



TRANSMISSION CORPORATION OF TELANGANA STATE LIMITED

VIDYUT SOUDHA :: HYDERABAD

(Website:TSTransco.in. CIN No.U40102TG20148SGC094248)

From
The Chief Engineer/P&MM,
TSTransco,
VidyutSoudha,
Hyderabad – 500 082

To
M/s. SPM Power & Telecom Pvt. Ltd.,
Plot No. A-28/1/12,
I.D.A. Nacharam,
Hyderabad-500076
Mob.No.+91-9652528320
Email: info@spm cables.in

SAP.PO.No.4500003095/CE(P&MM)/SE(P&MM)/DE11/TSPMM11-01/2022/D.No.17 /2022,
Dt:21.04.2022

Sirs,

Sub: Tender Specification No. TSPMM11-01/2022 - Supply of Item I: 27.95kM - 2C×2.5Sqmm & Item II: 38.30kM- 4C×2.5Sqmm unarmoured Copper control cable - Detailed Purchase Order - Issued – Reg.

Ref: 1. Tender Specification No. TSPMM11-01/2022 on e-procurement platform.
2. LoI No. CE(P&MM)/SE(P&MM)/DE11/TSPMM11-01/2022/F:2C&4C Cable/D.No.57/2021, Dt:11.03.2022
3. Your Lr No. SPMPTPL/TSTransco/2021-22/01, dt:22.03.2022

I, acting for and on behalf of and by the order and direction of TRANSMISSION CORPORATION OF TELANGANA LIMITED (herein after called the 'TSTransco), accept your offer against Tender Specification under ref (1) cited, for supply of Item I: 27.95kM - 2C×2.5Sqmm & Item II: 38.30kM- 4C×2.5Sqmm unarmoured Copper control cable detailed in clause (2) below, with the terms and conditions as per the Tender Specification No TSPMM11-01/2022, set out in this order. This Purchase Order is in confirmation of Letter of Intent issued vide ref (2) cited, accepted by you vide ref (3) cited.

1. SCOPE OF CONTRACT:

This contract relates to the supply of Item I: 27.95kM -2C×2.5Sqmm & Item II: 38.30kM- 4C×2.5Sqmm unarmoured Copper control cable and covers design, manufacture, testing before dispatch and delivery free at destination substations/ stores (FADS).

2. SCHEDULE OF EQUIPMENT & PRICES:

This contract covers design, engineering, manufacture, stage testing, inspection and testing before dispatch, packing & forwarding and delivery free at destination substations/ stores (FADS) of 2C & 4C 2.5Sq.mm PVC insulated and sheathed copper control cables for use on AC single phase or three phase (earthed or unearthed) systems of rated voltages up to and including 1100 V or DC systems of rated voltages up to and including 1500 V to earth specified as detailed in the Technical Specification as per the price break-up indicated below:

. All Financial Figures are in Rs.

| Sl. No. | Description | Item I:27.95kM-2Cx 2.5Sqmm unarmoured Cu. control cable | Item II: 38.30kM-4Cx2.5Sqmm unarmoured Cu. control cable |
|---|---|---|--|
| | | (HSN Code:8544) | |
| 1 | Ex-Works | 49,510.00 | 91,510.00 |
| 2 | Packing & Forwarding | 0.00 | 0.00 |
| 3 | Freight | 1000.00 | 1000.00 |
| 4 | Insurance | 100.00 | 100.00 |
| 5 | Total Taxable Unit Rate | 50,610.00 | 92,610.00 |
| 6 | GST (9% SGST + 9% IGST) @ 18% on Ex-Works+ Freight+Insurance | 9109.80 | 16,669.80 |
| 7 | Unit FADS Price including Taxes | 59719.80 | 1,09,279.80 |
| 8 | Quantity (kM) | 27.95 | 38.30 |
| 9 | Total Amount | 16,69,168.41 | 41,85,416.34 |
| | Grand Total in Rs. | 58,54,584.75 | |
| Rupees Fifty Eight Lakh Fifty Four Thousand Five Hundred Eighty Four and Seventy Five paisa only | | | |

- The price of Copper control cable is variable as per IEEMA with a ceiling of +50% and no ceiling on negative variation. The date of bid opening is 07.02.2022. The base indices will be as prevailing on 01.01.2022. The applicable IEEMA PVC formula is indicated in Annexure-I.
- The price is inclusive of all incidental charges such as Packing, Forwarding, Handling, Loading, Unloading and other incidentals and it is your responsibility for insurance, transportation and delivery including unloading, stacking of the materials at destination site/stores.
- Freight & Insurance will be reimbursed on submission of documentary proofs only.
- The dispatch of equipment is by road only. The transit insurance shall be at least for an amount equal to 100% of the cost of the goods and include storage cover for 45 days at stores/site.
- It is to note that the prices are with the present rate of SGST @ 9% and CGST @ 9% on the total of Ex- Works, Freight and Insurance.
- TCS at prevailing rates is applicable on any payment made, if company's aggregate sales consideration during the relevant financial year exceeds Rs.50 Lakhs and total sales, gross receipts or total turnover including GST if any exceeds Rs.10 Crores in the financial year immediately preceding the financial year of subject sales.

The payment of TCS shall be subject to furnishing of necessary documents. The stipulated conditions are to be verified by the DDOs while processing the bills.

The PAN No. of TS TRANSCO is AAFCT0166J.

- g. TSTransco shall have the right to vary the ordered quantity by $\pm 50\%$ at any time during the execution of the order.
- h. It may be noted that sale of "TSTRANSCO" indented/ printed/ embossed Copper Control cable to others without prior permission from this office is strictly prohibited.
- i. Any variation up or down in statutory levy or new levies introduced after Tender calling Date will be to the account of TSTransco, provided that in cases where delivery schedule is not adhered to by the supplier and there are upward variation / revision after the agreed delivered date, the supplier will bear the impact of such levies and if there is downward variation / revision, TSTransco will be given credit to that extent.
- j. If any payment is made erroneously, TSTransco reserves the right to recover the same from your future bills/BGs.
- k. The cable shall be supplied in single continuous standard lengths as per Guaranteed Technical Particulars (GTP). The desired drum length shall be 1000 metres $\pm 10\%$ for 2/4 core control cables. The overall quantity tolerance shall be $\pm 5\%$ for each size.

3. DELIVERY:

To supply total quantity within two months from the date of Letter of Intent.

4. PERFORMANCE SECURITY:

Performance Security shall be furnished in the name of TSTransco for an amount of 10% of the contract value (i.e.) Rs. 5,85,458.50 for proper fulfillment of the contract, which will include the warranty period and completion of performance obligations including Warranty obligations. The Performance security will cover 60 days beyond the date of completion of performance obligations including Warranty obligations.

In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material will be extended to a further period of 12 months and the Performance Bank Guarantee for proportionate value will be extended 60 days over and above the extended warranty period. The proceeds of the performance security will be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

The performance security will be...

- (a) A Bank Guarantee issued by State Bank of India or its associate Banks/Nationalised Banks acceptable to the Purchaser, in the form provided in the bidding documents.
- (b) A banker's cheque or crossed DD or Pay Order payable at the head quarter of the Purchaser in favour of the Pay officer drawn on any scheduled Bank.

It is entirely your responsibility to extend the validity of this Bank Guarantee to cover the period of guarantee well before its expiry.

5. PAYMENT:

- a) 100% payment will be arranged through PFC/REC/Banks/TSTRANSCO/Bulk Load funds within 45 days reckoned from the check-measurement date in Form-13.
- b) For payment through Real Time Gross Settlement (RTGS) the details of Bank Account are as below:

| | | |
|------|------------------|---|
| i) | Name of the Bank | HDFC Bank Ltd. |
| ii) | Branch Address | Plot No.78/A, Sterling Grand CVK, West Marredpally, Secunderabad- 500 026 |
| iii) | Branch Code | 0000377 |
| iv) | City | West Marredpally, Secunderabad |
| v) | Account No. | 50200021043925 |
| vi) | MICR Code | 500240012 |
| vii) | IFSC Code | HDFC0000377 |

- c) The 100% payment mentioned above is subject to submission of performance security by the supplier as per clause (4) above.
- d) The supplier should invariably submit acceptance and routine test certificates and other documents the purchaser specifies before the dispatch is made so that they can be checked and approved well in advance.
- e) The performance guarantee shall be furnished on a stamp paper of value Rs.100/-. The Bank Guarantee will be extended if required suitably in accordance with the provisions of Performance Security clause of the specification.
- f) If the supplier has received any over payments by oversight or if any amounts are due to the TSTransco due to any other reasons, when it is not possible to recover such amounts under the contract resulting out of this specification, TSTransco reserves the right to collect the same from any other amount due to the supplier and / or Bank Guarantees given by the company due to or with TSTransco.

- g) When the supplier does not at any time, fulfill his obligations in replacing / rectifying etc. the damaged / defective materials in part or whole promptly to the satisfaction of the TSTransco Officers, TSTransco 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, wharfages or damage occurring to the consignments so dispatched.
- h) Any incidental charge such as stamp duty, bank charges etc., shall be to the Supplier's account and any charges in relation there to shall not be included in the bills submitted to TSTransco's Paying Officer through Banks.
- i) All payments will be made in non-convertible Indian Rupees.
- j) The Bank details as above are final and shall not be revoked under any circumstances.

6. RESPONSIBILITY OF THE SUPPLIER FOR LOSS/DAMAGE:

- a) The supplier is responsible for the safe delivery of the goods in good condition at the destination. He should acquaint himself of the conditions 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 a superficial visual examination will be intimated subsequently.

In either case, the defective or damaged materials should be replaced by the supplier free of cost to the TSTransco. If no steps are taken within 15 days of receipt of intimation of defects or such other reasonable time as the TSTransco may deem proper to afford, TSTransco may without prejudice to its other rights and remedies cause to be repaired or rectified the defective material or replace the same and recover the expenditure incurred there for from the deposit such as Earnest Money, Security and Performance or other monies available with TSTransco or by resorting to legal action.

- c) For the purpose of any legal construction, the material shall be deemed to pass into TSTransco's ownership only at the final destination where they are delivered and accepted.

7. PENALTY FOR LATE DELIVERY:

- a) The delivery period as per agreed delivery schedule shall be deemed to be the essence of the contract. In case of delay in delivery of materials beyond the agreed delivery schedule or to perform the services within the period specified in the contract whatever be the reason the TSTransco may at its option, demand and recover from the supplier from the contract price, as liquidated damages, a sum equivalent to 0.5% per week on the value of the undelivered portion subject to a maximum of 5% of total value of contract.
- b) For penalty, the number of days of delay would be rounded off to the nearest week and penalty calculated accordingly.
- c) Equipment which is not of acceptable quality (or) not confirming to specification would be deemed to be not delivered.
- d) The penalty specified will be levied and would be adjusted against subsequent pending bills.
- e) The check measurement date in Form-13 i.e., the date of receipt of material at the destination stores in good condition will be taken as date of delivery.

8. FORCE MAJEURE:

- a) The Supplier will not be liable for forfeiture of its performance security, penalty for late delivery or termination for default if and to the extent that it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- b) For the purpose of this clause 'Force Majeure' means an event beyond the control of the Supplier and not involving the Suppliers' fault or negligence and not foreseeable. Such events may include but are not restricted to wars or revolutions, fires, floods, epidemics, earth quakes, Tsunami, quarantine restrictions and freight embargoes.
- c) If the Force Majeure situation arises, the supplier will promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier will continue to perform its obligations under the Contract as far as is reasonably possible, and will seek all reasonable alternative means for performance not prevented by the Force Majeure event.

9. TERMINATION FOR DEFAULT :

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

- i) If the Supplier fails to deliver any or all of the Materials/equipment within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser.
 - ii) If the supplier fails to perform any other obligations 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.
- b) In the event the Purchaser terminates the Contract in whole or in part, the Purchaser may procure, upon such terms and in such manner, as it deems appropriate, Materials/equipment or services similar to those undelivered and the Supplier will be liable to the Purchaser for any excess costs for such similar Materials/equipment or Services. However, the Supplier will continue performance of the Contract to the extent not terminated.

10. TERMINATION FOR CONVENIENCE:

- a) The Purchaser, by written notice sent to the supplier may terminate the contract, in whole or in part, at any time for its convenience. The notice of termination is for the Purchaser's convenience, the extent to which performance of the supplier under the contract is terminated, and date upon which termination becomes effective.
- b) However the materials/equipment that are complete and ready for shipment within thirty (30) days after the supplier's receipt of notice of termination will be accepted by the Purchaser at the contract terms and prices.

11. TERMINATION FOR INSOLVENCY:

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

12. WARRANTY:

The equipment/ material shall be guaranteed for satisfactory performance for a period of 18 months from the date of receipt of material/equipment at destination site/ TLC stores in good condition against defects proved to be due to faulty design of material/ workmanship. If during this period, any of the material is found defective they shall be repaired or replaced by you free of all costs to the TSTransco. To and fro freight charges shall also be to your account only.

13. TAXES:

Taxes as indicated in the price schedule at paragraph (2) are applicable. You shall agree, that if, at any time, any GST reported to have been paid has not been paid, or a lesser amount has been paid, or on subsequent adjudication or appeal or revision it is decided that a lesser amount is payable, you shall refund such amounts irrespective of time lag.

14. STATUTORY VARIATIONS:

Any variation up or down in statutory levy or new levies introduced after signing of the contract under this specification will be to the account of TSTransco, provided that in cases where delivery schedule is not adhered to by the supplier and there are upward variation/ revision after the agreed delivered date, the supplier will bear the impact of such levies and if there is downward variation / revision the TSTransco will be given credit to that extent. Statutory variation if any allowed, it is allowed only once during delivery period, i.e. at the time of delivery of goods at factory. In case of sub-vendor items, taxes & duties are inclusive in tender price and no statutory variation is applicable.

In cases where the bidder assumes less tax rates and become lowest, upward variation of taxes will not be considered. In case of the bought out items for which the prices are quoted all inclusive of taxes, statutory variation shall not be applicable.

15. DISPATCH INSTRUCTIONS:

The dispatch instructions for the equipment will be furnished separately on satisfactory scrutiny of acceptance test certificates. The prices indicated in clause (2) above shall remain unaltered whatever be the destination.

16. INSPECTION:

After completion of manufacture of the equipment/ material, routine tests shall be performed as per relevant standards and requisite copies of test certificates shall be furnished to the purchaser. Various components of the equipment shall be routine tested in accordance with approved standards and manufacture standards.

As soon as the material/ equipment are ready the supplier will duly send intimation to TSTransco by post/fax and carry out the tests in the presence of the representative of TSTransco. The Supplier shall give at least 15 days advance intimation to enable the Purchaser to depute his representative for witnessing acceptance and routine tests. All charges in connection with inspection shall be borne by the supplier.

The equipment should not be dispatched without final inspection of the tests, approval of test certificates and issue of specific dispatch instructions or specific waiver thereof from this office. The equipment shall reach the destination store/site within three weeks of issue of Dispatch Instructions.

17. CONTRACT DRAWINGS:

Approval by TSTransco to the supplier's drawings shall not relieve the supplier of his responsibility for correctness thereof or from results arising out of error or omission therein or from any obligation or liability under the contract. Any supplementary drawings necessary to permit the complete design of the installation prior to receiving the equipment shall also be supplied. Within two weeks of approval, six sets of all approved drawings and soft copy of drawings shall be furnished. One set of drawings and instruction manuals along with soft copy shall be sent along with each equipment at the time of dispatch. Copies of the drawings and manuals shall also be sent to other offices as indicated below.

| | | |
|------------------------------|---|--|
| Consignee | : | One set of approved drawings per consignee |
| Concerned Executive Engineer | : | Two Sets |
| To this office | : | Six sets. |

18. ERECTION, OPERATION & MAINTENANCE MANUALS:

Erection, operation and maintenance manuals along with soft copy shall be supplied as per distributions given below giving detailed instructions with illustrations along with the equipment. They shall contain clear recommended schedule of maintenance for the guidance of the operating staff. Any items requiring the special attention of the operation engineer should be highlighted.

| | | |
|------------------------------|---|-------------------------|
| Consignee | : | One set per consignment |
| Concerned Executive Engineer | : | Two sets |
| To this office | : | Six sets |

These shall be sent to the Divisional Engineers / Executive Engineers concerned.

19. COMPLETENESS OF CONTRACT:

All minor accessories that are normally necessary for satisfactory and efficient operation of the equipment shall be supplied by you free of cost to the TSTransco whether these are specifically mentioned or not in the specification, your tender schedules or in this purchase order and the equipment shall be complete in itself.

20. GENERAL CONDITIONS OF CONTRACT:

Except in so far as it is provided otherwise in this contract, you shall abide by the terms and conditions appended to the specification. Except as specifically accepted in this order the terms and conditions mentioned in your quotation under reference are not accepted.

21. RISK:

The risk in the property is entirely yours till the goods are received in good condition at the destination.

22. IDENTIFICATION, PACKING & MARKING:

a) Manufacturer's Identification:

The manufacturer shall be identified throughout the length of the cable by means of a tape bearing the manufacturer's name or trade mark, by being indented, printed or embossed on the outer sheath of the cable.

b) Cable Identification:

i) The words "TSTRANSCO" shall be indented, printed or embossed throughout the length of the cable at frequent intervals (not more than one metre in any case) on the outer sheath.

ii) Cumulative Length of the Cable in metres shall be indented, printed or embossed throughout the length of the cable starting from '0' at each interval of one metre length.

c) Drum Marking: The Cable drum shall be duly 'IS' marked and carry the following details:

- i) Reference to the 'IS'
- ii) Manufacturer's name, brand name, trade name; Purchaser's name
- iii) Type of cable and Voltage grade
- iv) Number of cores
- v) Nominal cross-sectional area of the conductor (Sq.mm)
- vi) Cable code.
- vii) Colour of cores
- viii) Length of the cable on the drum (meters)
- ix) Direction of rotation of drum by means of arrow.
- x) Approximate gross mass (Kg.)
- xi) Running end of cable
- xii) Country of manufacturer
- xiii) Year of manufacturer.
- xiv) Standard mark.

23. PACKING:

Each of the material/equipment shall be securely packed separately in such a manner as to withstand rough handling during rail and road transit up to site and as per latest IS/BSS/IEC.

24. TESTS & TEST CERTIFICATES:

All routine tests in accordance with relevant ISS/BSS/IEC specifications shall be conducted on the equipment. You shall intimate this office at least 15 days in advance as to the date when you propose to conduct the acceptance tests for deputing TSTransco's representative to witness the tests. Three copies of the test certificates containing the results of all the acceptance tests along with routine tests carried out shall be furnished for approval.

The test certificates shall be submitted immediately after the tests are conducted and got approved before the equipment is dispatched.

25. MATERIAL & WORKMANSHIP:

All the materials shall be of the best class and shall be capable of satisfactory operation in the tropics under service conditions without distortion or deterioration. No welding or filling or plugging of defective parts shall be permitted, unless otherwise specified they shall conform to the requirement of the appropriate Indian, British or American standards (where a standard specification covering the material in question has not been published the standards of the American society for testing of materials should be followed).

The entire design and construction shall be capable of withstanding the several stresses likely to occur in actual services and of resisting rough handling during transport.

26. INSURANCE:

The Materials / equipment supplied under the Contract will be fully insured against loss or damage incidental to manufacture or acquisition, transportation and delivery and also storage for 45 days at destination stores / site.

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

The documentary proof towards insurance shall be submitted while transporting the material/equipment to the purchaser's destination.

27. INTERCHANGEABILITY (Not applicable for Cables):

All similar equipment and removable parts of similar equipment shall be interchangeable with each other.

28. SPARES:

Not applicable.

29. PROGRESS REPORTS:

You shall furnish the program of works and progress reports on the manufacture of equipment to this office every month in triplicate till the supplies are completed.

30. CORRESPONDENCE:

- a) Your acknowledgement of this order and all correspondence of general or technical nature shall be addressed to the Chief Engineer/P&MM, TSTransco, Vidyut Soudha, Hyderabad –500 082.
- b) All correspondence regarding dispatches, payments and any other field matters shall be addressed to the concerned paying officer. Copies of such correspondence shall be marked to the concerned Superintending Engineer and to the Chief Engineer/P&MM, TSTransco, Vidyut Soudha, Hyderabad – 500 082. Copies of the correspondence

regarding payments should also be marked to the Executive Director/Finance, TSTransco, Vidyut Soudha, Hyderabad – 500 082.

31. JURISDICTION:

All and any disputes or differences arising out of or touching this order shall be decided only by courts or tribunals situated in Hyderabad or Secunderabad cities. No suit or other legal proceedings shall be instituted elsewhere.

33. ACKNOWLEDGEMENT:

Please acknowledge the receipt of this purchase order with your confirmation of its acceptance by you and the extra copy enclosed may please be returned with your signature in token of your acceptance.

Encl: Annexure-I &
Annexure-II (GTP)

Yours faithfully,
SD/-

Chief Engineer/P&MM
(Acting for and on behalf of TSTRANSCO)

WE ACCEPT THE TERMS AND CONDITIONS OF THIS PURCHASE ORDER

**SIGNATURE OF THE CONTRACTOR
WITH SEAL AND DATE**

Copies to:

The Executive Director/Finance/ TSTransco /Vidyut Soudha/Hyderabad.

The Chief Engineer/Transmission/TSTransco/Vidyut Soudha/Hyderabad.

The Superintending Engineer/Transmission/ TSTransco /Vidyut Soudha/Hyderabad.

The SAO/Pay & accounts/ TSTransco /Vidyut Soudha/Hyderabad along with Form-40.

The Superintending Engineer/OMC/Metro-Central/ TSTransco /2nd Floor,132kV NIMS GIS SS premises/ Erramanzil/Panjagutta/Hyderabad -82

The SAO/Metro-Central /TSTransco /2nd Floor, 132kV NIMS GIS SS premises/ Erramanzil/ Panjagutta/Hyderabad -82.

The Divisional Engineer/Transmission &Stores/Metro/Erragadda/ Hyderabad, 500 045.

Copy of this PO is available on <http://tgto.telangana.gov.in/>

This order is placed against the indents indicated below:

| Sl. No. | Indent Details | 2C*2.5Sqmm Cu Control Cable in KM | 4C*2.5Sqmm Cu Control Cable in KM |
|---------|--|---|---|
| 1 | CE(Tr)/DE-SS/ADE-3/D.No.593/20, dt: 19.01.2021 (Shifting of 33kV Bus and 33kV feeder bay at 132/33kV Sirpurkagaznagar SS. | 0.5 | 0.5 |
| 2 | CE(Tr)/DE-SS/ADE-2/D.No.644/20, dt: 08.02.2021 (Augmentation at 132kV SS Mylardevpally) | 0.5 | 1 |
| 3 | CE(Tr)/DE-SS/ADE-3/D.No.649/20, dt: 13.02.2021 (replacement of old equip at 132/33kV Manoharabad SS) | 0.5 | 1 |
| 4 | CE(Tr)/DE-SS/ADE-3/D.No.789/20, dt: 31.03.2021 (Shifting of 6Nos. 33kV feeders at 220kV Shivarampally SS) | 3 | 2 |
| 5 | CE(Tr)/DE-SS/ADE-2/D.No.34, dt: 19.04.2021 (Augmentation at 132kV Pashmailaram SS) | 0.8 | 1.3 |
| 6 | CE(Tr)/DE-SS/ADE-2/D.No.74/21, dt: 30.04.2021 (Erection of 1Nos. New bays for TSNPDCL at 132kV SS Dasnagar DC work) | 0.1 | 0.05 |
| 7 | CE(Tr)/DE-SS/ADE-2/D.No.75/21, dt: 30.04.2021 (Erection of 1Nos. 33kV bays for BTPS Pump House at 220kV SS Manuguru DC work) | 0.2 | 0.3 |
| 8 | CE(Tr)/DE-SS/ADE-2/D.No.76/21, dt: 30.04.2021 (Erection of 4Nos. New bays for TSSPDCL at 220kV SS Shivarampally DC work) | 1.7 | 1.7 |
| 9 | CE(Tr)/DE-SS/ADE-2/D.No.91/21, dt: 11.05.2021 (Augmentation works at 132kV Mamidipally SS, 132kV Jadcherla SS, 132kV Munagala SS, 132kV Domakonda SS, 132kV Godur SS. | 1.1 | 2 |
| 10 | CE(Tr)/DE-SS/ADE-3/D.No.163/21, dt: 19.06.2021 , Shifting of 9 Nos 33kV feeders at 132/33kV Bandlaguda SS. | - | 2 |
| 11 | CE(Tr)/DE-SS/ADE-2/D.No.328/21, dt: 19.08.2021 , Augmentation at 220kV Huzurabad SS. | 1 | 1 |
| 12 | CE(Tr)/DE-SS/ADE-2/D.No.360/21, dt: 30.08.2021 Erection of 1No. 33kV Bay for Singareni Collieries at 132kV Penubally SS under DC work. | - | 1 |
| 13 | CE(Tr)/DE-SS/ADE-4/D.No.515/21, dt: 12.11.2021 , (DC work: Erection of 33kV new bays at 132kV Narmetta, 132kV Palakurthy, 132kV Dharmasagar, 220kV Waddekothapally SS) | 2.15 | 2.15 |
| 14 | CE(Tr)/DE-SS/ADE-2/D.No.582/21, dt: 08.12.2021 , (Augmentation of 132/33kV PTR Capacity 24 Nos. EHT SS) | 8.4 | 15.3 |
| 15 | CE(Tr)/DE-SS/ADE-2/D.No.581/21, dt: 08.12.2021 , (Augmentation of 220/132kV PTR Capacity 5 Nos. EHT SS, 220kV Jangaon SS, 220kV Mahabubabad SS, 220kV Bheemgal SS, 220kV Jagityal SS) | 8 | 7 |
| | Total Qty | 27.95 | 38.3 |

ANNEXURE - I

PRICE VARIATION FORMULA APPLICABLE FOR UNARMoured CABLES

The applicable IEEMA price variation formulae for unarmored Copper control cable viz. IEEMA (PVC)/ CABLE/ 2007 effective from 1st January 2007 as per IEEMA circular dt: 06.01.2007, as mentioned below.

Copper conductor PVC insulated, unarmored 1.1kV control cable:

$$P = P_o + CuF (Cu - C_{uo}) + CCFCu (C_c - C_{co})$$

Wherein,

- P - Price payable as adjusted in accordance with formula (in Rs/km)
- P_o - Price quoted/accepted i.e. unit ex-works price (in Rs/km)
- CuF - Variation factor for Copper applicable depending on type and size of the cable.
- Cu - Price of CC copper rods, Price is as applicable on first working day of the month, one month prior to the date of delivery.
- C_{uo} - Price of CC copper rods, Price is as applicable on first working day of the month, one month prior to the date of tendering.
- CCFCu - Variation factor for PVC compound for copper conductor cable applicable depending on type and size of the cable.
- C_c - Price of PVC Compound. Price is as applicable on first working day of the month, one month prior to the date of delivery.

The above prices and indices are as published by IEEMA vide Circular reference IEEMA(PVC)/ CABLE/ 2007 effective from 1st January 2007 prevailing as on first working day of the month i.e. one month prior to the date of delivery.

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

Notes:

- All prices of raw materials are exclusive of modvatable excise/CV duty amount and exclusive of any other central, state or local taxes, octroi etc.
- All prices are as on first working day of the month.
- Price of PVC compound (in Rs/MT) is the ex-works price, as quoted by the manufacturer for their grade CW-22 or its equivalent.
- Price of CC copper rods (in Rs/MT) is ex-works price as quoted by the primary producer.

If the date of delivery as defined in the PV formula is beyond the contractual delivery date the contractual/schedule delivery date or the actual delivery date whichever is advantageous to the purchaser will form the basis for the calculation of price variation.

Variation factors applicable for 2.5sq.mm un-armored Copper Control Cables for calculation of Price Variation are as below:

| | Variation factors for 2.5 sq.mm unarmoured copper control cables | |
|---------------------------|--|--------|
| Cable size | 2 core | 4 core |
| 1) CuF (Copper conductor) | 0.047 | 0.094 |
| 2) CCFCu (PVC compound) | 0.125 | 0.161 |

SD/-
Chief Engineer/P&MM

GUARANTEED TECHNICAL PARTICULARS

| Sl No | Description | Unit | 2 Core 2.5Sqmm Cu. Control Cable. | 4 Core 2.5Sqmm Cu. Control Cable. |
|-----------|--|----------|--|--|
| 1 | Manufacturer's Name | | M/s.SPM Power & Telecom Pvt. Ltd., | |
| 2 | Make and Type | | SPM Cables & Fixed Unarmoured Copper Control Cable | |
| 3 | Cable item Size | | 2C x 2.5Sqmm | 4C x 2.5Sqmm |
| 4 | Standards applicable | | IS:1554 Part-1/88 with latest amendment | |
| 5 | Voltage Rating | | 1100 | |
| 6 | Max. Conductor Temp. for continuous operation | Deg. C | 70 | |
| 7 | Short Circuit Capacity | | | |
| a) | Short Circuit Rating (rms) for 1 sec. | kA (rms) | 0.2875 | |
| b) | Max. Conductor temp. during short circuit condition | deg.C | 190 | |
| 8 | CONDUCTOR | | | |
| a) | Material, Grade & Class | | Copper, EC Grade & Class-2 | |
| b) | Nominal cross sectional area | Sq.mm | 2.5 | |
| c - i) | No. of strands | Nos. | 7 | |
| ii) | Nominal diameter of each strand before stranding | mm | 0.67 | |
| iii) | Minimum diameter of each strand after stranding | | 0.63 | |
| d) | Max. D.C. Resistance at 20 °C | Ω/km | 7.41 | |
| e) | Max. A.C. Resistance of conductor at 70 °C | Ω/km | 8.89 | |
| 9 | INSULATION | | | |
| a) | Material, Make, Type & Composition | | PVC Type A Make: Duvvin, KIJ, Kalpana, BLS | |
| b) | Nominal thickness | mm | 0.90/0.71(Nom/Min) | |
| c) | Color Scheme/ Code Identification | | R & BL | R, Y, BL, BK |
| d i) | Tensile Strength (minimum) without ageing | N/Sq.mm | 12.5 | |
| ii) | Max. % variation after ageing | % | ±20 | |

| Sl No | Description | Unit | 2 Core 2.5Sqmm Cu. Control Cable. | 4 Core 2.5Sqmm Cu. Control Cable. |
|--------|---|---------|---|--|
| e i) | Elongation at Break (minimum) without ageing | % | 150 | |
| ii) | Max. % variation after ageing | % | ±20 | |
| f - i) | Minimum Insulation Resistance at 27 °C | M Ω/ km | 36.7 | |
| ii) | Minimum Insulation Resistance at 70 °C | M Ω/ km | 0.037 | |
| g) | Volume Resistivity of Insulation (min.) at 27 °C | Ω-Cm | 1 x 10 ¹³ | |
| | Volume Resistivity of Insulation (min.) at 70 °C | Ω-Cm | 1 x 10 ¹⁰ | |
| h) | Whether application of insulation is by Extrusion | Yes/ No | Double Extrusion | |
| 10 | INNER SHEATH | | | |
| a) | Material Make, Type & I.S. reference | | PVC ST-1 & IS 5831 Make: Duvvin, KLJ, Kalpana, NLS, Alankar | |
| b) | Extruded or wrapped | | Extruded | |
| c) | Minimum thickness | mm | 0.3 | |
| d) | Color of Sheath | | Black | |
| e) | Tensile Strength | N/Sq.mm | 12.5 | |
| f) | Elongation at Break | % | 150 | |
| 11 | Interstices (or fillers) | | | |
| a) | Whether used in the formation of cable | | If required | |
| b) | Material | | PVC | |
| 12 | Binder tape (Over the laid up cores) | | | |
| a) | Material | | N.A | |
| b) | Thickness (mm) | | N.A | |
| 13 | OUTER SHEATH | | | |
| a) | Make, Material/ Type and I.S. reference | | PVC ST-1 & IS 5831 Make: Duvvin, KLJ, Kalpana, NLS, Alankar | |
| b - i) | Nominal thickness | mm | 1.8 | |
| ii) | Minimum Thickness | mm | 1.24 | |
| c - i) | Tensile Strength (minimum) without ageing | N/Sq.mm | 12.5 | |
| ii) | Max. % variation after ageing | % | ±20 | |

| Sl No | Description | Unit | 2 Core 2.5Sqmm Cu. Control Cable. | 4 Core 2.5Sqmm Cu. Control Cable. |
|--------|--|-----------|---|--|
| d - i) | Elongation at Break (minimum) without ageing | % | 150 | |
| ii) | Max. % variation after ageing | % | ±20 | |
| e) | Whether method of application is by way of extrusion | Yes/ No | Yes, Extrusion | |
| f) | Are the inner and outer sheaths done in single operation and of the material intended for outer sheathes | | No | |
| g | Whether the PVC suitable treated for withstanding the working conditions. | | Yes | |
| h) | Colour of Sheath | | Black | |
| 14 | PHYSICAL PARAMETERS | | | |
| a) | Nominal Overall dia of core (mm) | mm | 3.60 | |
| b | Calculated diameter over laid up cores | mm | 7.20 | 8.20 |
| c) | Calculated diameter under the outer sheath | mm | 7.80 | 9.50 |
| d) | Overall diameter of the finished cable | mm | 11.50 | 13.25 |
| e) | Recommended minimum bending radius. | mm | 12 x overall diameter of cable 12D | |
| f) | Safe pulling force when pulled by pulling eye | N/Sq.mm | 50 x total conductor area in sq.mm (newton) | |
| | | | 250 | 500 |
| 15 | Weights and Demensions : | | | |
| a) | Dimensions of Cable Drum wooden/steel (attach drawing) | mm | 800x350x600 | 900x350x600 |
| | | | wooden | wooden |
| b | Weight of empty drum | kg | 27 | 40 |
| c) | Weight with planking | kg | 60 | 80 |
| d) | Weight without planking | kg | 27 | 40 |
| e) | Nominal length of cable per drum / Tolerance | mtrs. / % | 1000 ± 10% | |
| f) | Approx. Cable weight (Kg/km)/ Tolerance | kg/km / % | 171 ± 10 % | 259 ± 10 % |
| g) | Gross weight of the complete drum with cable | kg | 231(Approx.) | 339(Approx.) |
| h) | Whether core/cable identification/ marking as specified shall be carried out. | Yes/ No | Yes | |
| i) | Whether sequential marking of length provided on the outer sheath | Yes/ No | Yes | |
| 16 | ELECTRICAL PARAMETERS | | | |
| a) | Rated voltage | Volts | 1100 | |

| Sl No | Description | Unit | 2 Core 2.5Sqmm Cu. Control Cable. | 4 Core 2.5Sqmm Cu. Control Cable. |
|-------|---|--------------------|--|--|
| b) | Voltage grade | | 1100 | |
| c) | Whether suitable for both Earthed & Un-earthed System | Yes/ No | Both | |
| d) | Approx. Reactance at 50 Hz | Ω/km | 0.107 | |
| e) | Continuous current carrying capacity (Amps) | | | |
| i) | In Air | | 27 | 24 |
| ii) | In ducts | | 27 | 24 |
| iii) | In ground | | 32 | 27 |
| g) | Minimum Volume Resistivity at 20°C of insulation | Ω/km | 1×10^{13} | |
| h) | Test Voltage | | | |
| | i) AC High Voltage Test / Duration | | 3kV / 5 Minutes | |
| | ii) Water immersion DC Test Voltage/ Duration | | 1.2kV / 240 Hrs | |