



**By Regd. Post with Ack. Due :** **In duplicate**  
**NORTHERN POWER DISTRIBUTION COMPANY OF A.P. LIMITED**  
**CORPORATE OFFICE, WARANGAL- 506 001.**

**(PURCHASE ORDER)**

**Ph : 0870-2461507**  
**Fax: 0870-2461519**

**Ph : 022-26436127/ 28/ 29.**  
**Fax: 022-26436139, 040-42607342.**

From:

To

**The Chief General Manager,**  
P&MM/1st Floor, Vidhyuth Bhavan,  
A.P.N.P.D.C.L, Corporate Office,  
Nakkalagutta, Hanamkonda, Warangal.  
TIN No: 28230176565

**M/s. Stelmec Limited,**  
“Sea Queen”, 43-A, (210537)  
H.K. Bhabha Road, Bandstand,  
Bandra (W), Mumbai-400050.

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**P.O.No.CGM/P&MM/NPDCL/WGL/GM/P2/A4/OT-29/13-14/PM-4145, Dt:20.03-2014.**

Sir,

**Sub:-** NPDCL - WGL - Order for supply of 11KV VCBs (Feeder & LV) with CTs & CRPs - Issued - Reg.

**Ref:-** 1. Tender Specification No.OT-29/2013-14.  
2. Office Note approved dated 01.03.2014.  
3. Lr.No.CGM/P&MM/NPDCL/WGL/GM/P2/A4/OT-29/13-14/D.No.4471,  
Dt.04-03-2014.  
4. Your Letter of Acceptance dated 05-03-2014 & 12.03.2014.

**00oo00**

- ACCEPTANCE** :- I, acting for and on behalf of and by the order and direction of Northern Power Distribution Company of A.P Limited accept the rates for supply of 11KV VCBs (Feeder & LV) with CTs & CRPs, as indicated in the “Schedule of Materials Clause” and as per the above cited correspondence subject to the following terms and conditions.
- PRICES**: The prices noted below are in rupees, free at destination stores and are inclusive of Excise Duty & Cess @ 12.36%, CST @2% against Form-C and Freight & Insurance.

Any variation up or down in Excise duty or CST or other statutory levies, or new levies introduced after placing of the order, under this specification, shall be to the APNPDCL account, provided that in cases where the delivery schedule is not adhered to by the supplier and that, if there are increases in excise duty or CST or other statutory levies or new imposts after the agreed delivery dates, the supplier shall bear the impact of these levies and if there is downward variation/ revision the APNPDCL shall be given credit to that extent.

The unloading charges at destination stores shall be to APNPDCL’s account.

*Contd...2*

**3. SCHEDULE OF MATERIALS:**

Sl. No.	Description of Materials	Qty. in Nos.	Rate / Each	Amount in
1.	11 KV, 3 Pole, 630 A, 50 Hz, 25 kA porcelain clad vacuum circuit breakers with outdoor control and relay panels & current transformers with control voltage 24V DC suitable for outdoor installation conforming to IS-13118/IEC-62271-100/2008 (Latest version) for circuit Breakers and as per the technical particulars described in Sec-III with one of the following alternates.			
	<i>i) Control Relay panel with 3 O/L &amp; 1 E/L IDMT Numerical Relays with high set Instantaneous elements For Feeder VCBs having 3 Nos. current transformers of ratio 400-200-100/1-1A</i>	300	2,38,969.79	7,16,90,937.00
	<i>ii) Control Relay panel with 3 O/L &amp; 1E/L IDMT Numerical Relays with auxiliary relays with 3 Nos. current Transformers of ratio: 600-300/1-1A for LV Control VCBs</i>	50	2,48,247.10	1,24,12,355.00
<b>Total</b>				<b>8,41,03,292.00</b>
<b>(Rupees Eight Crores Forty One Lakhs Three Thousand Two Hundred and Ninety Two Rupees only).</b>				

**NOTE:** The Breakup price of 11KV VCBs (Feeder & LV) with CTs & CRPs as indicated below:

Particulars	Feeder VCBs	LV VCBs
Ex-works Price	2,03,300.00	2,11,400.00
Excise Duty & Cess 12.36%	25,127.88	26,129.04
CST @ 2% against Form-C	4,568.55	4,750.58
Freight	5789.71	5776.56
Insurance	183.64	190.92
<b>Total Price/each</b>	<b>238969.78</b>	<b>248247.10</b>

4. **CONTRACT FORM:** The contract form in the prescribed Proforma is here with enclosed and requested to execute the agreement on stamp paper worth of `100/- duly signing and submit the same in token of acceptance of P.O. condition on Toto after P.O. with in one week.
5. **DELIVERY:-** The delivery shall commence within two months from the date of receipt of Purchase Order and shall be supplied as follows.

Month	Feeder Control VCB	LV Control VCB
30.05.2014	50	10
30.06.2014	50	10
30.07.2014	50	10
30.08.2014	50	10
30.09.2014	50	10
30.10.2014	50	-
<b>Total</b>	<b>300</b>	<b>50</b>

The Drawings furnished by you along with the Letter of Acceptance are hereby approved for starting manufacturing of the above materials.

- a). However you may advance the supplies to meet the urgent requirements of APNPDCL's works.
- b). Delay in delivery of materials free at destination stores due to non availability of transport facility and such any reasons will not be considered. It is the responsibility of the supplier to make alternate arrangements for transporting the materials, so as to see the Material reaches the destination within the stipulated period.

- c). The Company 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). Unloading of the materials at destination stores shall be APNPDCL's responsibility and any expenditure incurred for unloading is to APNPDCL's account only.
- e). The Company shall have the right to vary the ordered quantity by + or - 50% at any time during the execution of the order.
- 6. **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 from the 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.

The Performance Security will be,

- 1) A Bank Guarantee in the prescribed proforma issued by a Scheduled 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.
- 7. **PAYMENTS:** 100% Payment would be made through commercial bills of exchange HUNDI/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 (i.e., from the date of issue of Form-13) or approval of test certificates whichever is later subject to furnishing of Performance Security as per clause No. 6.

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

- NOTE:**
- i). 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.
  - ii) Any incidental charges such as stamp duty on such bills of exchange shall be to the supplier's account and any charges in relation thereto shall not be included in the bill submitted to the APNPDCL's Paying Officers through Bank.
  - iii). The bills of exchange along with the certified receipt of goods and the following documents of title to goods shall be sent by the supplier or his Bankers to the Paying Officer concerned who will accept to release the same.
    - a. Detailed packing list.
    - b. Detailed Invoice.
    - c. Form-13.
    - d. Test Certificate approval.

The bills of exchange will be paid on presentation by the supplier or his banker at the State Bank of Hyderabad, Hanamkonda who are Bankers of APNPDCL.

- iv). One additional copy of the each delivery challan, Form-13, Invoice and packing list shall be sent to CGM/P&MM/NPDCL, Warangal, immediately after delivery at destination stores. One copy of the Form-13 shall be sent to the CGM/P&MM/NPDCL along with other documents.
- v). According to the Negotiable Instrument Act the Bills of Exchange be presented to the drawee (Paying Officer) for his acceptance at the drawee's office during his business hours and if the drawee requires time for acceptance, 48 hours time (exclusive of holidays ) should be given to him for acceptance.

- vi). The performance guarantee to be executed in accordance with this Purchase Order shall be furnished on stamp paper of value of ₹100/-. The bank guarantee 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 6 months from the date of such replacement/ renewal or until the end of guarantee period whichever may be later.
- vii). If you have received any over payments by mistake or if any amounts are due to the APNPDCCL due to any other reason when it is not possible to recover such amounts under the contract resulting out of this specification, the NPDCL reserves the right to collect same from any other amounts and or bank guarantees given by you due to or with the NPDCL.
- viii). 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 A.P.NPDCL officers, the APNPDCCL 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.
8. **DISPATCH** : Please arrange to supply the materials specified herein and dispatch them by Lorry/Goods Train FREIGHT PAID to the persons and destination stores noted separately.
9. **ACKNOWLEDGEMENT** : The transport receipts 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 acknowledgement of receipts of the goods. A copy of the invoice shall also be sent to this office as soon as dispatch is made.
10. **LOSS OR DAMAGES** : a). You are responsible for the safe delivery of the goods in good 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 results of rough handling in transit or due to defective packing will be intimated within a fortnight of the receipt of the materials. Internal defects, damages or shortages of any internal parts which cannot ordinarily be detected on superficial visual examination though due to bad handling in transit or defective packing would be intimated within 2 months from the date of receipt of these articles. In either case, the damaged or defective materials should be replaced by you free of cost to the APNPDCCL.
- c). If no steps are taken within 15 days of receipt of intimation of defects or such other reasonable time as the APNPDCCL may deem proper to afford, the APNPDCCL may without prejudice to its other rights and remedies cause to be repaired or rectified the defective materials or replace the same and recover the expenditure incurred therefore from the deposits such as Earnest Money, Security Deposit and Performance or other monies available with the APNPDCCL or by resorting to legal action and also decline to accept further delivery of materials/ equipment.
- Whether plant/ machinery or other materials supplied by you is found 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 defects or to replace the defective materials free of cost.
- d). The defective portions or whole of the plant/ machinery or other materials so replaced or renewed should give satisfactory performance till the expiration of 6 months (six) from the date of such replacement or until the end of guarantee period whichever is later.

- e). For the purpose of any legal construction, the materials shall be deemed to pass into APNPDCL's ownership only, at the destination Stores where they are delivered and accepted.
- f). The APNPDCL reserves the right, apart from the above said provisions, not to accept further despatches of materials and the connected bills etc. under conditions of your continued negligence to rectify repair or replace any equipment or materials supplied earlier and received in damaged condition or failed during the guarantee period or not conforming to the Purchase Order/ specification conditions.

**11. SPECIAL GUARANTEE:**

- i) The Circuit Breakers (total equipment including control and relay panel and CTs) shall be guaranteed for satisfactory operation for a period of 5 years (five years) from the date of receipt at stores.
- ii) All similar materials or removable parts of similar equipment shall be interchangeable with each other.

- ii). Please note that you shall rectify or replace the defective materials within 15 days of receipt of intimation of defects or such other reasonable time as the APNPDCL may deem proper to afford failing which payment to the extent of failed units will be deducted from the Bills/ subsequent bank guarantee.

- 12. DEFECTIVE SUPPLIES:** If, during the guarantee period, any of the materials/goods are found to be defective in materials or workmanship, they shall be replaced by the firm at free of cost. Apart from such liability firm is liable for criminal prosecution as per law of the land.

- 13. PENALTY FOR LATE DELIVERY :-** i). General : The delivery of materials/ Equipment as per the agreed schedule of delivery is the essence of the contract.

- ii). 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 (1/2%) 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.

- iii). Materials/ Equipment which are not of acceptable quality or not conforming to specification would be deemed to be not delivered.
- iv). In case of supplier who has not adhered to the delivery schedule APNPDCL reserves the right to Purchase the balance quantity from the open market and recover the extra expenditure thus incurred from the supplier. This is in addition to the rights of the APNPDCL mentioned in the first & second paras of this clause.

- 14. REMOVAL FROM VENDOR LIST:-** A registered vendor will be removed from the list.

- i. If its delivery and quality performances are not up to the mark.
- ii. If the equipment / material is found not in conformity with the guaranteed technical particulars during the service.
- iii. Fails to furnish the income tax clearance certificate as required under the rules.

15. **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:

- 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 there of granted by the purchaser.
- ii. If the supplier fails to perform any other obligations(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.

“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:”.

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, lockouts, riots freight embargoes and provided that you shall within ten (10) 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 would not be levied for this period.

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 contract.

18. **INSPECTION :-** The accredited representative of the APNPDCL shall have access to you or your sub-contractor’s works at any time during working hours for the purpose of inspecting the materials during manufacturing of the plant and equipment and testing and may select test samples from the materials going into plant and equipment.

You shall provide the facilities for testing such samples at any time. As soon as the materials are ready, you shall duly advise the APNPDCL and carryout the tests before the representative of the APNPDCL. The despatch shall be affected only if the test results comply with the specification. The despatches shall be made only after the inspection by the APNPDCL officer is completed to APNPDCL satisfaction or such inspection is waived by this office.

The APNPDCL may at its option get the materials inspected by a third party along with a APNPDCL’s representative if it feels necessary the inspection charges shall be borne by you

19. **TEST CERTIFICATES:** The latest certificates containing the results of the tests as per IS-13118/IEC-62271-100/2008 (Latest version) for circuit Breakers and IS-2705 (Latest Version) for CTs must be submitted to the Chief General Manager, (P&MM), APNPDCL, Warangal- 506 001 and got approved by him before sending bills for payment which will not be paid unless these are approved (vide Clause-7).

20. **GUARANTEED TECHNICAL PARTICULARS:** The technical particulars as per Annexure - I to V have been guaranteed by you for the supplies against this order. They shall also confirm to IS-13118/IEC-62271-100/2008 (Latest Version) for circuit Breakers and IS-2705 (Latest Version) for CTs.
21. **DISPATCH INSTRUCTIONS:** All the materials detailed in clause 3 must be consigned and dispatched as per the dispatch instructions to be issued after completion of inspection and the bills shall be sent to as follows:

To be sent to the APNPDCL's Stores at	Materials to be consigned and dispatched to ADE/District Stores/ NPDCL	Paying Officer to whom bills & RR to be sent to Accounts Officer/ Expr., O/o.SE/OP.
Warangal	Warangal	Warangal
Karimnagar	Karimnagar	Karimnagar
Khammam	Khammam	Khammam
Nizamabad	Nizamabad	Nizamabad
Nirmal	Nirmal	Adilabad

22. **PACKING :** i). The packing may be in accordance with the manufacturer's standard practice unless otherwise specified. You should however ensure that the packing is such that the equipment reach the departmental stores without damages after transport by Road. The packing should withstand 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 same to the consignee and obtain his acknowledgement 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 SLIP**

1. Purchase Order No. and Date.
  2. Qty. allotted to the stores and rate applicable.
  3. Qty. so far supplied to the stores and rate applied.
  4. Qty. now supplied and rate applied.
  5. Total qty. supplied under the Purchase Order with rates applied.
  6. Program for supplying the balance quantity to the stores.
- iii). You shall invariably send to the Purchasing Officer a copy of the delivery challan whenever materials are dispatched.

23. **NOTE:** It may be noted that.
- a). Prices cited are FIRM, Free at Destination Stores and as noted in Clause-2.
  - b). The ownership of the materials would rest with you till they are all received at destination in good condition.
  - c). Railway/Freight charges should be prepaid.
  - d). The materials may be duly insured at your cost
  - e). Any component/components omitted to be specified in this order, but were specified in your quotation/further clarification shall have to be incorporated and supplied.
  - f). Interchangeability : All similar materials and removable parts of similar equipment shall be interchangeable with each other.
  - g). **Name Plate :** The equipment shall be marked with your trade mark, Sl.No and the year of Manufacturer. The Purchase Order No. and date and year of supply and the words "APNPDCL" must be etched on the name plate.
  - h). The unloading charges at the stores shall be to APNPDCL's account.

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24. **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/P&MM/ NDPCL/ Warangal.
- iii) All correspondence regarding bills, payments, etc. should be addressed to the Accounts Officer, Expenditure O/o Superintending Engineer, Operation, Warangal, Karimnagar, Khammam, Nizamabad & Adilabad for supplies made respectively at District Stores, Warangal, Karimnagar, Khammam, Nizamabad & Nirmal.
- iv) Unless otherwise specified, you shall abide by all the terms and conditions as per tender specification OT-29/13-14.
- v) Please return within a period of 7 days one copy of the Purchase Order duly signed in token of acceptance of all the terms and conditions of this order.
- vi) All and any disputes or differences arising out of or touching this order shall be decided only by Courts or Tribunals situated in Warangal/ Hanamkonda. No suit other legal proceedings shall be instituted elsewhere.

**Yours faithfully,**

**Encl: 1. GTPs, Drawings & Contract form.  
2. Clause No.VI - Schedule of Equipment.**

**Chief General Manager,  
P&MM/NPDCL/Warangal.**

We accept al the terms & conditions of this order.

**SIGNATURE OF THE SUPPLIER.**

**Copy communicated to**

The Chief General Manager/ Finance/ NPDCL/ Warangal.

**Copy to:**

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

The Divisional Engineer/M&P/ WGL, KNR, KMM & NZB.

The Divisional Engineer/MRT/ Mancherial & Nirmal.

The Accounts Officer/ Expr./,O/o. SE/OP./ WGL, KNR, KMM, NZB & ADB.

The Asst. Divisional Engineer/Dist. Stores/ WGL, KNR, KMM, NZB & Nirmal.



## **VI. SCHEDULE OF EQUIPMENT**

### **1. CIRCUIT BREAKERS :**

Vacuum Circuit Breaker complete with suitable painted steel support structure (with anchor bolts & nuts) for mounting 1 No. circuit breaker - 3 poles. Mechanism box, control and relay panel and Current Transformers.

- Note :**
1. Earth strips as per IS shall be provided for proper earthing of equipments.
  2. EARTH BAR OF COPPER (SUITABLE FOR TERMINATION OF 2 NOS. 40 X 6 MM FLATS) SHALL BE PROVIDED ON CIRCUIT BREAKER SUPPORT STRUCTURE.
  3. Connecting Cable from Breaker to Control panel and Breaker to CTs are to be provided.
  - 3 (i) For feeder breakers, cable from Breaker to CTs - 4 Core Cable of 5 mtrs length from each CT, i.e., 15 mtrs/ Breaker and from Breaker to control panel 10 Core cable of **15 mtrs length**.
  - 3 (ii) Size of interconnection cable from breaker terminal, CTs terminal to control relay panel is 2.5 Sq.mm. PVC copper control cable (un-armored).

### **2. MECHANISM BOX CONTAINING :**

- a) Operating mechanism
- b) Mechanical indicator for "ON" and "OFF" coupled to the Circuit breaker operating mechanism.
- c) Mechanical close and trip (with protective flap) lever/push button.
- d) Terminal blocks for control wiring and a spare terminal block (with 20% of the active terminals) (preferably nut & bolts type).
- e) Operation Counter.
- f) Operating handle for manual charging of springs and for slow closing.
- g) 2 Nos. cable glands over and above those provided for control cables with suitable dummies.
- h) Not less than 6 numbers normally open and 6 normally closed spare auxiliary contacts over and above those required for normal operation.
- i) 250 V single phase AC Motor/Manual operated spring charging mechanism complete with electrical spring release coil, 2 Nos. shunt trip coil and 1 No. closing coil.
- j) Local - Remote selector switch.
- k) Earth bar (suitable for termination of 2 Nos. 50 x 6 mm class)
- l) 6 Nos. Terminal connectors suitable for panther conductor for incoming and outgoing connectors.
- m) Set of 2 pole MCBs for AC and DC supply with different colours.
- n) 1 No. of anti-pumping relay.

### **3. CONTROL AND RELAY PANEL :**

Weather proof vermin proof control and relay panel **shall be either structure mounted/floor mounted** having equipped as follows :

3½ Digit LED Display CT operated digital **A.C. Ammeter with Class of Accuracy 0.5** to suit the CT ranges indicated in Section-IV Schedule of materials of Size (96x96) mm.

*Contd...2*

One ammeter selector switch with “R”, “Y”, “B”, “Neutral” and “OFF” position.

One Heavy duty Pistolgrip type Control Switch for VCB trip/Neutral/Close positions with spring return to neutral position.

One Red LED and one Green LED indicating lamps for indicating close and open positions respectively.

One Yellow lamp for healthy trip indication with push button control.

One white lamp for spring charged indication.

One amber Lamp for auto-trip indication.

Note: All indication lamps shall be of LED type of voltage of 24V DC.

One 3 phase 4 wire static HT Trivector CMRI Compatible as per NPDCL standards 0.2S Class of accuracy suitable scaled to work on 110V AC 50 Hz 1 Amp to suit the CT ranges indicated in Section-VII Schedule of materials. For 11KV Feeder VCBs; HT Static Trivector Meters as per Annexure are to be provided.

Numeric Relays shall be with the following features.

- a) IDMT relay with 3 poles arranged for O/L and one pole for E/L
- b) IDMT relay with **3 poles arranged for O/L and one pole for E/L** and with high set instantaneous elements for high fault currents for 11KV feeder control VCBs.
- c) Master trip relay of 24V DC or equivalent fact acting shall be provided (Hand Reset type).

Two Nos. cable glands over and above those provided for control CT, PT, Control Circuit cables and auxiliary supplies (AC&DC) with suitable dummies.

3 ½ Digit LED Display digital A.C. Voltmeter with selector switch for 11KV Feeder control VCBs, size 96 x 96 Sq.mm.

DC fail Supervision relay and Trip circuit Supervision(Pre and Post close) relays shall be provided for each trip coil.

One set alarm bell and push button for acceptance of alarm. Audio alarms shall be static Hooters.

Necessary LT Fuses/MCBs for Control Circuit. Set of fine wiring with ferrules with standard code number of respective terminals and with suitable terminal connectors.

250 V three pin socket with plug & switch.

3Ph 4 wire Test terminal block with CT and PT terminals with links for testing ammeter and energy meter.

Stud terminal blocks (Bolt and nut type) for CT and PT control cables suitably wired with 6 Nos. spare terminals.

*Contd...3*

One suitable copper earth strip of 12 x 3 mm size with adequate number of holes with suitable nuts and bolts.

- 1 No. push button for Trip Circuit healthy check-up.
- 1 No. plug point with switch (10A, 250 VAC)
- 1 No. Illuminator lamp with switch (40W, 250 VAC)
- 1 No. panel space heater with heater switch thermostat.
- 1 No. 24V DC LED for DC Healthy

- NOTE :
1. All the instruments and relays to be provided on control panel shall be flush mounted unless otherwise specified. The relays are to be worked on 1 amp secondary current of CTs and with DC Voltage of 24V DC.
  2. All the indicating meters (Ammeter, Voltmeter) shall be of 96 x 96 size or standard size
  3. Auxiliary supply for voltmeter and Ammeter should be 110V AC.
4. CURRENT TRANSFORMERS. Three numbers outdoor CTs as specified.
- a) . Terminals connectors suitable for panther ACSR conductor for 11KV shall be supplied for Circuit Breaker (6 Nos.) and CT terminals (6 Nos.)
  - b) Suitable interconnection cable from breaker terminal, CTs terminal to control relay panel is 2.5 Sq.mm. PVC copper control cable (un-armored) are to be provided.
  - c) Cables from circuit breaker and CTs to control panel shall be provided. As specified in Schedule of equipment.

**Note :** Other standard accessories which are not specifically mentioned but supplied with breakers of similar type and rating for efficient and trouble free operation shall be provided.

**Chief General Manager  
P&MM/ NPDCL/ Warangal**