justified. **However, for placing the trial order the destination price shall be lower by at least 5% of L1 price. Performance Certificates issued by the purchasing authority will only be considered.**

NOTE : As the transformers are being procured with BIS rating, past supplies will be taken into consideration for qualification and performance requirements for evaluation, whereas the type test reports and BIS and **BEE** certification with Energy Efficiency Level-I shall be as per IS 1180 (Part-1) : 2014.

Any company/vendor/supplier/contractor that is blacklisted/debarred by any other power utility is not eligible to participate in the tenders.

The bidder shall have to furnish an undertaking in the prescribed format (at page no. 39) regarding any relation to the promoters of blacklisted / debarred companies by any utility. Any false information furnished in the declaration while rendering bid, such contract is liable for termination as well as recovery of damages.

2. The bidder should furnish the information on all past supplies and satisfactory performance in proforma under Form 6 attested by a CA. Performance certificates issued by the purchasing authority will only be considered.
3. All bids submitted will also include the following information:
 - i. Copies of original documents defining the constitution or legal status, place of registration and principle place of business of the company or firm or partnership, etc.,
 - ii. The bidder should furnish a brief write-up, backed with adequate data, explaining his available capacity and experience (both technical and commercial) for the manufacture and supply of the required equipment within the specified time of completion after meeting all their current commitments.
 - iii. The bidder should clearly confirm that all the facilities exist in his factory for inspection and testing and these will be made available to the purchaser or his representative for inspection.
 - iv. Reports on financial standing of the Bidder such as profit and loss statement, balance sheets and auditor’s report for the past five years, bankers certificates etc.
 - v. If the firm is new to TGSPDCL, the firm is expected to furnish failure percentage rate within guarantee period for 3-ph 63 KVA distribution transformer supplied by them in any Govt /Power utilities duly signed by the concerned purchasing authority, in the last 5years.
4. The bidder will furnish Type Test Results. The type tests must have been conducted on the material offered as per the relevant IS/International Standards in any government **NABL** laboratory/International Labs as per the latest revision of the Technical Specification and the **date of Type tests will not be later than 5 years** if there is no change in design criteria. The complete type Test reports along with approval drawings of CPRI/ERDA duly

mentioning the CSP features in the type Test reports will be considered for evaluation. The Bids received without/partial type test reports will be treated as Non-Responsive. Also, the bids received with type test reports conducted in their own lab will also be not considered for evaluation and will be treated as non-responsive.

5. If the firm's failure percentage rate within the guarantee period of 1-ph 25 KVA Distribution Transformers supplied to TGSPDCL is more than 5 % in the last 5 years, this may lead to non- consideration as eligible bidder.

6. Even though the bidder meets the above qualifying criteria, they are subject to be disqualified if they have...
 - a. made misleading or false representations in the forms statements and attachments submitted in proof of qualification requirements and / or
 - b. record of poor performance such as not properly completing the contract, inordinate delays in supply completion, litigation history or financial failure etc.
7. Notwithstanding anything stated above the purchaser reserves the right to assess bidder's capability and capacity to perform the contract should circumstances warrant such an assessment in the overall interest of the purchaser.

SECTION-V
SAMPLE FORMS

BID FORM

Date.

TO: (Name and Address of Purchaser)
Gentlemen and/or Ladies:

Having examined the Bidding documents, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver.
(Description of Materials / equipment) in conformity with the said bidding documents such other sums as may be ascertained in accordance with the schedule of prices (on-line only) and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the Materials / equipment in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to. 10% of the Contract Price for the due performance of the Contract, in the form prescribed by the Purchaser.

We agree to abide by this Bid upto (for the Bid Validity Period) specified in Clause and it will remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, will constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

We certify / confirm that we comply with the eligibility requirements as per clause of the bidding documents.

Dated this.day of.20

[Signature]

[in the capacity of]

Duly authorized to sign Bid for and on behalf of _____

2. (a) BID SECURITY FORM

Whereas. (hereinafter called "the Bidder") has submitted its Bid dated (date of submission of bid) for the supply of.(name and /or description of the Materials / equipment) (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that WE.(name of bank) having our registered office at.(address of bank)(hereinafter called "the Bank"), are bound unto.(name of Purchaser) (hereinafter called "the Purchaser") in the sum of _____for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this day of _____ 20 .

THE CONDITIONS of this obligation are:

1. If the Bidder
 - a) withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
 - a) does not accept the correction of errors in accordance with the Bid Specification, or
2. If the Bidder, having been notified of the acceptance of its bid by the Purchaser during the period of bid validity;
 - (a) fails or refuses to furnish the performance security, in accordance with the Bid Specification.
 - (b) fails or refuses to execute the Contract Form if required; or

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including forty five (45) days after(Specification Date) the period of the bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

.
(Signature of the Bank)

NOTE: This will be executed on a Rs.100/- non-judicial stamp paper issued by a scheduled Bank.

2. (b) PERFORMANCE SECURITY FORM

To: _____(Name of Purchaser)

WHEREAS.....(Name of Supplier)
(hereinafter called "the Supplier") has undertaken, in pursuance of Contract
No.....dated.....20 to supply.(Description of Materials / equipment and
Services)
(hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier will furnish
you with a Bank Guarantee by a recognized Bank for the sum specified therein as security for
compliance with the Supplier's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Supplier a Guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the
Supplier, up to a total of. (Amount of the Guarantee in Words and Figures)
and we undertake to pay you, upon your first written demand declaring the Supplier to be in
default under the Contract and without cavil or argument, any sum or sums within the limit
of..... (Amount of Guarantee) as aforesaid, without your needing to prove or to show
grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the. ... day of. 20... .

Signature and Seal of Guarantors

.....
Date.20....

.....
Address:.....

.....
.....

NOTE: This will be executed on a Rs.100/- non-judicial stamp paper by a scheduled Bank.

3. CONTRACT FORM

THIS AGREEMENT made the. day of. 20 Between.(Name of Purchaser) of the one part and.(Name of Supplier) of the other part:

WHEREAS the Purchaser invited bids for certain Materials / equipment and ancillary services viz.,
.....(Brief description of Materials / equipment and Services) and has accepted a bid by the Supplier for the supply of those Materials / equipment and services in the sum of.
.....(Contract Price in Words and Figures) (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions will have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents will be deemed to form and be read and construed as part of this Agreement, viz.:
 - (a) the Bid Form and the Price Schedule submitted by the Bidder;
 - (b) the Schedule of Requirements;
 - (c) the Technical Specifications;
 - (d) the General Conditions of Contract;
 - (e) the Purchaser's Notification of Award.
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Materials / equipment and services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Materials / equipment and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

Brief particulars of the Materials / equipment and services which will be supplied/ provided by the Supplier are as under:

Sl. No.	Brief Description of Materials/Equipment & services	Quantity to be supplied	Unit Price Rs.	Total Price Rs.	Delivery Terms

TOTAL VALUE: (Rupees _____ only)

DELIVERY SCHEDULE:

IN WITNESS whereof the parties hereto have caused this Agreement to be executed on the day and year first above written.

Signed, Sealed and Delivered by the

said.(for the Purchaser)

in the presence of.

Signed, Sealed and Delivered by the

said.(for the Supplier)

in the presence of.

NOTE: To be executed on a Rs.100/- Non-judicial stamp paper.

4. DECLARATION FORM**Declaration to be given by the Company in regard to relation to promoters of Blacklisted /
debarred companies by any power utilities.**

I declare that, myself or any of the representatives of my company / firm do not have any relatives with promoters of blacklisted / debarred companies by any utilities.

It is certified that the information furnished above is true to the best of my knowledge and belief. It is hereby undertaken that in the event of the above information found to be false or incorrect at a later date, the TGSPDCL is entitled to terminate the contract/agreement entered into besides recovering damages as may be found necessary, with due notice.

Signature of authorized representative

5. PROFORMA FOR PERFORMANCE STATEMENT

Bid No. _____

Date of Opening _____

Time _____ Hours

Name of the Firm _____

Order placed by (full address of purchaser)	Order No. and Date	Description and quantity of ordered equipment	Date of Completion of Delivery	
			As per Contract	Actual

Remarks indicating reasons for late delivery, if any	Has the equipment been satisfactorily functioning? (Attach a Certificate from the Purchaser)

Signature of the Bidder _____

6. DETAILS TO BE FURNISHED BY THE MANUFACTURER (Format – A)

1. Specification No.	:	
2. Name of the Material	:	
3. Quantity to be procured	:	
4. Last date and time for submission of Bid	:	
5. Date and time for opening of Bid	:	
6. State whether Bid security is enclosed	:	
7. State whether the quotation in two parts has been submitted.	:	
8. State whether 20% minimum quantity for each item is quoted	:	
9. Whether willing to furnish performance B.G. @ 10% if order is placed	:	
10. Whether month wise delivery schedule indicated	:	
11. Prices whether Firm	:	
12. Whether any other tax / duty payable. If so give details and the same is included / not included.	:	
13. State whether TGSPDCL terms of payment are accepted.	:	
14. Quantity offered for supply	:	
15. State whether 90 days validity offered	:	
16. Whether sample is enclosed (if specified)	:	
17. Whether the material/equipment offered conforms to the relevant TGSPDCL Specification	:	
18. Whether you have executed orders of the TGSPDCL previously for these items. (Please give details)	:	
19. Similar details in respect of supplies made to other utilities	:	
20. Whether Bid security exemption letter enclosed, if exempted in case of Govt. firms.	:	
21. Whether sales tax clearance certificate enclosed	:	
22. Whether Income-tax clearance certificate enclosed.	:	
23. Whether Warranty clause accepted	:	
24. Whether Penalty clause accepted	:	
25. Whether delivery schedule accepted	:	

7. SCHEDULE OF DEVIATION (SCHEDULE-B)**(i) TECHNICAL**

Sl. No.	Requirements / Equipment	Specification Clause No.	Deviations	Remarks

It is hereby conformed that except for deviations mentioned above, the offer conforms to all the other features specified in Technical Specification Section ____ of this Bid Document

Place :

Signature of the Bidder :

Date :

Name :

Business address :

(ii) COMMERCIAL

Sl. No.	Requirements / Equipment	Specification Clause No.	Deviations	Remarks

It is hereby conformed that except for deviations mentioned above, the offer conforms to all the other features specified in Commercial Specification Section ____ of this Bid Document

Place :

Signature of the Bidder :

Date :

Name :

Business address:

SECTION-VI - (STN-1259/2024)**TECHNICAL SPECIFICATION FOR 11KV/ $\sqrt{3}$ / 250 V 25 KVA CSP ALUMINIUM WOUND DISTRIBUTION TRANSFORMERS WITH BIS ENERGY EFFICIENCY LEVEL-1****1. SCOPE:**

- i) This specification covers design, engineering, manufacture, assembly, stage testing, inspection and testing before supply and delivery at site of oil immersed, naturally cooled 11KV/ $\sqrt{3}$ / 250 V single phase 25 KVA CSP distribution transformers for outdoor use (sealed type).
- ii) The equipment shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation, in a manner acceptable to the purchaser, who will interpret the meanings of drawings and specification and shall have the power to reject any work or material which, in his judgment is not in accordance therewith. The offered equipment shall be complete with all components necessary for their effective and trouble free operation. Such components shall be deemed to be within the scope of bidder's supply irrespective of whether those are specifically brought out in this specification and / or the commercial order or not.
- iii) The transformer and accessories shall be designed to facilitate operation, inspection, maintenance and repairs. The design shall incorporate every precaution and provision for the safety of equipment as well as staff engaged in operation and maintenance of equipment.
- iv) All outdoor apparatus, including bushing insulators with their mountings, shall be designed so as to avoid any accumulation of water.

2 STANDARDS:

- 2.1** The materials shall conform in all respects to the relevant Indian Standard, with latest amendments thereof unless otherwise specified herein; some of them are listed below.
- 2.2** Material conforming to other internationally accepted standards, which ensure equal or better quality than the standards mentioned above would also be acceptable. In case the bidder who wishes to offer material conforming to the other standards, salient points of difference between the standards adopted and the specific standards shall be clearly brought out in relevant schedule. Four copies of such standards with authentic English translations shall be furnished along with the offer.

3 SERVICE CONDITIONS:

Indian Standards	Title	International Standards
IS -2026	Specification for Power Transformers	IEC 76
IS 1180 (Part-I): 2014	Outdoor Type Oil Immersed Distribution Transformers up to and including 2500kVA, 33kV-Specification	
IS 12444	Specification for Copper wire rod	ASTM B-49
IS-335	Specification for Transformer/Mineral Oil	IEC Pub 296
IS-5	Specification for colors for ready mixed paints	
IS -104	Ready mixed paint, brushing zinc chromate, priming	
IS-2099	Specification for high voltage porcelain bushing	
IS-649	Testing for steel sheets and strips and magnetic circuits	
IS- 3024	Cold rolled grain oriented electrical sheets and strips	
IS - 4257	Dimensions for clamping arrangements for bushings	
IS - 7421	Specification for Low Voltage bushings	
IS - 3347	Specification for Outdoor Bushings	DIN 42531 to 33
IS - 5484	Specification for Al Wire rods	ASTM B - 233
IS - 9335	Specification for Insulating Kraft Paper	IEC 554
IS - 1576	Specification for Insulating Press Board	IEC 641
IS - 6600	Guide for loading of oil Immersed Transformers	IEC 76
IS - 2362	Determination of water content in oil for porcelain bushing of transformer	
IS - 6162	Paper covered Aluminium conductor	
IS - 6160	Rectangular Electrical conductor for electrical machines	
IS - 5561	Electrical power connector	
IS - 6103	Testing of specific resistance of electrical insulating liquids	
IS - 6262	Method of test for power factor and dielectric constant of electrical insulating liquids	
IS - 6792	Determination of electrical strength of insulating oil	
IS - 10028	Installation and maintenance of transformers.	

3.1 The Distribution Transformers to be supplied against this Specification shall be suitable for satisfactory continuous operation under the following climatic conditions as per IS 2026 (Part - I).

- i) Location : At various locations in state of Telengana
- ii) Maximum ambient air temperature ($^{\circ}\text{C}$) : 50
- iii) Minimum ambient air temperature ($^{\circ}\text{C}$) : -5
- iv) Maximum average daily ambient air temperature ($^{\circ}\text{C}$): 40

- v) Maximum yearly weighted average ambient temperature(⁰C) : 32
- vi) Maximum altitude above Altitude of 5000 meters mean sea level (meters) : For HP, J&K, Uttarakhand, Sikkim , Assam, Meghalaya, Manipur, Nagaland, Tripura, Arunachal Pradesh and Mizoram

Note:

1. The climatic conditions specified above are indicative and can be changed by the user as per requirements.
2. The equipment shall generally be for use in moderately hot and humid tropical climate, conducive to rust and fungus growth unless otherwise specified.

4 PRINCIPAL PARAMETERS:

- 4.1** The transformers shall be suitable for outdoor installation with single phase, 50 Hz, 11 kV system in which the neutral is effectively earthed and they should be suitable for service with fluctuations in supply voltage upto plus 12.5% to minus 12.5%.
- 4.2** The transformers shall conform to the following specific parameters. Rated HV side value (11KV or $11\text{KV}/\sqrt{3}$ kv) shall be specified in the detail bill of quantity by purchaser:

Sl. No.	Item	11 kV Distribution Transformers
1	System voltage (Max.)	7/12 kV
2	Rated Voltage (HV)	$11/\sqrt{3}$
3	Rated Voltage (LV)	250 V*
4	Frequency	50 Hz +/- 5%
5	No. of Phases	Single
9	Type of cooling	ONAN

4.3 INSULATION LEVELS:

Sl. No.	Voltage (Volts)	Impulse Voltage (kV Peak)	Power Frequency Voltage (kV)
1	433	-	3
2	11000	75	28
3	$11000/\sqrt{3}$	60	20

5 TECHNICAL REQUIREMENTS:

5.1 CORE MATERIAL

- 5.1.1** Transformer core shall be wound core type construction using new and high quality cold rolled grain oriented (CRGO) steel with heat resistant insulating coating or Amorphous metal.
- 5.1.2** The bidder should offer the core for inspection and approval by the purchaser during manufacturing stage.
- 5.1.3** The transformers core shall be suitable for over fluxing (due to combined effect of voltage and frequency) up to 12.5% without injurious heating at full load conditions and shall not get saturated. The bidder shall furnish necessary design data in support of this situation (not more than 1.9 Tesla).
- 5.1.4** No-load current shall not exceed 3% of full load current and will be measured by energizing the transformer at rated voltage and frequency. Increase of 12.5% of rated voltage shall not increase the no-load current by 6% of full load current.

5.2 WINDINGS MATERIALS:

- 5.2.1** HV and LV windings shall be wound from aluminium conductor covered with Double Paper/enamel. The inter layer insulation shall be of nomex/ Epoxy dotted Kraft Paper.
- 5.2.2** Proper bonding of inter layer insulation with the conductor shall be ensured. Test for bonding strength to be conducted.
- 5.2.3** The core coil assembly shall be dried in an oven. The type of winding shall be indicated in the tender. Whether LV windings are of conventional type or foil wound shall be indicated.
- 5.2.4** Dimensions of winding coils are very critical. Dimensional tolerances for winding coils shall be within limits as specified in guaranteed technical particulars (GTP).
- 5.2.5** The core/coil assembly shall be securely held in position to avoid any movement under short circuit conditions.
- 5.2.6** Joints in the winding shall be avoided. However, if jointing is necessary the joints shall be properly brazed and the resistance of the joints shall be less than that of parent conductor. In case of windings, welding of leads to foil can be done within the winding.

5.3 WINDING CONNECTION AND TERMINAL ARRANGEMENTS:

- 5.3.1** For 11kV transformers both ends of primary winding shall be brought out through HV bushings. For 11/√3kV transformers, neutral end of the primary HV winding shall be brought out for connecting to 'Neutral' supply wire through 1kV bushings. There shall be provision for connecting 'Neutral' terminal, to local 'Earth' by way of a finned Copper strip of adequate size and dimension. The secondary winding shall be connected to two LV bushings.

5.4 OIL:

- 5.4.1** The insulating oil shall comply with the requirements of IS 335/2018 Type IIIU. Use of recycled oil is not acceptable. The specific resistance of the oil shall be as per IS 335/2018 Type IIIU.
- 5.4.2** Oil shall be filtered and tested for break down voltage (BDV) and moisture content before filling.
- 5.4.3** The design and all materials and processes used in the manufacture of the transformer, shall be such as to reduce to a minimum the risk of the development of acidity in the oil.

6 LOSSES:

- 6.1 The bidder shall guarantee individually the no-load loss and load loss without any positive tolerance. The bidder shall also guarantee the total losses (no load + load losses at 75 °C) at the 50% of rated load and total losses at 100% of rated shall not exceed the maximum total loss values given in Table-9 of IS1180 (Part-1) : 2014.

KVA rating	Voltage ratio	Max. Losses @ 50% load, Watts	Max. Losses @ 100% load, Watts
25	11KV/ $\sqrt{3}$ /250V	110	300

- 6.2 The above losses are maximum allowable and there would not be any positive tolerance. Bids with higher losses than the above specified values would be treated as non-responsive. However, the manufacturer can offer losses less than above stated values. The utility can evaluate offers with losses lower than the maximum allowable losses on total owning cost basis in accordance with methodology given in Annex-I.

7 PERCENTAGE IMPEDANCE:

- 7.1 The percentage impedance of transformers at 75 °C shall be 4.0 as per Table 9 of IS 1180(Part-1):2014.

8. **TEMPERATURE RISE:** The temperature rise over ambient shall not exceed the limits given below:

8.1 Top oil temperature rise measured by thermometer : 35 deg. C

8.2 Winding temperature rise measured by resistance method : 40 deg. C

- 8.3 The transformer shall be capable of giving continuous rated output without exceeding the specified temperature rise. Bidder shall submit the calculation sheet in this regard.

9 PENALTY FOR NON PERFORMANCE:

- 9.1 During testing at supplier's works if it is found that the actual measured losses are more than the values quoted by the bidder, the purchaser shall reject the transformer and he shall also have the right to reject the complete lot.
- 9.2 Purchaser shall reject the entire lot during the test at supplier's works, if the temperature rise exceeds the specified values.
- 9.3 Purchaser shall reject any transformer during the test at supplier's works, if the impedance values differ from the guaranteed values including tolerance and if they do not meet the requirement of clause 7.1

10 BUSHINGS:

- 10.1 The bushings shall be either porcelain or epoxy type and shall conform to the relevant standards specified. Polymer insulator bushings conforming with relevant IEC can also be used.

- 10.2 For HV, 12 kV class bushings shall be used and for LV, 1 kV class bushings shall be used.

- 10.3 The terminal arrangement shall not require a separate oil chamber not connected to oil in the main tank.
- 10.4 The HV bushings shall be fixed to the top cover of the transformer and the LV bushings shall be fixed to transformer on sides and in the same plane.
- 10.5 The bushing rods and nuts shall be of brass/stainless steel.
- 10.6 **Arcing Horns** are to be provided as per latest IS 1180 (Part-1) : 2014
- 10.7 Bushings shall be marked with manufacturer's name, month and year of manufacture.

11. **BUSHING TERMINALS:**

- 11.1 HV terminal shall be designed to directly receive ACSR conductor upto 7/2.59 mm (without requiring the use of lug) and the LV terminals shall be suit able for directly receiving LT cables (aluminum) ranging from 10 Sqmm to 25 Sqmm both in vertical and horizontal position and the arrangements should be such as to avoid bimetallic corrosion. Terminal connectors must be type tested as per IS 5561.

12. **TANK:**

- 12.1 The oil volume inside the tank shall be such that even under the extreme operating conditions, the pressure generated inside the tank does not exceed 0.4 kg/sq.cm positive or negative. There must be sufficient space from the core to the top cover to take care of oil expansion.
- 12.2 The tank cover shall have plasticized surface at the top to guard against bird faults. Alternately, suitable insulating shrouds shall be provided on the bushing terminals.
- 12.3 The Transformer tank shall be of robust construction round/ rectangular in shape and shall be built up of tested CRCA/Mild Steel Sheet.
- 12.4 The tank shall be capable of withstanding a pressure of 1kg/cm² (g) and a vacuum of 760 mm of Hg for 30 minutes without any permanent deflection (Air pressure test shall be conducted as per IS-1180 (Part-I) : 2014.
- 12.5 The L-seam joint, C-seam joint and all fittings and accessories shall be oil tight and no deflection / bulging should occur during service.
- 12.6 Manufacturer should carry out the all the welding operations as per the relevant ASME standards and submit a copy of the welding procedure and welder performance qualification certificates to the Purchaser.
- 12.7 The circular bottom plate edges of the tank should be folded upward, for atleast 25mm, to have sufficient overlap with vertical side wall of the transformer.
- 12.8 The Transformer tank and the top cover shall be designed in such a manner as to leave no external pockets in which water can lodge.
- 12.9 Tank shall have permanent lugs for lifting the transformer bodily and there shall be facilities for lifting the core coil assembly separately.

- 12.10 The transformer shall be provided with two mounting lugs suit able for fixing the transformer to a single pole by means of 2 bolts of 20 mm diameter as per ANSI C 57.12.20-1988.
- 12.11 Both mounting lugs are made with steel of minimum 5 mm thickness.
- 12.12 Jump proof lips shall be provided for upper mounting lug.
- 12.13 Mounting lug faces shall be in one plane.
- 12.14 Minimum Oil level mark shall be embossed inside the tank (at 25⁰C)
- 12.15 The top cover shall be fixed to the tank through clamping only.
- 12.16 HV bushing pocket shall be embossed to top side of the top cover so as to eliminate ingress of moisture and water.
- 12.17 The edges of the top cover shall be formed, so as to cover the top end of the tank and gasket.
- 12.18 Nitrile/ polyurethane/ neoprene rubber gaskets' conforming to latest IS 4253 part-II shall be provided between tank and top cover.
- 12.19 The gaskets shall be continuous i.e. without any joint.

13. TANK SEALING:

- 13.1 The space on the top of the oil shall be filled with dry air or nitrogen. The nitrogen plus oil volume inside the tank shall be such that even under extreme operating conditions, the pressure generated inside the tank does not exceed 0.4 kg/sq.cm positive or negative. The nitrogen shall conform to commercial grade of the relevant standards.

14. SURFACE PREPARATION AND PAINTING:

14.1 GENERAL

- 14.1.1 All paints, when applied in a normal full coat, shall be free from runs, sags, wrinkles, patchiness, brush marks or other defects.
- 14.1.2 All primers shall be well marked into the surface, particularly in areas where painting is evident, and the first priming coat shall be applied as soon as possible after cleaning. The paint shall be applied by airless spray according to manufacturer's recommendations.

14.2 CLEANING AND SURFACE PREPARATION:

- 14.2.1 After all machining, forming and welding has been completed, all steel work surfaces shall be thoroughly cleaned of rust, scale, weldings lag or spatter and other contamination prior to any painting. Steel surfaces shall be prepared by Shot blast cleaning (IS9954) to grade Sa. 2. 5 of ISO 8501-1 or chemical cleaning including phosphating (IS3618).
- 14.2.2 The pressure and volume of the compressed air supply for blast cleaning shall meet the work requirements and shall be sufficiently free from all water contamination to ensure that the cleaning process is not impaired.

- 14.2.3 Chipping, scraping and steel wire brushing using manual or power driven tool can not remove firmly adherent mill-scale and shall only be used where shot blast cleaning is impractical. Manufacturer shall indicate such location, for purchaser's information, in his offer.

14.3 PROTECTIVE COATING:

As soon as all items have been cleaned and within four hours of the subsequent drying, they shall be given suitable anti-corrosion protection.

14.4 PAINT MATERIAL:

Following are the types of paint that may be suitably used for the items to be painted at shop and supply of matching paint to site:

- 14.4.1 The painting shall be as per Annexure-Paint which is attached herewith.
- 14.4.2 For external surfaces one coat of Thermo Setting paint or 1 coat of epoxy primer followed by 2 coats of polyurethane base paint. These paint can be either air-drying or stoving.
- 14.4.3 In case of highly polluted area, chemical atmosphere or at a place very near the sea coast, paint as above with one intermediate coat of high build MIO (Micaceous iron oxide) as an intermediate coat may be used to give a total dry film thickness of 150 to 180 microns.

14.5 PAINTING PROCEDURE:

- 14.5.1 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.
- 14.5.2 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. In all instances where two or more coats of the same paint are specified, such coatings may or may not be of contrasting colours.
- 14.5.3 **DAMAGED PAINT WORK:**
- 14.5.4 Any damage occurring to any part of a painting scheme shall be made good to the same standard of corrosion protection and appearance as that was originally employed.
- 14.5.5 Any damaged paint work shall be made good as follows:
- 14.5.6 The damaged area, together with an area extending 25 mm around its boundary, shall be cleaned down to bare metal.
- 14.5.7 A priming coat shall be immediately applied, followed by a full paint finish equal to that originally applied and extending 50mm around the perimeter of the original damage.
- 14.5.8 The repainted surface shall present a smooth surface. This shall be obtained by carefully chamfering the paint edges before and after priming.

14.6 DRY FILM THICKNESS:

- 14.6.1 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.
- 14.6.2 Each coat of paint shall be allowed to harden before the next is applied as per manufacturer's recommendation.
- 14.6.3 Particular attention must be paid to full film thickness at edges.

14.7 TESTS:

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

14.8 The paint shade shall be as per Annexure-Paint which is attached herewith.

Note: Supplier shall guarantee the painting performance requirement for a period of not less than 5 years.

15. RATING AND TERMINAL PLATES:

- 15.1** Each transformer shall be provided with rating plate made of anodized aluminum/ stainless steel material securely fixed on the outer body, easily accessible, showing the information given in Fig. 2 of IS 1180 (Part-1) : 2014 for single phase transformers. The entries on the rating plates shall be indelibly marked by engraving.
- 15.2** Each transformer shall be provided with a terminal marking plate in accordance with Fig. 5 of IS 1180 (Part-1) : 2014. The rating and terminal marking plates may be combined into one plate at the option of manufacturer.
- 15.3** The distribution transformer be marked with the Standard Mark and the use of Standard Mark is governed by the provisions of Bureau of Indian Standards Act, 1986 and the Rules and regulations made there under. As per Quality Control Order for Electrical Transformers - 2015, issued by Dept. of Heavy Industries, the Standard/ ISI marking on Distribution Transformers is mandatory and the product should be manufactured in compliance with IS 1180 Part-1: (2014).

16. PRESSURE AND VACCUUM REQUIREMENTS:

- 16.1** Single phase transformers upto 25kVA, the transformer tank shall be of robust construction, round in shape shall be capable of withstanding a pressure of 100kPa and a vacuum of 760 mm of mercury.

17. FITTINGS:

17.1 The following standard fittings shall be provided :

- 17.1.1 Two earthing terminals with earthing symbol.
- 17.1.2 Lifting lugs for the complete transformer as well as for core and winding assembly.

- 17.1.3 HV side neutral grounding strip (where one of the bushing terminal is connected to earth).
- 17.1.4 Rating and terminal marking plates.(Non detachable type)
- 17.1.5 Pressure relief device or self-ventilating cover
- 17.1.6 HV bushings.
- 17.1.7 LV bushings.
- 17.1.8 HV and LV terminal connectors.
- 17.1.9 Top cover fixing clamps.
- 17.1.10 Mounting lugs - 2 Nos.
- 17.1.11 Bird guard.
- 17.1.12 LV earthing arrangement.
- 17.1.13 Any other fitting required as per IS: 1180 (Part 1)

18. FASTENERS:

- 18.1** All bolts, studs, screw threads, pipe threads, bolt heads and nuts shall comply with the appropriate Indian Standards for metric threads, or the technical equivalent.
- 18.2** Bolts or studs shall not be less than 6 mm india meter except when used for small wiring terminals.
- 18.3** All nuts and pins shall be adequately locked.
- 18.4** Wherever possible bolts shall be fitted in such a manner that in the event of failure of locking resulting in the nuts working loose and falling off, the bolt will remain in position.
- 18.5** All bolts/nuts/washers exposed to atmosphere should be as follows.
- 18.6** a) Size 12 mm or below – Stainless steel
- 18.7** b) Above 12 mm- steel with suitable finish like electro galvanized with passivation or hot dip galvanized.
- 18.8** Each bolt or stud shall project atleast one thread but not more than three threads through the nut, except when otherwise approved for terminal board studs or relay stems. If bolts and nuts are placed so that they are in accessible by means of ordinary spanners, special spanners shall be provided.
- 18.9** The length of the screwed portion of the bolts shall be such that no screw thread may form part of a shear plane between members.
- 18.10** Taper washers shall be provided where necessary. Protective washers of suitable material shall be provided front and back or the securing screws.

19. OVERLOAD CAPACITY:

The transformer shall be suitable for loading as per latest IS 1180 (Part-1) : 2014. The transformer shall have the following CSP features.

INTERNAL HV FUSES ON THE HT SIDE OF TRANSFORMER : Specification for the HT fuses : Expulsion/ any other suitable fuse placed in series with primary winding. This fuse is mounted normally inside of the primary bushing and is connected to the high voltage winding through a terminal block. This has to protect that part of the electrical distribution system which is ahead of the Distribution Transformers from faults which occur inside the Distribution Transformers i.e., either in the windings or some other part of the transformer. It shall be ensured that this fuse does not blow for faults on the secondary side (LT side) of the transformer i.e., the blowing characteristic of the fuse and LT breaker shall be so coordinated that the fuse shall not blow for any faults on the secondary side of the transformer and these faults shall be cleared by the LT breaker only.

- ii) **INTERNALLY MOUNTED OIL IMMERSSED LT BREAKER ON THE LV SIDE OF THE TRANSFORMER :** LT circuit breaker : All LT faults after the breaker shall be cleared by this breaker. As such it shall be designed for perfect coordination with the HT fuse link. The supplier shall furnish the time/current characteristics of LT circuit breaker and 11kV fuses for various current multiples. The two characteristics shall be drawn on the same sheet to indicate coordination between the circuit breaker and fuse. This shall be based on the type test carried out on one of the transformers. In addition, the supplier shall carry out coordination test as indicated above, and this forms one of the tests for acceptance.

The breaker is to be mounted on the secondary side of the transformer under oil to minimize premature operations from primary surges as would be with undersized line fuses. Two single pole elements is preferred. THE BREAKER SHALL BE COORDINATED THERMALLY WITH THE TRANSFORMER RATING TO FOLLOW CLOSELY THE VARIATIONS OF COIL TEMPERATURE DUE TO FLUCTUATIONS IN LOADS AND AMBIENT TEMPERATURES.

This is to be accomplished by connecting the breaker in series between the secondary winding and the load current. The breaker shall be located in the same oil as the core and coil assembly so that the bimetal are sensitive to the temperature of oil as well as the load current (offers with LV breakers of MCCB type are not acceptable to the purchases).

The circuit breaker may be an electro-mechanical device with three elements viz., (a) temperature sensing (b) latching and tripping and (c) current interrupting. The temperature sensing function might be accomplished through the use of bimetallic strips which would be built into the breaker, such that load current of the transformer flows through them. In addition to this a magnetic tripping device is to be provided for increasing the opening speed of the breaker under high fault conditions. the circuit breaker shall be mounted inside of the transformer so that these bimetallic strip are within the top oil layer of the transformer. The latching and tripping functions of the circuit breaker may be carried out within an assembly parts similar to those used in industrial type air circuit breaker. The circuit breaker shall also be closed and opened manually standing on ground and with a magnetic trip device also. The current interruption element shall consist of copper current carrying parts plus a set of copper tungsten current interrupting contacts. The magnetic element shall increase the opening speed of the circuit breaker under high fault current conditions. The response of circuit breaker to the activity shall remain unchanged by the addition of the magnetic trip element. The specification to which the breakers confirm shall be indicated sides, a signal light, controlled by a bimetal in the breaker shall switch on when the transformer load reaches a predetermined level indicating that the transformer has been over-loaded and change out shall have to be scheduled without causing an unplanned service interruptions.

- III) **LOAD MANAGEMENT SIGNAL LIGHT** : The load management signal light shall perform two functions. It shall show visually when the particular transformer has been operating in an overload condition and shall provide knowledge that for good system management, the economical change out point for the transformer is fast approaching. The signal light need not indicate temporary over loads and shall turn on only when the over load condition has existed at a given level for a certain length of time.

The LT circuit breaker shall have a set of auxiliary contacts built-in for signal light operation. These, normally open contact, shall form part of the signal light circuit. The signal light circuit shall consist of an auxiliary transformer winding (one or two turns) which generates about 4V, for the signal light contact set within the circuit breaker, and the signal light is to be mounted on the transformer tank. The signal light contact set is mechanically connected to the main circuit breaker latching and bimetal system. The signal light mechanism is adjusted so that the signal light contacts will close at a pre-set thermal condition which occurs before the main latching system opens the main contact. The net result is a visual external indication that a pre-set load condition has reached by the transformer. The signal light mechanism does not reset itself when the load drops off, the signal light remains lighted once the signal light contact close and can only be turned off by manually operating the external circuit breaker handle.

20. TESTS:

All the equipment offered shall be fully type tested by the bidder as per the relevant standards including the additional type tests mentioned at clause 23. The type test must have been conducted on a transformer of same design during the last five years at the time of bidding. Bids received without type test reports will be treated as non-responsive.

- 20.1** Special tests other than type and routine tests, as agreed between purchaser and bidder shall also be carried out as per the relevant standards
- 20.2** The test certificates for all routine and type tests for the transformers and also for the bushings and transformer oil shall be submitted with the bid. However, if the same are not available at the time of bidding, the same may be submitted after order but before commencement of supply.
- 20.3** The procedure for testing shall be in accordance with IS 1180 (Part-1): 2014/2026 as the case may be except for temperature rise.
- 20.4** Before dispatch each of the completely assembled transformer shall be subjected to the routine tests at the manufacturers works.

21. ROUTINE TESTS:

- 21.1** Ratio, polarity tests.
- 21.2** No load current and losses at service voltage and normal frequency.
- 21.3** Load losses at rated current and normal frequency.
- 21.4** Impedance Voltage test.
- 21.5** Resistance of windings cold (at or near the test bed temperature).
- 21.6** Insulation resistance.
- 21.7** Induced over voltage withstand test.
- 21.8** Separate source voltage withstand test. This test will not be applicable for single phase DTs with $11/\sqrt{3}$ kV as primary voltage.

21.9 Oil sample test (one sample per lot) to comply with IS 1866.

21.10 Air pressure test on empty tank as per IS 1180.

22. TYPE TESTS:

The type test must have been conducted on a transformer (same serial no.) as per the tender specification and shall furnish type test reports along with the bid. Bids without/partial type test reports will be treated as non-responsive.

The following Type tests shall be conducted and reports furnished along with the tender.

1. Impulse voltage test: with chopped wave of IS 2026 part-III. BIL for 11 kV shall be 75 kV .
 2. Short circuit withstand test: Thermal and Dynamic ability.
 3. Temperature Rise Test
 4. Air pressure test as per IS 1180 (Part-1) : 2014.
 5. Special tests other type and routine tests, as agreed between purchaser and tenderer shall also be carried out as per the relevant standards.
 6. Manufacturer's routine test certificates shall be furnished before offering the transformer for inspection.
- 6.3 The purchaser or third party shall witness the type test on randomly selected distribution transformers. The supplier shall make all arrangements for witnessing type test at his own cost.

23. Short Circuit Test and Impulse Voltage With stand Test:

The purchaser intends to procure transformers designed and successfully tested for short circuit and impulse test. In case the transformers proposed for supply against the order are not exactly as per the tested design, the supplier shall be required to carry out the short circuit test and impulse voltage withstand test at their own cost in the presence of the representative of the purchaser.

23.1 The supply shall be accepted only after such test is done successfully, as it confirms on successful withstand of short circuit and healthiness of the active parts thereafter on un-tanking after a short circuit test.

23.2 Apart from dynamic ability test, the transformers shall also be required to withstand thermal ability test or thermal withstand ability will have to be established by way of calculations.

23.3 It may also be noted that the purchaser reserved the right to conduct short circuit test and impulse voltage test in accordance with the IS, a fresh on each ordered rating at purchaser's cost, even if the transformers of the same rating and similar design are already tested. This test shall be carried out on a transformer to be selected by the purchaser either at their works when they are offered in a lot for supply or randomly from the supplies already made to purchaser's Stores. The findings and conclusions of these tests shall be binding on the supplier.

24. TESTS AT SITE:

24.1 The purchaser reserves the right to conduct all tests on transformer after arrival at site and the manufacturer shall guarantee test certificate figures under actual service conditions.

25. ACCEPTANCE TESTS:

- 25.1** The transformers shall be subjected to the following routine/acceptance test in the presence of purchaser's representative at the place of manufacture before dispatch without any extra charges. The testing shall be carried out in accordance with IS 1180, Part-1 (2014) and IS 2026. Checking of mass, dimensions, fitting and accessories, tank sheet thickness, oil quality, material, finish and workmanship as per GTP/QA plan and contract drawings.
- 25.2** Physical verification of core coil assembly and measurement of flux density of one unit of each rating, in every inspection with reference to short circuit test report.
- 25.3** All tests as specified in clause 22.

26. INSPECTION:

- 26.1** In respect of raw material such as core stampings, winding conductors, insulating paper and oil, supplier shall use materials manufactured/ supplied by standard manufacturers and furnish the manufacturers' test certificate as well as the proof of purchase from the manufacturers (excise gate pass) for information of the purchaser. The bidder shall furnish following documents along with their offer in respect to the raw materials:
- 26.1.1 Invoice of supplier.
 - 26.1.2 Mill's certificate.
 - 26.1.3 Packing List.
 - 26.1.4 Bill of landing.
 - 26.1.5 Bill of entry certificate by custom.
- 26.2** To ensure about the quality of transformers, the inspection shall be carried out by the purchaser's representative at following stages:
- 26.2.1 Online any time during receipt of raw material and manufacture/ assembly whenever the purchaser desires.
 - 26.2.2 When the raw material is received, and the assembly is in process in the shop floor.
 - 26.2.3 At finished stage i.e. transformers are fully assembled and are ready for despatch.
- 26.3** After the main raw-materials i.e. core and coil materials and tanks are arranged and transformers are taken for production on shop floor and a few assembly have been completed, the firm shall intimate the purchaser in this regard, so that an officer for carrying out such inspection could be deputed, as far as possible within seven days from the date of intimation. During the stage inspection a few assembled core shall be dismantled (only in case of CRGO material) to ensure that the CRGO laminations used are of good quality. Further, as and when the transformers are ready for despatch, an offer intimating about the readiness of transformers, for final inspection for carrying out tests as per relevant IS and as in clauses above, shall be sent by the firm along with routine test certificates. The inspection shall normally be arranged by the purchaser at the earliest after receipt of offer for pre-delivery inspection.

- 26.4** In case of any defect/ defective work man ship observed at any stage by the purchaser's inspecting officer; the same shall be pointed out to the firm in writing for taking remedial measures. Further processing should only be done after clearance from the Inspecting officer/purchaser.
- 26.5** All tests and inspection shall be carried out at the place of manufacture unless otherwise specifically agreed upon by the manufacturer and purchaser at the time of purchase. The manufacturer shall offer the inspector representing the purchaser all reasonable facilities, without charges, to satisfy him that the material is being supplied in accordance with this specification. This will include stage inspection during manufacturing stage as well as active part inspection during acceptance tests.
- 26.6** The manufacturer shall provide all services to establish and maintain quality of work man ship in his works and that of his sub-contractors to ensure the mechanical/electrical performance of components, compliance with drawings, identification and acceptability of all materials, parts and equipment as per latest quality standards of ISO 9000.
- 26.7** Along with the bid the manufacturer shall prepare Quality Assurance Plan (QAP) identifying the various stages of manufacture, quality checks performed at each stage and the customer hold points. The document shall also furnish details of method of checking, inspection and acceptance standards/ values and get the approval of purchaser or his representative before proceeding with manufacturing. However, purchaser or his representative shall have the right to review the inspection reports, quality checks and results of manufacturer's in house inspection department which are not customer hold points and the manufacturer shall comply with the remarks made by purchaser or his representative on such reviews with regards to further testing, rectification or rejection etc. Manufacturer should submit the list of equipment for testing along with latest calibration certificates to the purchaser.
- 26.8** Purchaser shall have every right to appoint a third party inspection to carry out the inspection process. The purchaser has the right to have the test carried out at his own cost by an independent agency wherever there is a dispute regarding the quality of supply. Purchaser has right to test 1% of the supply selected either from the stores or field to check the quality of the product. In case of any deviation purchaser has every right to reject the entire lot or penalize the manufacturer, which may lead to blacklisting among other things.

The successful bidder shall give 15 days advance intimation to enable the TGSPDCL to depute his representative/ third party agency for witnessing acceptance/ routine tests.

26.9 SEALING OF TRANSFORMERS AFTER TESTING AND INDIVIDUAL TEST REPORTS:

After witnessing testing on sample quantity and physical inspection of all offered Transformers, the purchaser's representative will provide numbered lead/ plastic seal bits to two opposite corners of tank and inspection cover of all offered Transformers, for delivery of correct inspected materials only. The seal bit numbers against each transformer shall also be mentioned in the test reports signed by purchaser's representative submitted for delivery instructions. *The transformer serial numbers and the seal bit numbers will be verified at the stores before accepting the material.*

Manufacturer should submit the list of equipment for testing along with latest calibration certificates to the purchaser.

The TGSPDCL may, at its option open a Transformer supplied to stores in your presence at TGSPDCL's laboratory. If any of the guaranteed technical particulars are found to be at variance during this test the TGSPDCL reserves the right to reject the whole lot supplied.

27. QUALITY ASSURANCE PLAN:

- 27.1** The bidder shall invariably furnish following information along with his bid, failing which his bid shall be liable for rejection. Information shall be separately given for individual type of material offered.
- 27.2** Statement giving list of important raw materials, names of sub-suppliers for the raw materials, list of standards according to which the raw materials are tested, list of test normally carried out on raw materials in presence of bidder's representative and copies of test certificates.
- 27.3** Information and copies of test certificates as above in respect of bought out accessories.
- 27.4** List of manufacturing facilities available.
- 27.5** Level of automation achieved and list of areas where manual processing exists.
- 27.6** List of areas in manufacturing process, where stage inspections are normally carried out for quality control and details of such tests and inspections.
- 27.7** List of testing equipment available with the bidder for final testing of equipment along with valid calibration reports shall be furnished with the bid. Manufacturer shall possess 0.1 accuracy class instruments for measurement of losses.
- 27.8** Quality assurance plan withhold points for purchaser's inspection.
- 27.9** The successful bidder shall within 30 days of placement of order, submit following information to the purchaser.
- 27.9.1 List of raw materials as well as bought out accessories and the names of sub-suppliers selected from those furnished along with offer.
- 27.9.2 Type test certificates of the raw materials and bought out accessories.
- 27.10** The successful bidder shall submit the routine test certificates of bought out accessories and central excise passes for raw material at the time of routine testing.
- 27.11** ISI marking on the transformer is mandatory. As per Quality Control Order for Electrical Transformers - 2015, issued by Dept. of Heavy Industries, the Standard / ISI marking on Distribution Transformers is mandatory and the product should be manufactured in compliance with IS 1180 Part-1:(2014).

28. DOCUMENTATION:

- 28.1** Completely dimensioned drawings indicating general arrangement and details of fittings, clearances and winding details shall accompany the tender.
- 28.2** Drawings of internal constructional details and fixing details of coils should also be indicated. Tank dimensions, position of fittings, clearances between leads within the transformer, core grade of laminations, distance of core centers, area of conductor bare and with insulation. No. of coils, No. of turns per coil material of bushing metal parts etc., shall also be furnished with tender.

29. PACKING and FORWARDING:

29.1 The packing shall be done as per the manufacturer's standard practice. However, he should ensure the packing is such that, the material should not get damaged during transit by rail/road.

29.2 The marking on each package shall be as per the relevant IS.

30. GUARANTEE:

30.1 The manufacturers of the transformer shall provide a guarantee of 60 months from the date of receipt of transformer at the stores of the Utility. In case the transformer fails within the guarantee period, the supplier will depute his representative within 15 days from date of intimation by utility for joint inspection. In case, the failure is due to the reasons attributed to supplier, the transformer will be replaced / repaired by the supplier within 2 months from date of joint inspection.

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

30.3 In the event of the supplier's inability to adhere to the aforesaid provisions, suitable penal action will be taken against the supplier, which may interalia include blacklisting of the firm for future business with the purchaser for a certain period.

31. Challenge testing:

The other manufactures can also request challenge testing for any test based on specification and losses.

The challenger would request for testing with testing fee. The challenge test fees are proposed at least three times the cost of testing. This is likely to deter unnecessary challenges. The challenger would have the opportunity to select the sample from the store/site and any such challenge should be made within the guarantee period. The party challenged and the utility could witness the challenged testing.

The challenged testing would cover the

1. Measurement of magnetizing current.
2. No load losses test.
3. Load losses test (At 50% loading or as per acceptance test)
4. Temperature raise test.
5. Physical verification.

The challenge test could be conducted at NABL accredited laboratory, like ERDA and CPRI. If the values are within limit the product gets confirmed else not confirmed. No positive tolerance in losses is permitted. If the product is not confirmed the manufacture would pay the challenge fee and challenger would get the fee refunded. However as redressal system the challenger would allowed to ask for fresh testing of two more samples from the store and the same be tested in NABL laboratory in presence of party challenged, challenger and the utility. If anyone or both sample does not confirm the test then the product said to have failed the test. In such case the manufacture will be declared as unsuccessful manufacturer for the said product with wide publicity and would not be allowed to compete in tenders of the boards for the period for three years and heavy penalty would be imposed.

Annexure-Paint
Painting-Transformer Main tank, pipes, Conservator Tank, Radiator etc-

	Surface Preparation	primer coat	intermediate under coat	finish coat	total DFT	Colour shade
Main tank, pipes, conservator tank, etc. (External surfaces)	Blast cleaning Sa2½	Epoxy base Zinc primer 30-40 micron	Epoxy base Zinc primer 30-40 micron	Aliphatic Polyurethane (PU Paint) (min 50 micron)	Min 110 micron	631 shade of IS:5 Maroon colour
Main tank, pipes (above 80 NB), conservator tank, etc (Internal surfaces)	Blast cleaning Sa2½	Hot oil resistant, non-corrosive varnish or paint	--	--	Min 30 micron	Glossy white for paint
Radiator (External surfaces)	Chemical / blast cleaning (Sa2½)	Epoxy base zinc primer 30-40 micron	Epoxy base Zinc primer Min 30-40 micron	Aliphatic Polyurethane (PU Paint) (min) 50 micron	Min 110 micron	631 shade of IS:5
Radiator and pipes up to 80 NB (Internal surfaces)	Chemical cleaning if required	Hot oil proof low viscosity varnish or hot oil resistant non corrosive paint	--	--	--	Glossy white for paint

Schedule A
GUARANTEED TECHNICAL PARTICULARS

Sl. No.	Description	25kVA
1.	Name of the manufacturer and place of manufacture	
2.	Continuous maximum rating as per this specification.	
3.	Normal ratio of transformer	
4.	Method of connection HV/LV	
5.	Maximum current density in Windings :	
	1. HV(A/sqmm)	
	2. LV (A/sqmm)	
6.	Maximum hot spot temperature ⁰ C. (Ambient air temperature on which above is based) ⁰ C.	
7.	Maximum temperature: ⁰ C	
	(a) Maximum observable oil temperature (ambient air temperature on which above is based)	
	b) Maximum winding temperature at an ambient temperature of	
8.	No-load losses at rated voltage (watt)	
9.	Full load losses at 75 ⁰ C (watt)	
10.	Total losses at 100% load (watt)	
11.	Total losses at 50% load (watt)	
12.	Efficiency at normal voltage :	
	(i) Unity Power Factor	
	(a) At 50% load	
	(b) At 75% load	
	(c) At full load	
	(ii) 0.8 Power Factor	
	(a) At 50% load	
	(b) At 75% load	
	(c) At full load	
13.	Regulation as percentage of normal voltage:	
	(a) At unity power factor	
	(b) At 0.8 power factor lagging	
14.	Percentage impedance voltage at normal ratio between HV and LV windings	
15.	Type of transformers, CRGO/amorphous type	
16.	Type of Insulation used in	
	HV Windings LV Windings	
17.	Type of insulation used in	
	Core bolts	
	Core bolt washers End plates	
	Core lamination	
18.	Impulse withstand test voltage level (kV)	
	HV Windings LV Windings	
19.	Characteristics of transformer oil	
20.	Total content of oil in litres	
21.	Whether transformer will be transported with oil?	
22.	Type of transformer tank	
23.	Approximate over all dimensions	
	a) Height	m
	b) Length	m
	c) Width	m
	Tank dimensions	
	a) Diameter	m
	b) Height	m

24. Mass of insulated conductor
HV (minimum) kg LV (minimum)kg
25. Mass of core(minimum) kg(CRGO or amorphous metal)
26. Mass of complete transformer arranged for transport (kg)

ADDITIONAL DETAILS

Schedule IB

Sl. No.	Description	
1.	Core grade	
2.	Core dimensions	mm
3.	Gross core area	cm ²
4.	Net Core area	cm ²
5.	Flux density	Tesla
6.	Mass of Core	kg
7.	Loss per kg of core at the specified flux density	watt
8.	Core window height	mm
9.	Center to center distance of the core	mm
10.	No. of LV Turns	
11.	No. of HV turns	
12.	Size of LV Conductor bare/ covered(dia)	mm
13.	Size of HV conductor bare/covered(dia)	mm
14.	No. of parallels	
15.	Current density of LV winding	A/sq mm
16.	Current density of HV winding	A/sq mm
17.	Mass of the LV winding for Transformer	kg
18.	Mass of the HV winding for Transformer	kg
19.	No. of LV Coils/phase	
20.	No. of HV coils. phase	
21.	Height of LV Windings	mm
22.	Height of HV winding	mm
23.	ID/OD of LV winding HV	mm
24.	ID/OD of LV winding	mm
25.	Size of the duct in LV winding	mm
26.	Size of the duct in HV winding	mm
27.	Size of the duct between HV and LV	mm
28.	HV winding to LV clearance	mm
29.	HV winding to tank clearance	mm
30.	Calculated impedance	%
31.	HVto earthcreepage distance	mm
32.	LV to earth creepage distance	mm

Schedule II

SOURCE OF MATERIALS/PLACES OF MANUFACTURE, TESTING AND INSPECTION

Sl. No.	Item	Source of Material	Place of Manufacture	Place of testing and inspection
1.	Laminations			
2.	Aluminium/Copper			
3.	Insulated winding wires			
4.	Oil			
5.	Pressboards			
6.	Kraft paper			
7.	MS plates/Angles/Channels			
8.	Gaskets			
9.	Bushing HV/LV			
10.	Paints			

**PRICE VARIATION CLAUSE FOR ALUMINIUM WOUND DISTRIBUTION TRANSFORMERS
COMPLETE WITH ALL ACCESSORIES AND COMPONENTS
(For single & three phase of ratings up to and including 2500 KVA and voltage class up to 33
KV)
supplied against domestic contracts**

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. Incase of any variation in these prices/indices, the price payable shall be subject to adjustment, up or down in accordance with the following formula:

$$P = \frac{P_0}{100} \left\{ 8+22 \frac{AL}{AL_0} + 36 \frac{ES}{ES_0} + 12 \frac{IS}{IS_0} + 5 \frac{IM}{IM_0} + 10 \frac{TO}{TO_0} + 7 \frac{W}{W_0} \right\}$$

Wherein.

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

P0 = Price quoted/confirmed.

AL0 = LME CSP Average of Aluminium (refer notes)

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

ES0 = Price of CRGO Electrical Steel Lamination (refer notes)

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

IS0 = 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.

IM0 = Price of Insulating Materials (refer notes)

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

TO0 = Price of Transformer Oil (refer notes)

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

W0 = 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 November 2023, applicable prices of Aluminium (AL0), Transformer Oil (TO0), CRGO Steel Sheets (ES0), HR Coil (IS0) and Insulating material (IM0) should be as on 1st October 2023 and all India average consumer price index no. (W0) should be for the month of August 2023.

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.

- AL = LME CSP Average of Aluminium (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.

The date of delivery is the date on which the transformer is notified as being ready for inspection/ dispatch (in the absence of such notification, the date of manufactures dispatch note(**i.e., 103 entry in SAP module**) is to be considered as the date of delivery) or the contracted delivery date (including any agreed extension thereto), whichever is advantageous to purchaser

**Sd/-
CHIEF ENGINEER(P&MM)/TGSPDCL**

SECTION – VII
SPECIFICATION NO.STN-1259/2024
SCHEDULE OF MATERIALS

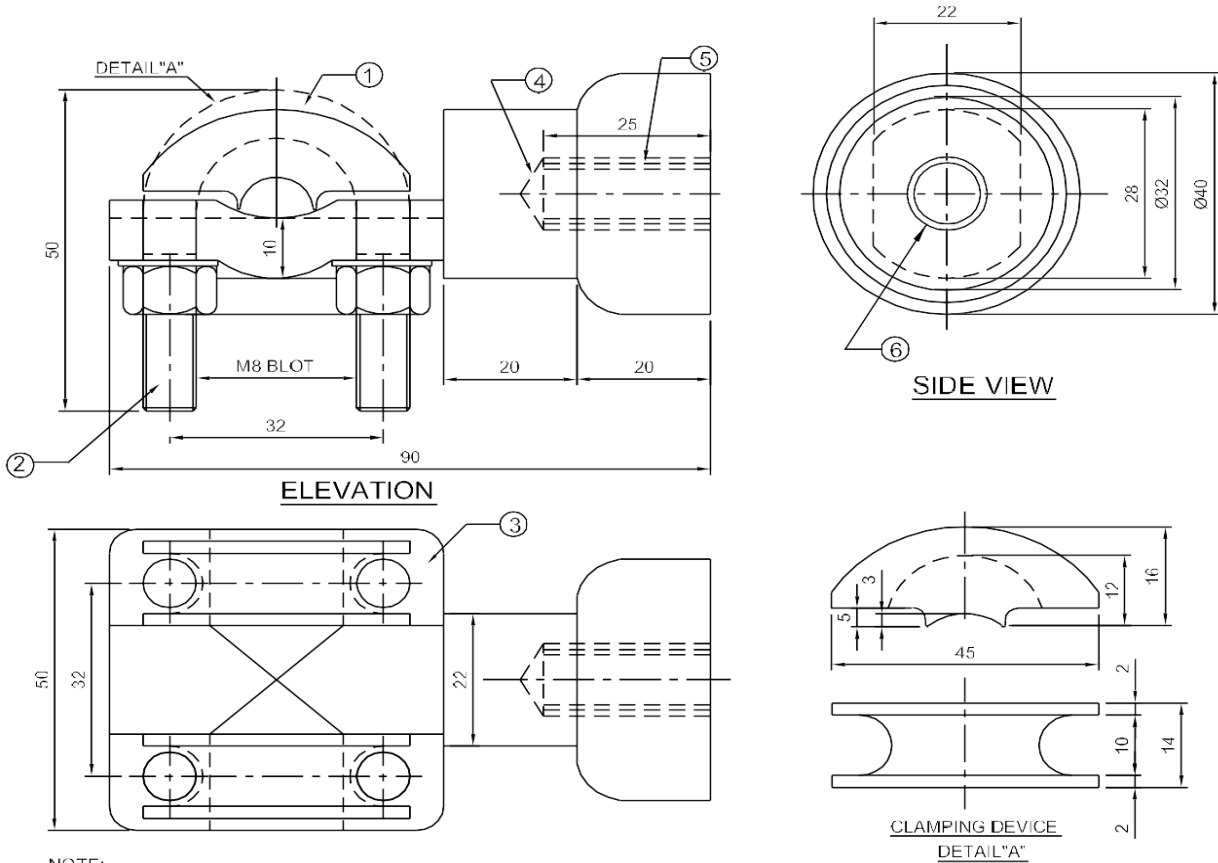
Sl. No	Description of Material	Qty. (Nos.)	Stores
1	11KV/ $\sqrt{3}$ /250V, 25 KVA CSP oil immersed naturally cooled single phase , 50 Hz double wound, CRGO/Amorphous Core Aluminum Winding, outdoor sealed type, BIS Energy Efficiency Level-1 Distribution Transformers top cover fixed with nut and bolt and neoprene continuous gasket arrangement generally conforming to IS-1180 (Part-1) : 2014 and IS-2026/1977 latest versions except where specified otherwise with first filling of oil generally as per IS-335/2018, Type – 11 U and as per specification.	2000	FADS at TGSPDCL stores

Note: -

1. **The prices shall be Variable with 50% ceiling limit on positive side and there is no limit on negative side and base date will be taken the date one month prior to the date of tender opening.**
2. Free at destination stores and ex-factory rate shall be quoted. The delivery of the material shall commence within one month and complete within three months thereafter. The quantities that can be delivered shall be quoted.
3. **The bidder should quote price schedule only in online and specify the price of the Materials / equipment EXWORKS, Freight and Insurance separately (mandatory) and all the duties, taxes as per the applicable GST.**

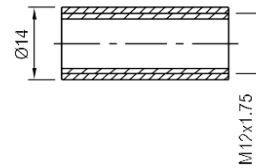
Sd/-
CHIEF ENGINEER/P&MM

Section: VIII Drawing for Bi-Metallic connector (LV&HV)



NOTE:-

1. ALUMINIUM ALLOY '4600(LM6)-IS:617-1994 CONDUCTOR CLAMPING DEVICE
2. MS ELECTRIC GALVANISED / SS - M8 ' U ' BOLT WITH NUT, PLAIN & SPRING WASHERS.IS:1367-PART-13
3. ALUMINIUM ALLOY '4600(LM6)-IS:617-1994 BODY OF THE CONNECTOR.
4. HIGH PRESSURE FIT JOINT BETWEEN ALUMINIUM ALLOY AND BRASS BODY
5. HIGH STRENGTH CORROSION RESISTANT BRASS BODY
6. THREAD TO SUIT M12x1.75 STEM OF THE TRANSFORMER BUSHINGS.
7. CONNECTOR IS SUITABLE FOR 7.08 TO 14 mm DIA ACSR/AAC CONDUCTOR
8. TOLERANCE ON DIMENSIONS : $\pm 5\%$
9. REFERANCE STANDARD : IS:5561-1970
10. RATED SYSTEM VOLTAGE : 12 kV, 24 kV & 36 kV.
11. CURRENT RATING : 200A FOR 40°C RISE OVER 45°C
12. RATED SHORT TIME CURRENT : 3 kA FOR 3 SEC.
13. TENSILE LOAD : 110 kgt.
14. ALL SHARP CORNERS SHALL BE SMOTHLY ROUNDED OFF
15. BOLT TIGHTENING TORQUE : M8-16 N-m
16. SURFACE FINISH: ELECTRO TINNING CONFORMING TO IS:1359-1992 ,CLASS:Cu/Sn 15 b



BIMETALLIC CONNECTOR 200Amps