

By Regd. Post with Ack. Due**NORTHERN POWER DISTRIBUTION COMPANY OF A.P LIMITED
CORPORATE OFFICE, WARANGAL-506 001.****(PURCHASE ORDER)**

Ph. No. 0870-2461507.

Fax No. 0870-2461519.

From

The Chief General Manager,
P&MM/ NPDCL, 1st Floor,
Corporate Office, Vidyuth Bhavan,
Nakkalagutta, Hanamkonda,
Warangal – 506 001.

Ph. No. 0121-2441073.

Fax No. 0121-2441094/ 040-23740000.

To

M/s. Vishal Transformers & Switchgear (P) Ltd.,
Rithani,
Delhi Road,
Meerut – 250 103 (UP).

TIN No.09378200089.**PAN No:AAACV633OP.**

SAP CONTRACT No:	5	1	0	0	0	0	0	7	7	8
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P.O.No.CGM/P&MM/NPDCL/WGL/GM/P1/A1/OT-03/13-14/PM-4141, Dt.14-03-2014.**Sirs,**

Sub:- NPDCL – P&MM – Supply of 11KV Metering Sets of Ratios (10/5A & 20/5A) of class 0.5s, against Tender Specification OT-03/13-14 - Orders – Issued – Reg.

Ref:- 1. Tender Specification No.CGM/NPDCL/OT-03/13-14.
2. Your Price Bid opened on Dt.29-10-2013.
3. Your Negotiations Letter, dt:05-02-14.
4. Lr.No.CGM/P&MM/NPDCL/Wgl/GM/P1/A1/OT-03/13-14/LOI/D.No.4523, Dt.07-03-14.
5. Your letter No. SPA/VTSP/1353, dt:13-03-14. (LOI Acceptance).

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- 1. ACCEPTANCE :** I, acting for and on behalf of and by the order and direction of the Northern Power Distribution Company of Andhra Pradesh Limited (herein after called APNPDCL) accept the rates for supply of 11KV Metering Sets of Ratios **(10/5A - 37 Nos. & 20/5A - 37 Nos.)** of class 0.5s as per the **L.O.I** Dt.07-03-2014 and above cited correspondence subject to the following terms and conditions.
- 2. PRICES:** The prices noted below are Firm Free at Destination Stores, Inclusive of Ex-Works, Freight, Insurance, Excise Duty & Cess on ED @12.36%, CST @ 2% against Form-C, (Total Price **Rs.34,709.50/-** per each as detailed in schedule of materials).

Any variation up or down in Excise Duty or Sales Tax or other statutory levies, or new levies introduced after placing of the orders under this specification, shall be to the APNPDCL's account. Provided that in case where the delivery schedule is not adhered to by the supplier and that, if there are increases in Excise Duty or Sales Tax or other statutory levies, or new of those levies during extended delivery period shall be to the account of supplier and if there is downward variation/revision the APNPDCL shall be given credit to that extent.

3. SCHEDULE OF MATERIALS:

Sl. No.	Description of Material	Qty Nos.	Rate/ Each	Total Amount Rs.
1.	<p>11KV Outdoor, Pole mounting type, Oil immersed Metering Transformer equipment (a) and (b) mentioned below with SC Current of 8KA for 0.5s seconds:</p> <p><u>Potential Transformers:</u> (a) One 3 phase 50 cycles voltage star connected transformer of the following features:</p> <p>i. Voltage ratio phase 11KV/$\sqrt{3}$ /110V/$\sqrt{3}$ ii. VA capacity per phase: 30VA. iii. Class of accuracy 0.5 as per IS-3156 Part-II of 1964 (Latest Version). iv. Insulation 12KV v. Inter layer insulation–Polyester film or equivalent.</p> <p><u>Current Transformers:</u> (b) Three No's wound primary current transformer of 11 KV voltage each with the following features.</p> <p>i. VA Capacitor: 10VA ii. Class of accuracy 0.5S as per IS- 2705 Part-II 1992 (Latest Version) with current transformer ratio as mentioned below:</p> <p>X) 10/5A of class 0.5 S (Cable box for incoming side and Bushings for out-going side) Y) 20/5A of class 0.5 S (Cable box for incoming side and Bushings for out-going side).</p>		<p>Rs.34,709.50/-</p> <p>EX-Works : Rs.28,935.00 ED@12.36% : Rs.3576.37 F & I : Rs.1547.91 CST @2% : Rs.650.22 against Form'C'</p> <p>Total Price/E : <u>Rs.34,709.50</u></p>	
		37 Nos.	Rs.34,709.50/-	Rs.12,84,251.50/-
		37 Nos.	Rs.34,709.50/-	Rs.12,84,251.50/-
Total Rs.				25,68,503.00
(Rupees Twenty Five Lakhs Sixty Eight Thousand Five Hundred & Three Only)				

Unloading Charges: Unloading Charges at Destination stores is to the account of APNPDCL.

4. DELIVERY:

- A) The delivery schedule of 11KV Metering Sets of Ratios (10/5A & 20/5A) of class 0.5s is as under.

Month	11KV Metering Sets of Ratios (10/5A) of 0.5s Qty Nos.	11KV Metering Sets of Ratios (20/5A) of 0.5s Qty Nos.
30-04-2014	37	37
Total	37 Nos.	37 Nos.

However you are requested to advance the supplies to meet the immediate requirement of APNPDCL.

- B) Delay in delivery of material 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 supplier to make alternate arrangements for transporting the materials so that the materials reach the destination within the stipulated period.
- C) The APNPDCL shall have the right to vary the delivery schedule mentioned in the Purchase Order due to any operational exigencies at any time during the execution of the order by the supplier after due notice.
- D) The APNPDCL shall have the right to vary the ordered quantity by +/- 50% at any time during the execution of the order.

- 5. PERFORMANCE SECURITY:** Performance Security to the extent of 10% of the contract value shall be furnished for the proper fulfillment of the contract within 15 days of receipt of Purchase Order, which will include the Warranty Period and completion of Performance and Warranty obligations. The Performance Security will cover a period of six months over and above the period of Performance Guarantee against defective supplies etc., ie., **Valid upto 30-04-2016.**

The Performance Security will be

- 1) A Bank Guarantee in the prescribed proforma issued by any Nationalized Bank acceptable to the Purchaser. **(OR)**
- 2) A Banker's Cheque or Crossed Demand Draft or Pay Order payable at the Head Quarter of the Purchaser.

6. **PAYMENT:** 100% Payment would be made by Cheque on or after 30 days from the date of delivery of materials at the destination stores in good condition duly certified by the consignee (Form-13) subject to furnishing of Performance Security to the extent of 10% of the Contract Value as per Clause (5) above.

No payment towards interest is payable in case the payment is delayed whatever reason.

NOTE: The date of delivery would be the date on which the stores officer signs the Form-13 acknowledging receipt of materials at stores and certified the receipt of goods in good condition.

The following documents of title to goods shall be sent by the supplier or his Bankers to the Paying Officer concerned.

1. Detailed Packing List.
2. Detailed Invoice Marked 'Original for Buyer'.
3. Test Certificates Approval.

The test certificates shall be got approved by this office before sending the bills for payment, failing which the payment will be stopped.

One additional copy of each of delivery challan, invoice, packing list and test certificates shall be sent to the consignee and the Chief General Manager/ P&MM/NPDCL/Warangal, immediately after delivery at destination stores.

The performance security shall be extended suitably in case the equipment/ materials found defective within guarantee period. The defective portion/ whole of the equipment/ materials so replaced or renewed should get satisfactory performance till the expiry of 12 months from the date of such replacement/ renewal or until the end of guarantee period whichever may be later.

If you have received any over payment by mistake or if any amounts are due to the APNPDCL due to any other reasons, when it is not possible to recover such amounts under the contract the APNPDCL reserve the right to collect the same from any other amounts and/or Bank guarantee given by you due to or with the APNPDCL.

When you do not at any time, fulfill your obligation in replacing/ rectifying etc., of the damaged/ defective materials/ equipment in part or whole promptly to the satisfaction of the APNPDCL officers, the APNPDCL reserves the right not to accept the materials/ equipment against subsequent dispatches made by the supplier and only the supplier will be responsible for any demurrages, wharfages or damage occurring to the consignment so dispatched.

The APNPDCL 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.

7. **DISPATCH:** Please arrange to supply the material specified in the schedule of materials and dispatch them by goods Train or Lorry freight prepaid to the consignee and destination stores to be intimated to you separately. Unloading at stores premises shall be APNPDCL's responsibility and any expenditure incurred for unloading is to APNPDCL's account only
8. **ACKNOWLEDGEMENT:** The Lorry receipt should be sent to the consignee noted against each item and should be accompanied by two copies of the invoice, one of which will be returned to you directly in token of acknowledgement of receipt of goods.
9. **LOSS OR DAMAGE:** External damages or shortages that are prima-facie the results of rough handling in transit or due to defective packing will be intimated within a fortnight of the receipt of the materials. Internal defects, damages or shortages if any, internal parts which cannot ordinarily be detected on a superficial visual examination though due to bad handling in transit or defective packing would be intimated within one month from the date of receipt of these material. In either case the damaged or defective materials should be replaced by you free of cost to the APNPDCL.

Where in the material supplied by you are found defective in whole or in part within the guaranteed period, you will be intimated of the same. You should take immediate steps to rectify the defects (or) to replace the defective material free of cost. If no steps are taken to replace the defective material within 15 days of receipt of intimation of defects or such other reasonable time as the APNPDCL may deem proper to afford, the APNPDCL may without prejudice to its other rights and remedies replace the same and recover the expenditure incurred therefore from the deposits such as Performance security or other monies available with the APNPDCL or by resorting to legal action and also decline to accept further deliveries of material.

The defective material 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 is later.

For the purpose of any legal constraints, the material shall be deemed to pass into APNPDCL's ownership only at the destination stores where they are delivered and accepted.

The APNPDCL reserves the right, apart from the above said provisions, not to accept further dispatches of materials and the connected bills etc., under conditions of the suppliers continued negligence to replace the materials supplied earlier and received in damaged condition or failed during the guarantee period, or not conforming to the Purchase Order & specification.

10. GUARANTEE:

- 1) The material shall be guaranteed by you for satisfactory operation for minimum period of eighteen months **(18 months)** from the date of receipt at stores in good condition.
- 2) Please note that you shall replace the defective material within 15 days of receipt of intimation of defects or such other reasonable time as the APNPDCL may deem proper to afford failing which the payment to the extent of cost of defective material will be withheld from subsequent Bills/ Bank Guarantees.

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

12. REMOVAL FROM VENDOR LIST: A registered vendor will be removed from the Vendor list.

1. If its delivery and quality performances are not upto standards.
2. If the equipment/material is found not in conformity with the guaranteed technical particulars during the service.
3. Fails to furnish the Income Tax Clearance certificate as required under the rules.

13. TERMINATION OF CONTRACT:

The Purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate the contract in whole or in part.

1. 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.
2. If the supplier fails to perform any other obligations(s) under the contract.
3. If the supplier, in the judgment of the purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

“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”.

- 14. PENALTY FOR LATE DELIVERY:** The delivery of materials as per the agreed schedule of delivery is the essence of the contract.

In case of delay in delivery of materials/ equipment at destination for whatever be the reason, the APNPDCL may at its option demand and recover from you an amount equivalent to half percent (½%) of the value of the materials not delivered within the prescribed time limit for every week of delay or part thereof, subject to a max. of 5% of the total value of the contract.

This right of the APNPDCL, shall be without prejudice to its right under the law including the right to cancel the contract, forfeit the deposit and / or recover damages for breach of contract.

The date of receipt of materials / equipment at the destination stores in good condition will be taken as the date of delivery.

Materials which are not of acceptable quality or not conforming to specification would be deemed to be not delivered.

In case you do not adhere to the delivery schedule, the APNPDCL reserves the right to purchase the balance quantity from the open market and recover the extra expenditure thus incurred from you. This is in addition to the rights of the APNPDCL mentioned in the first part of this clause and upper law.

- 15. 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 Government, fires, floods, epidemics, quarantine restrictions, strikes, lockouts, riots, freight embargoes provided that the supplier shall within (10) ten days from the beginning of such delay, notify the APNPDCL in writing of the cause of delay. The APNPDCL shall verify the facts and grant such extension as facts justify. No price variation shall be allowed during the period of force majeure and penalty will not be levied for this period.
- 16. EXTENSION OF TIME:** If the completion of the 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 date as may be reasonable but without prejudice to other terms and conditions of the contract.

17. **INSPECTION:** The accredited representative of the APNPDCL shall have access to the supplier's or sub-contractor's works at any time during working hours for the purpose of inspecting the materials during manufacture of the plant and equipment and testing and may select the samples from the materials going into plant and equipment. The supplier shall provide the facilities for testing such samples at any time.

As soon as materials are ready, the supplier shall duly send intimation to the APNPDCL by Registered post and carry out the tests before the representatives of the APNPDCL.

The dispatches shall be affected only if the test results comply with the specification. The dispatches shall be made only after the inspection by the APNPDCL Officers is completed to the APNPDCL's satisfaction or such inspection is waived by this office.

The purchaser has the right to have the tests carried out at the suppliers cost by an independent agency whenever there is dispute regarding the quality of supply. In the event of test results are found not in accordance with the specification and relevant IS, the entire LOT will be rejected and Order will be cancelled

The APNPDCL 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 Supplier.

18. **GUARANTEED TECHNICAL PARTICULARS:** The technical particulars as per IS have been guaranteed by you for the supplies against this Order is as per the Guarantee Technical Particulars conform to **IS-335/93** or latest versions.

GUARANTEED TECHNICAL PARTICULARS FOR TRANSFORMER OIL:

Sl. No.	Characteristics		Particulars
1.	Maker's Name and Company	:	M/s. Vishal Transformers & Switchgear (P) Ltd, Meerut.
2.	Appearance.	:	The oil shall be clear and transparent and free from suspended matter or sediments and should conform to IS-335/93 or latest versions.
3.	Density at 27 degrees C (max)	:	0.89 g/cm.
4.	Kinematic Viscosity at 27 degrees C (max)	:	27 CST.
5.	Interfacial Tension at 27 Degrees C (max)	:	0.04 N/M.
6.	Flash point, pensky – marten (closed) (min)	:	140 Degrees C.

7.	Pour point (max)	:	-10 Degrees C.
8.	Neutralization Value : a) Total acidity (max) b) In-organic acidity alkalinity.	:	0.01. Nil
9.	Corrosive sulphur.	:	Non-corrosive.
10.	Electric Strength (breakdown voltage/ minute) a) New unfiltered oil. b) After filtration.	:	30 KV (rms) 50 KV (rms)
11.	Dielectric dissipation factor (Tan delta at 90 Deg. C (min)).	:	0.005.
12.	Specific resistance (Resistivity). a) At 90 Deg. C (min) b) At 27 Deg. C (min)	:	30x10 ¹² ohms- cm. 500x10 ¹² ohms-cm
13.	Oxidation stability a) Neutralization value after oxidation (max) b) Total sludge after oxidation (max)	:	0.2 mg KOH/g 0.05% by Weight.
14.	Ageing characteristics after accelerating ageing (open breaker method with copper catalyst) for 96 Hrs.as per ASTM D. 1934-1978) a) Specific resistance (Resistivity) (i) At 27 Deg. C (min) (ii) At 90 Deg. C (min) b) Dielectric dissipation factor Tan delta at 90 Deg. C (max) c) Total sludge value (max) d) Total acidity (max)	:	2.5 x 10 ¹² ohms-cm 0.20 x 10 ¹² ohms-cm 0.20 0.5 0.5
15.	Presence of oxidation inhibitor.	:	Nil
16.	Water content (max)	:	50 ppm

1.	The oil gauge glass shall be fixed to the side of the raised wall of the inspection box.
2.	Insulation sheet barriers like bakelite or fiberglass shall be provided in between phases to over the length of bushing stud.
3.	The gasket shall be dovetailed without joints to prevent moisture entry. In case of dovetailed join, they shall not be more than two. The gasket shall be of good quality Neoprine or rubberised gasket.

19. TECHNICAL SPECIFICATION OF 11KV METERING CTPT SETS:

19.1 **SCOPE:** The specification provides for manufacture, testing before dispatch, supply and delivery of **10/5A & 20/5A**, 11KV metering sets of class of accuracy **0.5s** as per the particulars given in the schedule attached.

19.2 **STANDARD :** Except where modified by this specification the component parts of the equipment shall comply with the following IS (with latest amendments from time to time).

- i) Voltage & Current Transformers : IS 3156& IS-2705.
- ii) Transformer Oil : IS 335/93.
- iii) HV Porcelain Bushing: IS2099 Galvanization: IS2633 Primary Terminals: IS 10601

19.3 **TYPE:** The metering transformer equipment should be of pole mounting type or outdoor use. They are to be used in 11KV Three phase with solidly earthed neutral and suitable for 3 phase 3 wire 50 cycles networks. The equipment is required for operation of trivector meters and should be oil cooled.

The CTPT sets shall have the following ratings:

1. Rated Voltage: 11KV.
2. Highest systems voltage: 12KV.
3. Insulation level: 12KV.
4. Standard impulse withstand voltage: 75KV.
5. One minute power frequency withstand Voltage.
6. Primary: 28KV.
7. Secondary: 3KV.
8. Short time thermal current and its duration: 9KA for 1sec.
9. class of accuracy: 0.5s.
10. Rated burden per phase.
 - a) For CTs: The rated burden for CTs is 5VA per phase.
 - b) For PTs: The rated burden for PTs shall be 10VA per phase.
11. Frequency: 50HZ.

19.4 **DESIGN:**

1. The equipment shall be designed to ensure satisfactory operation under all conditions of service to facilitate easy inspection, cleaning and repairs.
2. The design shall incorporate every reasonable precaution and provisions for safety of all those concerned in the operation and maintenance of the equipment.
3. All out-door apparatus shall be so designed that water cannot be collected at any point and enter the CT/PT set. The top cover of the bank, secondary terminal cover, cable box and inspection cover are suitably bent at the edges so that gaskets are not exposed to moisture.
4. All connections and terminals shall be of sufficient size for carrying the specified currents continuously without undue heating.
5. On outdoor equipment all bolts, nuts, washers in contact with non-ferrous parts shall be of brass.
6. All ferrous parts including bolts & nuts liable to corrosion, forming integral parts of the equipment shall be smoothly and continuously hot dip galvanized.

7. The secondary terminal box, inspection cover and oil gauge shall be arranged as shown in the drawing.
 8. The core shall be high grade non-ageing electrical silicon laminated steel of low hysteresis loss and high permeability to ensure high accuracy, at both normal and over current/voltage.
 9. All winding shall be of insulated high grade electrolytic copper wire and the manufacturing of the units shall be done in completely closed and air-conditioned room otherwise fiber glass insulation sleeves are to be provided for primary winding. Details of winding and core shall be furnished.
 10. The CTPT set should have three CTs and one three phase PT with Star/Star connection.
- 19.5 **SEALING:** Provision for sealing at 4 points on the secondary terminal box, inspection cover, the top cover of the bank and cable box shall be made. This may be made by providing a hole of adequate size to pass the sealing wire, of above 14 SWG. A hole on tail of corner bolts shall be provided.
- 19.6 **FLUCTUATION IN VOLTAGE AND FREQUENCY:** For continuous operation, entire equipment shall be subjected to variation of voltage upto plus 20% and -30% and frequency of plus or minus 5 percent.
- 19.7 **INSTRUMENT TRANSFORMERS:**
1. The voltage and current transformers shall have normal continuous rating as per the schedule of requirement. Voltage transformer shall be provided with bridged current limiting resistance fuses on the high voltage side.
 2. The voltage transformer shall be so designed that the increased magnetising currents due to any persisting over voltage does not produce injurious over heating. Phase barriers shall be provided.
 3. The peak value of the rated dynamic current shall not be less than 2.5 times the rated short time thermal current unless stated otherwise (4.62 of ISS 2705/Part I of 1992 or latest version).
 4. Modified polyester enamel copper wire is to be used for winding and it shall conform to IS-4800/Part-V (latest version).
 5. The terminals of the instrument transformer shall be clearly marked by distinctive letters as stated in Appendix C of ISS/3156/Part-I/1965 (latest version) for voltage transformer and Appendix 'C' of IS-2705/Part-I/1992 (latest version) for current transformers.
 6. The winding shall be neatly laid and anchored.
 7. The metering set tank and other metal parts shall be galvanized, as per latest IS applicable.

19.8 **Cable Box for Incoming side for item No. (a) & (b) in the Schedule of Material and Cable Box for Outgoing side for item No. (b), and bushings for Outgoing side for item (a) in Schedule of Material:**

1. Non - Detachable cable box shall be provided on HT side for incoming for item No. a & b and outgoing side for item No. (b) and bushings for outgoing side for item a) in schedule of material. The position of cable shall be located such that it will not foul with the belting angles. Provision for sealing at 4 points shall be made. Suitable cable glands shall be supplied along with boxes. The cable box shall be suitable for M-seal indoor and terminations of 11KV XLPE 35sq.mm cables. The minimum clearance between phases and phases to earth shall be as per ISS. The tenderer shall quote for CT/PT sets having cable box for incoming side for item No. (a) & (b) in the schedule of material, cable box for outgoing side for item No. (b) in the schedule of material and bushing on the out-going side for item No. (a) in the schedule of material.
2. Bushings for out-going side of CT/PT Set for item No. (a) in schedule of material: The porcelain portion of HT bushings shall be of standard make and conform to IS-2099/1996. Insulation sheet barriers like Bakelite or fiber glass shall be provided in between the phases to cover the length of bushing stud.

The dimensions of the bushings shall confirm to IS-3347/part-III/1972. The minimum phase to phase clearance shall be as per IS.

The bushings shall be of reputed manufacturers like M/s.Jayshree Insulators, M/s.WS Industries, M/s.BHEL, M/s.Allied Ceramics, M/s.India Potteries, M/s.Venkateswara Ceramic Industries, M/s.IEC, CJI / Prime Insulator and Sampath Ceramics who are having complete testing facilities

(Or)

The bushings shall be of reputed manufacturers who are having complete testing facilities. The bushing stems shall be provided with suitable bimetallic connectors so as to connect the jumper without disturbing the bushing stem.

Insulation sheet barriers like Bakelite or Fiberglass shall be provided in between the phases to cover the length of bushing stud in cable box.

The minimum clearance between indoor bush rod to cable box cover shall be 50 mm.

TERMINALS: Brass rods 12mm dia for Primary and 6 mm dia for secondary.

Bushing for outgoing side of CTPT set:

The porcelain portion of HT bushings shall be of standard make and conform to IS-2099/1996.

The dimensions of the bushings shall conform to IS- 3347/Part.III/1972. The minimum phase-to-phase clearance shall be as per IS.

The tests as per IS-2099/1962 shall be conducted on the transformer bushings as detailed below:

- a) Dry flash over voltage.
- b) Wet flash over voltage.
- c) Dry 1 Minute withstand voltage.
- d) Impulse withstand voltage (1.2/50 Micro Seconds -ve wave).
- e) Manufacturer's test certification may be furnished for every lot of offer.

19.9 **STEEL TANK:**

- a) The Oil filled container incorporating the voltage transformers and current transformers should be fitted with incoming and outgoing primary terminals and secondary terminal box. The secondary terminal box shall be arranged on sides. The general arrangement shall be with cable box on the incoming side and 3 bushings on the outgoing side.
- b) The tank shall be built with plate of 5 mm thick top and 3.15mm sides and bottom and with all fittings shall be capable of withstanding without leakage or distortion at the standard test pressure. All joints of the tank and fittings shall be hot oil tight and no leaking should occur during service.
- c) It shall be provided with an oil gauge. The oil gauge glass shall be fixed appropriately. The tank shall be provided with necessary lifting lugs.
- d) The secondary terminal box cover, cable box cover, tank cover and inspection cover and other vertical joints where gaskets are used shall be suitably bent with necessary sealing arrangement. This will have to safeguard against seepage of water into tank in case of damaged gasket
- e) The Gasket shall be dovetailed without joints to prevent moisture entry. In case of dovetailed joint, they shall not be more than two. The Gasket shall be of good quality Neoprene or rubberized gasket.
- f) **EARTHING:** Two earthing terminals shall be adequate size protected against corrosion and metallicly clean and identified by means of the sign marked in a legible and indelible manner on or adjacent to the terminals.
- g) All bolts should be provided with 2 flat washers and a spring washer with a nut.
- h) Conservator should not be provided for these CTPT sets.
- i) The Secondary terminal box incoming hole should be 24 mm diameter and at a height of 330 mm +/- 5 mm from bottom to avoid replacement/ modification of secondary wires pipe when CTPT set is replaced. The secondary terminals size should be 6 mm diameter, 25 mm stem length, 2 flat washers with 3 nuts of brass material should be provided.

The terminals should be provided atleast 70 mm height from incoming hole and clearances shall be as per IS to avoid shorting terminals due to secondary wires pipe.

- j) The following details of equipment shall be provided on a name plate with at least 10 mm letters. The name plate is to be welded to the tank after galvanization.

Make 2. Ratio 3. Class of accuracy 4. Serial No: 5. Month & year of mfg.

- k) 18 months guarantee embossed plate shall be welded opposite side of name plate.

- l) **MOUNTING ARRANGEMENT:** The under base of all CTPT sets shall be provided with two 75x40mm GI channels and foundation dimensions shall be as per enclosed drawing and uniform for all sets with only +/- 2 mm tolerance, to avoid modification of structure/ plinth, whenever CTPT set is replaced.

19.10 **OIL:** The insulation oil used in the tank shall comply with the requirements specified in latest relevant IS-335/93 as per "**GTP of Transformer Oil**".

19.11 **GUARANTEED TECHNICAL PARTICULARS:** The technical particulars as specified in IS shall be guaranteed. Every tenderer should furnish the particulars required without fail and guarantee the values so furnished for the supplies.

19.12 **TESTS:**

- a) **TYPE TESTS:** The equipment offered shall be fully type tested from recognised standard laboratory by the bidder as per the relevant standards. The bidder shall furnish three copies of type test certificates with the bid. These type test certificates shall be got approved by the purchaser before commencement of supply. The bidder also furnish type test certificates for bushings and oil along with the bid.

The type tests shall be conducted and type test certificates for the tests carried out on prototype of same specification shall be enclosed with tender. The type tests Certificates shall not be more than 10 years old as on the date of opening of bid.

b) **ACCEPTANCE AND ROUTINE TEST:**

All acceptance and routine tests as stipulated in the relevant standards shall be carried out by the supplier in presence of purchaser's representatives.

Immediately after finalization of the programme of acceptance/routine testing, the manufacturer shall give advance intimation to the purchaser, to enable him to depute his representative for witnessing the tests.

c) **TYPE TESTS FOR CTs:**

1. Short time current Test.
2. Temperature rise test.
3. Lightning Impulse Test.
4. High Voltage Power frequency wet withstand voltage test.
5. Determination of errors or other characteristics according to the requirements of the appropriate designation or accuracy class.

d) **TYPE TESTS FOR PTs:**

1. Determination of errors according to the requirements of the appropriate accuracy class.
2. Temperature Rise test.
3. Impulse Voltage test.

e) **TYPE TESTS FOR TRANSFORMER BUSHINGS:**

1. Dry flash over voltage.
2. Wet flash over voltage.
3. Dry 1 Minute withstand voltage.
4. Impulse withstand voltage (1.2/50 Micro Seconds -ve wave)

f) **ACCEPTANCE AND ROUTINE TESTS:**

The following shall be conducted as per IS:3156 (Latest version).

1. Verification of Terminal marking and polarity.
2. Power frequency dry withstand tests on primary windings.
3. Power frequency dry withstand tests on secondary windings.
4. Determination of errors according to the requirements of the appropriate accuracy class.
5. Temperature Rise test.
6. Air pressure test on empty tank of transformer opened for physical verification test (One for every lot offered)

One CTPT from the offered lot for inspection shall be subjected to temperature rise test irrespective of ratios.

Accuracy test (Determination of errors) shall be conducted on 100% offered quantity in the presence of Discom representative

19.13 **DRAWINGS AND LEAFLETS:** Two sets of drawings showing clearly the general arrangements, sectional views, fitting details, electrical connection and design features of each component part should accompany the tender. Technical leaflets giving the operating instructions should also be furnished along with the tender. Tenders without details are liable to be rejected. The literature and drawing are to be sent along with each equipment while dispatching, after approval by this office.

19.14 **DEPARTURE FROM SPECIFICATION:** If the tenderer wishes to depart from this specification in any respect, he shall draw the attention to such points of departure explaining fully the reasons there for. Unless this is done the requirements of this specification will be deemed to have been accepted in every respect.

20. **TEST CERTIFICATES:** The latest certificates containing the results of the tests as per relevant IS mentioned in the schedule of materials must be submitted to the Chief General Manager/Purchase & Material Management/NPDCL, Warangal and got approved by him before sending bills for payment, which will not be paid unless these are approved (vide Clause-6).

21. **DISPATCH INSTRUCTIONS :**

Sl. No	To be sent to APNPDCL's stores at District stores	Name of the Consignee ADE/DS/APNPDCL	Paying Officer to whom bills & receipt Challan are to be sent to AO/Expenditure, O/o SE/ Op/
1.	Warangal	Near Water Tank, Nakkalagutta, Hanamkonda, Warangal - 506 001. Cell No. 94408-11535.	The Accounts Officer (Expenditure), O/o SE/ Operation/ APNPDCL, Near Water Tank, Nakkalagutta, Hanamkonda, Warangal - 506 001. Cell No. 94408-11390.
2.	Karimnagar	Jagitial Road, Near Court, Karimnagar – 506502. Cell No. 94408-11260.	The Accounts Officer (Expenditure), O/o SE/ Operation/ APNPDCL, Jagitial Road, Near Court, Karimnagar – 506 502. Cell No. 94408-11502.
3.	Khammam	Yellandu Cross Road, Opp : Town - II, Police Station, Khammam – 506 568. Cell No. 94408-11510.	The Accounts Officer (Expenditure), O/o SE/ Operation/ APNPDCL, Mamindlagudem, Near Saibaba Temple, Khammam – 506 568. Cell No. 94408-11568.
4.	Nizamabad	Near Kila, Old Power House, Nizamabad – 506661. Cell No. 94408-11289.	The Accounts Officer (Expenditure), O/o SE/ Operation/ APNPDCL, Near Kila, Old Power House, Nizamabad – 506 661. Cell No. 94408-11661.

5.	Nirmal	Power House Campus, Nirmal – 504 106. Cell No. 94408-11296.	The Accounts Officer (Expenditure), O/o SE/ Operation/ APNPDCL, Adilabad - 506 727. Cell No. 94408-11727.
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The dispatch instructions and the consignees to be supplied to will be furnished as and when materials are offered for supply and cleared for dispatch after due inspection.

22. PACKING:

- i. The packing may be in accordance with the manufacturer's standard practice unless otherwise specified. The supplier should however, ensure that the packing is such that the equipment reaches the departmental stores without damage after transport by Road with reasonable care. The packing should stand unloading and inter stores transfer with reasonable care.
- ii. The supplier, whenever he dispatches material to a consignee should prepare the following information in the form of packing slip in quadruplicate and send the same to the consignee and obtain his acknowledgement on the same. The consignee will return to the supplier one copy of the packing slip with his remarks. The proforma of the packing slip shall be as follows.

PACKING SLIP:

1. Purchase Order No. and Date.
 2. Quantity allotted to the stores and rate applicable.
 3. Quantity so far supplied to the stores and rate applied.
 4. Quantity now supplied and the rate applied.
 5. Total Quantity supplied under the purchase order with rates applied.
 6. Programme for supply of balance quantity.
- iii. The supplier shall invariably send to the purchasing officer a copy of the delivery challan whenever materials are dispatched.

23. IT MAY BE NOTED THAT:

- a) Prices cited are Firm for delivery Free at Destination Stores.
- b) Excise Duty and Sales Tax if any and applicable will be paid extra.
- c) The ownership of the materials would rest with you till they are all received at Destination in good condition.
- d) Freight charges shall be prepaid.
- e) The materials may be duly insured at your cost.
- f) Interchangeability:- All similar materials and removable parts of similar equipment shall be interchangeable with each other.
- g) **Name Plate:** 11KV Metering Sets: Make, Ratio, Class of Accuracy, Sl.No, Month & Year of Mfg, Purchase Order No. and Date, the words "**PROPERTY OF APNDCL**", should be etched on the Name plate with atleast 10mm letters. The name plate is to be welded to the tank after galvanization. **18 months guarantee** embossed plate shall be welded opposite side of name plate.

23. GENERAL:

- i) Your bills in duplicate along with a duplicate 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.
- ii) All General and Technical correspondence should be addressed to the Chief General Manager/Purchase & Operation/NPDCL, Warangal.
- iii) All correspondence regarding bills, payment etc., should be addressed to the Paying Officer, cited in dispatch instructions with copy to the Pay Officer /NPDCL/ Warangal.
- iv) Any disputes or differences arising out of or touching this order shall be decided by Courts or Tribunals situated in Hanamkonda/ Warangal cities. No suit or other legal proceedings shall be instituted elsewhere.
- v) Unless otherwise specified, you shall abide by all the terms and conditions specified in Specification No.CGM/P&MM/NPDCL/OT-03/13-14.
- vi) This is in regularization of preliminary acceptance Letter of Intent Lr.No. CGM/P&MM/NPDCL/WGL/P1/A1/OT-03/113-14/LOI/D.No.4523,Dt:07-03-14.

- vii) 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 order. If you fail to acknowledge the receipt of this Purchase Order within 15 days, you will be deemed to have accepted this contract on the terms and conditions setout herein.

Yours faithfully,

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

(Acting for and on behalf of APNPDCL)

We accept all the terms and conditions of the Purchase Order and Specification.

Signature of the Contractor.

Copy Communicated to:

The Chief General Manager(Finance)/NPDCL/Warangal.

The Chief General Manager (P&MM)/APCPDCL, APSPDCL, APEPDCL.

Copy to

The Superintending Engineer/ Operation/WGL, KNR, KMM, NZB & ADB.

The Accounts Officer/Expr./O/o S.E/ Operation/WGL, KNR, KMM, NZB & ADB.

The Asst. Divisional Engineer/ District Stores/WGL, KNR, KMM, NZB & NML.

CONTRACT FORM

THIS AGREEMENT made the. day of. 201 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.