

By Regd. Post with Ack. Due.



NORTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LTD
WARANGAL - 506 001.

(PURCHASE ORDER)

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From
The Chief General Manager / P&MM,
2-5-31/2, 1st Floor, Vidyuth Bhavan,
T.S.N.P.D.C.L, Corporate Office,
Nakkalagutta, Hanamkonda,
Warangal - 506 001.

To
M/s. Toshiba Transmission & Distribution
Systems (India)Private Limited,
Rudraram, Patancheru Mandal,
Sangareddy District, Telangana.
Pin : 502329, India

GSTIN No. 36AABCN2875L3Z1.

SAP No.	5	1	0	0	0	0	2	5	4	5
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P.O.No.CGM/P&MM/NPDCL/Wgl./GM/DE-2/A3/PM-5783/18, Dt.13-11-18.

Sir,

Sub : TSNPDCL - P&MM Wing - Tender Specification No. OT-57/18-19 for procurement of **560 Nos.** 11KV/ $\sqrt{3}$ /250V, 25 KVA Single Phase CSP Aluminum Wound Distribution Transformers with BIS Energy Efficiency Level-2 - Purchase Order - Issued - Reg.

Ref : 1. Tender specification No.OT-57/18-19
2. Lr.No.CGM/P&MM/NPDCL/WGL/GM/DE-2/A3/OT-57/18-19 / D. No. 3284/18, Dt. 01.11.18.
3. Firm's Letter of Acceptance received on Dt. 06.11.2018.

* * * * *

1. **ACCEPTANCE :** I acting for and on behalf of and by the order and direction of the TSNPDCL, accept the rates for supply of 11KV/ $\sqrt{3}$ /250V, 25 KVA Single Phase Aluminum Wound Distribution Transformers with BIS Energy Efficiency Level-2 with guaranteed losses as per Clause-3.0 Schedule of Material and as per the above cited correspondence at the following terms and conditions.

2. **PRICES :** The prices noted are in Rupees and free at a destination stores inclusive of Freight & Insurance, SGST@9% & CGST@9%. The prices are variable as per IEEMA price variation formula as given below with base date as **01-08-2018** with ceiling limit of 30% on positive side and there is no limit on negative side.

Cost of CSP component is **Rs. 1,450.00/-** which is included in Ex-works and is a firm price.

$$P = \frac{P_o}{100} \left\{ 10 + 19 \frac{AL}{AL_o} + 30 \frac{ES}{ES_o} + 13 \frac{IS}{IS_o} + 4 \frac{IM}{IM_o} + 11 \frac{TO}{TO_o} + 13 \frac{W}{W_o} \right\}$$

Any variation up or down in the existing statutory levies or other new levies introduced after placing of the orders under this specification shall be to the TSNPDCL account provided that the delivery schedules are adhered to by the supplier. If there is increase in the GST other new levies for the material supplied after the agreed delivery schedule the supplier shall bear the impact of those levies and if there is down ward variation revision TSNPDCL shall be given credit to that extent.

The date of delivery for the purpose of price variation, shall be the date of which the Distribution Transformers is notified as being ready for inspection/despatch (in the absence of such notification, the date of manufacturers despatch note shall be considered as the date of delivery) or the contracted delivery date including any agreed extension thereto (or) actual date of delivery, whichever is advantageous to purchaser for supplies made beyond schedule delivery date. For material deliveries before the schedule delivery date, the prices shall be as per the IEEMA PVC Clause (on TSNPDCL request for early supplies in writing).

As far as practicable, prices will be revised (upward or downward) abinitio, to take care to any variation in price of raw materials as defined above, but if for any reason it is not found to be practicable, the deliveries shall be effected at the contracted price and price variation claimed subsequently through a supplementary bill which will be paid as per the purchase order terms after approval by this office. If any time, any documentary evidence proof or certificate in regard to the price variation bill is required by this office the supplier shall have to furnish the same.

The price variation bills shall be claimed separately which will be paid after approval of the same by this office and after adjustment of recoveries, if any, intimated by field officers. You shall claim only the prices as indicated in the purchase order in your regular bills.

If there is downward revision in the prices of materials at the time of supply, the suppliers shall invariably claim the invoices at reduced rates on account of such downward revision.

3. SCHEDULE OF MATERIALS :

Sl. No.	Particulars	Qty. (Nos.)	Rate per unit (Rs. Ps.)	Amount (Rs. Ps.)
1.	11KV/$\sqrt{3}$/250V, 25 KVA CSP oil immersed naturally cooled single phase, 50 Hz double wound, Amorphous Core Aluminum Winding, outdoor sealed type, BIS Energy Efficiency Level-2 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-335/1983 (latest version) and as per specification. Total loss at 50% loading : 110 watts Total loss at 100% loading at 75 deg centigrade : 300 watts	560	Ex-works : 44,957.80 F&I : 360.00 SGST@9% : 4,078.60 CGST@9% : 4,078.60 Total : 53,475.00	2,99,46,000.00
		560	Total	2,99,46,000.00
(Rupees Two Crores Ninety Nine Lakhs Forty Six Thousand Only)				

NOTE - 1 :-

- The tank should be round and made of good quality steel sheet of adequate thickness suitably stiffened to provide sturdy and robust construction to withstand extreme pressure conditions. The tank shall be capable of withstanding a pressure up to 100 KPa and a vacuum of 760 mm of mercury without any deformation.
- Transformers core shall be wound core /stacked core type construction using **Amorphous core**. The core shall be properly stress relieved by annealing. The transformer shall be suitable for over fluxing (due to combined effect of voltage and frequency) up to 12.5% without injurious heating. The operating flux density shall be such that there is a clear safe margin over the over fluxing limit of 12.5%.

“The permissible limit of 3% of No-load current of secondary full load current at normal voltage”.

Arcing horns will be provided on HV bushings as per IS standards

- c) The above transformers are guaranteed for a period of five years from the date of receipt of material at destination stores.
- d) 3 sets of drawings, guaranteed technical particulars, additional details and source of materials shall be submitted within 15 days of receipt of purchase order along with Type Test Certificates and all other particulars mentioned in the list of fittings.

Note 2:

Only prime quality amorphous core sheets should be used in the transformers and no Second/Defective/Scrap finds way into transformers. Therefore regarding quality control following documents are to be furnished before giving the inspection offer.

1. Invoice of supplier
2. Mill's test certificate
3. Packing list
4. Bill of landing
5. Bill of entry certificate by custom
6. Description of material, electrical analysis, Physical inspection, certificate for surface defects, thickness and width of the material.
7. Subjecting to at least 10% of the transformers to routine tests and no load and load loss measurement.

It is to note that, using seconds/defective sheets or load losses found to be more than stipulated limit, heavy penalty will be imposed or the suppliers will be black listed.

Note 3 : PENALTY FOR NON PERFORMANCE :

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.

Purchaser shall reject the entire lot during the test at supplier's works, if the temperature rise exceeds the specified values.

Purchaser shall reject any transformer during the test at supplier's works, if the impedance values differ from the guaranteed values including tolerance

4. DELIVERY :

The delivery of above single phase distribution transformers shall commence and complete as mentioned below :-

Schedule Date of Delivery	Qty. in Nos.
31.12.2018	114
31.01.2019	152
28.02.2019	152
31.03.2019	142
Total	560

The type test reports and drawings of 25 KVA Single phase distribution transformers may be got approved well before commencement of supplies.

Delay in delivery of materials free at destination stores due to non-availability of transport facility and any such reasons will not be considered. It is the responsibility of the suppliers to make alternate arrangements for transporting the material so as to see the materials reaches the destination within the stipulated period.

TSNPDCL shall have the right to vary the delivery schedule mentioned in this purchase order due to any operational exigencies at any time during the execution of the order by the suppliers, after due notice.

TSNPDCL shall have the right to increase or decrease the quantity by 50% any time during the execution of the order.

5. **LOSSES :**

The total losses (includes no- load & load losses) at 50% and 100% loading equivalent to BIS Energy Efficiency Level-2 shall not exceed the values at rated voltage and rated frequency permitted at 75 Deg.C are indicated below.

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

The above losses are maximum allowable and there would not be any positive tolerance. Firm has to supply the transformer as per no load losses, load losses and Maximum losses at 50% and 100% as mentioned in GTP.

6. **PAYMENT :**

100% payment along with F&I, taxes and duties 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. The Bank Guarantee should be furnished from a Nationalized /Scheduled Bank.

NOTE:-i) The date of delivery would be the date on which the stores officer certifies the receipt of materials at stores in good condition i.e. Form 13, date of last consignment.

(ii) The supplier should invariably submit test certificates as soon as dispatch is made so that the test certificates can be checked up and approved well before it becomes due for payment. Routine Test Certificates of the entire lot shall be submitted to the Consignee.

(iii) The performance Bank guarantee to be executed in accordance with this specification shall be furnished on a stamp value of Rs.200/-. The performance guarantee has to be extended suitably by you in accordance with the guarantee clause, so that the last consignment against the order is covered by the guarantee. The bank guarantee shall be from any Nationalised/Scheduled Bank. 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 **180 days** beyond the date of completion of performance obligations including Warranty obligations.

(iv) The payment for materials supplied will be made by cheque on any scheduled bank at Headquarters of the Paying Officer.

(v) If you have received any over payments by mistake or if any amounts are due to the TSNPDCL due to any other reason, when it is not possible to recover such amounts under the contract resulting out of the subject specification, the TSNPDCL reserves the right to collect the same from any other amounts and/or bank guarantee given by you due to or with the TSNPDCL.

vi) When you do not at any time, fulfill your obligations in replacing / rectifying etc., of the damaged/ defective materials in part or whole promptly to the satisfaction of the TSNPDCL officers, the TSNPDCL 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 damages occurring to the consignment so dispatched.

7. **SURFACE, PREPARATION AND PAINTING** : Shall be maintained as specified in the tender specification .

The colour of the finishing coats shall be Air Craft Blue Colour conforming to Paint Shade No. 108 of IS-5 for finishing coats.

8. **DESPATCH** :

Please arrange to supply the article specified herein and dispatch them by lorry freight prepaid to the persons and stations noted separately.

9. **ACKNOWLEDGEMENT**:

The Transport receipt should be sent to the persons noted against each item and should be accompanied by two copies of the invoice/challan , one of which will be returned to you direct in token of acknowledge of receipt of the goods . a copy of the invoice shall be sent to this office as soon as dispatch is made.

10. **LOSS OR DAMAGE** :

- a) You are responsible for the safe delivery of the goods in condition at destination stores. You should acquaint yourself of the conditions obtaining for handling and transport of the goods to destination and shall include and provide for security and protective packing of the goods so as to avoid damage in transit.
- b) External damages or shortages that are prima facie the result of rough handling in transit or due to defective packing will be intimated within a fortnight of receipt of materials. Internal defects damages or shortages or any internal parts which cannot ordinarily be detected on superficial examination though due to bad handling in transit or defective packing would be intimated within 2 months from the date of receipt of the materials. In either case the damaged or defective materials should be replaced by you free of cost to TSNPDCL.

- c) If no steps are taken within 15 days of receipt of intimation of defects or such other reasonable time as the TSNPDCL may deem proper to afford, the TSNPDCL may without prejudice to its other rights and remedies causes to be repaired or rectified the defective materials or replace the same and recover the expenditure incurred therefore from the deposits such as PERFORMANCE or other monies available with the TS Transco or by resorting to legal action and also decline to accept further delivery of materials / equipment.
- d) Where any plant /machinery or other materials supplied by you is found to be defective in whole or in part WITHIN THE GUARANTEE PERIOD, you will be intimated of the same. You should take immediate steps to rectify the defect or to replace the defective materials free of cost within 60 days from the date of the receipt of the intimation.
- e) The defective portions or whole of the materials so replaced should give satisfactory performance till the expiry of six months from the date of such replacement or until the end of guarantee period whichever may be later.
- f) For the purpose of any legal construction, the materials should be deemed to pass into TSNPDCL's ownership only at the destination stores where they are delivered and accepted.
- g) TSNPDCL reserves the right apart from the above said provisions, not to accept further dispatches of materials and the connected bills etc. under conditions of your continued negligence to replace any materials supplied earlier and received in damaged condition or failed within the guarantee period, or not conforming to the purchase order /specification conditions.

11. GUARANTEE :

- i) The above Distribution Transformers have been guaranteed by you for satisfactory operation for a period of **5 years** from the date of receipt of material at destination stores. The **5 years** guarantee shall be embossed on a separate metal sheet, painted prominently and welded to the transformer tank just below the name plate.
- ii) For strict implementation of this clause you may note:
 - a) On failure of a transformer, a telegraphic intimation/letter will be given to you and the transformer will be shifted to SPM Centre. You should either rectify the transformer or replace it with a good transformer within 30 days of intimation.
 - b) Please note that you shall rectify/replace the defective transformer within 30-days of receipt of intimation of defects failing which payment to the extent of failed units will be deducted from the subsequent bills/banks guarantee.
 - c) In case the transformer is repaired or replaced by you after 180 days of date of telegraphic intimation you should note that 5 years guarantee will be counted from the date from which the transformer is replaced and commissioned successfully by us.
 - d) If the transformer is repaired or replaced beyond 3 months of date of telegraphic intimation to you, you should note that the 5 years guarantee period will be extended by the number of days by which 90 days or exceeded from the date of telegraphic intimation of failure to you.

e) TSNPDCL reserves the right to claim the financial loss incurred suffered due to failure of Distribution Transformers during the guarantee period.

- 12. Challenge Testing:** "The other manufacture 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 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 rise test.
5. Physical verification test.

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 any one or both sample does not confirm the test then the product said to have failed the test. In such cases 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 of three years and heavy penalty would be imposed"

- 13. DEFECTIVE SUPPLIES :** If, during the guaranteed period, any of the goods are found to be defective in materials or workmanship they shall be replaced by you free of cost.

14. PENALTY :

GENERAL:- The delivery of materials as per the agreed schedule of delivery is the essence of the contract and no extension of the time for delivery would be allowed except under recognized force majeure conditions.

For supplies made beyond the agreed delivery schedule, penalty shall be levied for an amount of equivalent to ½ % of the Contract value of the material not delivered within the prescribed time limit for every week of delay or part thereof subject to a maximum of 5% of contract value of the undelivered portion within the scheduled time.

The date of certified receipt of material 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 destination stores is the "Date of Delivery" subject to the condition that, the materials are received in good condition. For penalty, the number of days would be rounded off to the nearest week and penalty calculated accordingly.

In case you do not adhere to the delivery schedule, TSNPDCL reserves the right to purchase the balance quantity from the open market and recover expenditure incurred from you. This is in addition to the right of the TSNPDCL mentioned in first para of this clause and under law.

15. **RISK PURCHASE:** In case of supplier who has not adhered to the delivery schedule, the TSNPDCL 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.
16. **FORCE MAJEURE:** You shall not be liable for any liquidated damages for delay or for failure to perform the contract for reasons of Force Majeure such as acts of God, acts of Public enemy, acts of Govt., fires, floods, epidemics, quarantine restrictions, strikes, lock-outs, riots freight embargoes and provided that you shall within 10 days from the beginning of such delay notify the TSNPDCL in writing of the cause of delay, the TSNPDCL shall verify the facts and grant such extension as facts justify.
17. **EXTENSION OF TIME:** If the completion of supplies is delayed due to reason beyond the control of the supplier, the supplier shall without delay give notice to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice may agree to extend the contracted delivery to such date as may be reasonable but without prejudice to other terms and conditions of the contract.
18. **DRAWINGS AND MANUALS:** the following drawings of 6 sets shall be furnished for our approval.
 - a) Rating plate
 - b) Outline diagram i.e., complete dimensional drawing showing the general arrangement, fitting details and clearances.
 - c) Core coil assembly drawing and weights of main component parts (internal construction).

The detailed thermal ability to withstand short circuit and temperature rise calculations shall be furnished along with the drawings.

19. **INSPECTION :**

The accredited representative of the TSNPDCL /accredited representative of 3rd party identified by TSNPDCL shall have access to supplier's works, at any time during working hours, for the purpose of inspecting the materials and the select samples from the materials to be offered for inspection. You shall offer the equipment to 3rd party for stage wise inspection. The contractor shall provide facilities for testing such samples at any time the supplier shall keep this office informed 15 days in advance about the manufacturing program so that arrangements can be made for inspection. As soon as the materials are ready, you shall submit the routine test certificates. The dispatches shall be affected only if the test results comply with specification.

In case of materials are not of acceptance quantity or not confirming to specification, the materials will be rejected. You have to re-offer the material for inspection. In such cases the 2nd inspection charges are to your account only. In case the materials are rejected in the 2nd inspection also, TSNPDCL reserves the right to cancel the order.

The dispatches shall be made only after inspection to the TSNPDCL's satisfaction or such inspection is waived by this office.

TSNPDCL reserves the right to insist for witnessing the acceptance/ routine tests of the bought out items.

20. TEST CERTIFICATES:

The latest certificates containing the results of the tests as per **IS-1180 (Part 1): 2014** must be submitted to Chief General Manager, P&MM, TSNPDCL, 1ST Floor, Corporate Office, Warangal and got approved by him before sending bills for payment, which will not be paid unless these are approved (vide clause 6).

- a) Heat run test shall be carried out on one unit at free of cost.
- b) TSNPDCL shall have all rights to conduct type tests at its own cost by an independent agency on a transformer either in service or from stores at its discretion. In the event of failure of transformer in such tests, the expenses incurred in testing shall be to the suppliers account. The failed unit will not be accepted for supply of TSNPDCL even after repairs.
- c) If similar design transformer is tested for impulse & short circuit tests previously, copy of the same may be furnished. Otherwise impulse & short circuit tests shall be carried out on one unit free of cost within 3 months of receipt of P.O.
- d) Proof of purchase of Amorphous Core, transformer oil and E grade Copper/Aluminum must be furnished along with each inspection offer.

21. GUARANTEED TECHNICAL PARTICULARS: The technical particulars as per Annexure have been guaranteed by you for the supplies against this order.

22. DESPATCH INSTRUCTIONS : All the materials detailed in clause -3 must be consigned and dispatched as per dispatch instructions to be issued after inspection and the bills sent to as follows.

Sl. No.	To be sent to the TSNPDCL's Stores at	Materials to be consigned and despatched to ADE/Stores/TSNPDCL.	Paying Officer to whom bills & RR to be sent to Accounts Officer/Expr. O/o. SE./Opn.
1.	Warangal	Warangal	Warangal
2.	Karimnagar	Karimnagar	Karimnagar
3.	Nizamabad	Nizamabad	Nizamabad
4.	Khammam	Khammam	Khammam
5.	Nirmal	Adilabad	Adilabad

23. PACKING :

i) The packing may be in accordance with the manufacturer's standard practice unless otherwise specified. You should however reach the departmental stores within damages after transport by Road. The packing should stand unloading and inter stores transfer with reasonable care.

ii) Whenever you dispatch materials to consignee, you should prepare the following information in the form of packing slip in quadruplicate and send the name to the consignee and obtain his acknowledge on the same. The consignee will return to you one copy of the packing slip with his remarks. The proforma of the packing slip shall be as follows.

PACKING

1. Purchase order no. and 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 purchase order with rates applied

iii) You shall invariably send to the purchasing office a copy of the delivery challan whenever materials are dispatched.

24. NOTE : It may be noted that

- a) The price cited are variable, FADS, inclusive of all Taxes and Duties.
- b) The ownership of the materials would rest with you till they are all received at destination in good condition.
- c) Freight charges shall be prepaid.
- d) The materials may be duly insured at your cost as per specification
- e) **Interchangeability** : All similar materials and removable parts of similar equipment shall be interchangeable with each other .
- f) **Name Plate** : The equipment shall be marked with your trade mark, Sl. No. and the year of manufacture and ISI labeling.

Tank shall be embossed with "TSNPDCL" for 240 Nos. Distribution Transformers. The size of the embossing of the word shall be 2 inches.

25. TRAINING OF TSNPDCL PERSONNEL : TSNPDCL reserves the right to depute TSNPDCL's personnel for training at your works relating to design manufacture, assembly, testing and operation and maintenance in batches. You shall provide necessary facilities during training period specified by TSNPDCL.

26. GENERAL:

1. Your bills in duplicate along with a copy of invoice and substantiating vouchers for all extra claims to be made separately should be forwarded to the paying officers mentioned in the dispatch instructions.
2. All General and technical correspondence should be addressed to the Chief General Manager/P&MM, Corporate Office, 1ST Floor, Vidyuth Bhavan, TSNPDCL, Hanamkonda, Warangal - 506 001.
3. All Correspondence regarding bills, payment etc. should be addressed to the Paying Officers cited in the dispatch instructions with a copy to the Pay Officer, TSNPDCL, Warangal- 506 001.
4. All and any disputes or differences arising out of or touching this order shall be decided by courts or tribunals situated in Warangal. No suit or other legal proceedings shall be instituted elsewhere.
5. Unless otherwise specified, you shall abide by all the terms and conditions specified in specification.
6. Please return within a period of 15 days one copy of the purchase order duly signed in token of acceptance of all the terms and conditions of this purchase order along with the contract form executed on a Rs. 200/- non judicial stamp paper.

7. This is in regularization of preliminary acceptance Lr. No. CGM/P&MM/NPDCL/WGL/GM/DE-2/A3/OT-57/18-19/D.No.3284/18, Dt. 01.11.18.

Yours faithfully,
Sd./-
(B. ASHOK KUMAR)
CHIEF GENERAL MANAGER,
P&MM/NPDCL/WARANGAL.

We accept all the terms and Conditions of this order.

SIGNATURE OF THE CONTRACTOR

Copy Communicated to :-

The Chief General Manager/ Finance./NPDCL/Warangal.
The Chief General Manager/Projects/NPDCL/Warangal.
The Chief General Manager/OP-I &II/NPDCL/Warangal.
The Chief General Manager/P&MM/CPDCL/4th Floor, Corporate Office,
Mint Compound, Hyderabad – 500 004.

Copy to:-

All The Superintending Engineer/Operation/TSNPDCL/.....
All The Divisional Engineer/MRT's/ TSNPDCL/.....
All The Accounts Officer/Expr. O/o. SE/Opn./.....
All The Asst. Divisional Engineer/Stores/.....
The General Manager/IT/TSNPDCL/Warangal :

(Place the Scanned Purchase Order copy in the TSNPDCL Website).

// FORWARDED BY ORDER//

***Divisional Engineer/P&MM-2
TSNPDCL/Warangal.***

CONTRACT FORM

THIS AGREEMENT made the. day of. 200 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:

	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.200/- Non-judicial stamp paper.

Sd./-
(B. ASHOK KUMAR)
CHIEF GENERAL MANAGER,
P&MM/NPDCL/WARANGAL.

ANNEXURE-1

GUARANTEED TECHNICAL PARTICULARS

SLNO	DESCRIPTION	25KVA, 11KV/ $\sqrt{3}$ / 250 V
1	Name of the manufacturer and place of manufacturer	Toshiba Transmission and Distribution Systems (India) Private Limited (TTDI), Rudraram, Patancheru Mandal, Sangareddy District, Telangana.
2	Continuous max rating as per the specification	25 KVA
3	Normal ratio of transformer	11kV/ $\sqrt{3}$ /250 V
4	Method of connection HV/LV	Single phase, HV one end grounded through 1kV Bushing
5	Max. Current density in windings a. High voltage Amps/Sq.mm b. Low voltage Amps/Sq.mm	1.6 1.6
6	Max hot spot temp Deg.C (Ambient air temp on which above is based)Deg.C	93.2 45
7	a) Maximum observable oil temperature (ambient air temperature on which above is based)	80 45
	b) Maximum winding temperature (ambient air temperature on which above is based)	85 45
8	No-load losses at rated voltage (watt)	25 W(max)
9	Full load losses at 75deg.C (watt)	275W(max)
10	Maximum total losses at 100% load (watts)	300(Maximum)
11	Maximum total losses at 50% load (watts)	110(Maximum)
12	Efficiency at normal voltage ratio at: 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 %	99.26 99.05 98.81 99.07 98.82 98.52
13	Regulation as % of normal voltage a) At unity power factor % b) At 0.8 power factor lagging %	1.17 3.22
14	Percentage Impedance voltage at normal ratio between HV and LV winding	4% (with IS tolerance)
15	Type of transformers, CRGO/amorphous type	Amorphous Shell type (wound Core)
16	Type of insulation used in a) HV winding b) LV winding	Super Enamel covering Super Enamel covering
17	Type of insulation used in a) Core bolts b) Core bolt with washers c) Core lamination	Not applicable Not applicable Not applicable (Since the resistivity of Amorphous is more)
18	Impulse test voltage level HV winding LV winding	60kV(peak) ---
19	Characteristics of transformer oil	As per IS-335 latest version
20	Total content of oil in liters.	73 (First filling)
21	Whether transformer will be transported with oil?	Yes
22	Type of transformer tank	M.S circular

23	Approximate overall dimensions a) Height (mm) b) Length (mm) c) Width (mm) Tank dimensions a) Diameter (mm) b) Height (mm)	1080 620 685 470 680
24	Mass of insulated conductor a. HV (min) (kg) b. LV (min) (kg)	17kg 10kg
25	Mass of core (min) Kg.	103 kg (Amorphous Metal)
26	Weight of complete transformer arranged for Transport (Kg).	247 kg

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CHIEF GENERAL MANAGER,
P&MM/NPDCL/WARANGAL.

**ANNEXURE - II
ADDITIONAL DETAILS**

SL. NO.	DESCRIPTION		25 KVA, 11KV/ $\sqrt{3}$ / 250 V
1.	Core grade	:	Amorphous
2.	Core diameter (step width x stack thickness) mm	:	170.2x111.5mm(55.75x2no's)
3.	Gross core area sq.cm	:	189.77(approx.)
4.	Net core area sq.cm	:	163.205
5.	Flux density	:	1.38T(Max)
6.	Mass of core kg	:	103
7.	Loss per kg. Core at the specified flux density	:	0.1983 (approx.)
8.	Core window height mm	:	262
9.	Center to Center distance(core window width) mm	:	91(Window Width)
10.	No. Of LV turns	:	50
11.	No. Of HV turns	:	1270
12.	Size of LV conductor bare/ covered mm	:	8.5x3.2 / 8.6x3.3
13.	Size of HV conductor bare/covered mm	:	2.55/ 2.65
14.	No. Of parallels	:	LV-4(1F X4R), HV-Not Applicable
15.	Current density of LV winding A/sq.mm	:	1.6(Max)
16.	Current density of HV winding A/sq.mm	:	1.6(Max)
17.	Mass of the LV winding for Transformer kg	:	11kg[10Kg(Covered weight of conductor) + 1Kg (Interlayer Insulation)]
18.	Mass of the HV winding for Transformer kg	:	19kg [17Kg (Covered weight of Conductor) + 2Kg(Interlayer Insulation)]
19.	No. Of LV coils per phase	:	1(per limb)
20.	No. Of HV coils per phase	:	1(per limb)
21.	Height of LV winding mm	:	248 (including edge strip)
22.	Height of HV winding mm	:	248(including edge strip)
23.	ID/OD of LV winding mm	:	183x117(With Out LV-E Insulation)//249x179
24.	ID/OD of HV winding mm	:	258x188/365x282
25.	Size of the duct in LV winding	:	3mm
26.	Size of the duct in HV winding	:	3mm
27.	Size of the duct between HV & LV winding mm	:	Nil
28.	HV winding to LV clearance mm	:	2(min)
29.	HV winding to tank clearance mm	:	10(min)
30.	Calculated impedance	:	4% (with IS tolerance.)
31.	HV to earth creepage distance mm	:	280mm
32.	LV to earth creepage distance mm	:	25mm

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