



TRANSMISSION CORPORATION OF TELANGANA LIMITED
(Website: www.tstransco.in CIN No: U40102TG2014SGC094248)

From

The Chief Engineer/P&MM
TSTRANSCO,
Vidyut Soudha,
HYDERABAD – 82.

To

M/s.Intellicon Pvt Ltd.,
B-20, Electronic Estate,
Sector-25, GIDC Gandhi Nagar,
Gujarat – 382 024.

P.O.No.217PMM/2018/CE/P&MM/SE/P&MM/DE31/F. TSPMM31-42/2017(EPAX)/
D.No.245/18, dt.12-10-2018.

Sirs,

Sub:- TSTRANSCO - P&MM – Telecom - Specn.no.TSPMM31-42/2017 – Supply,
Erection, Commissioning of EPAXs and associated equipment - Detailed Purchase
Order - Issued - Reg.

Ref:- 1. Tender Specification No.TSPMM31-42/2017
2. Your offer on e- platform against Specification No. TSPMM31-42/2017
3. Your Revised Commercial offer of prices vide letters Nos. IPL/Tender/
APTRANSCO/180801, Dt.03.08.2018 and Dt.16.08.2018.
4. LOI.No.CE/P&MM/SE/P&MM/DE-31/F.TSPMM31-42/2017(EPAX)/
D.No.173/18, Dt.28-08-2018.
5. PYour LOI acknowledgement vide Lr.IPL:AHD:TSTRANSCO28082018,
Dt:28.08.2018.

I, acting for and on behalf of and by the order and direction of TRANSMISSION CORPORATION OF TELANGANA LTD., (herein after called the "TSTRANSCO" or "the purchaser"), accept your offer submitted vide ref. 2nd cited, read with your letters vide ref. 3rd cited, against Tender Specification vide ref 1st cited, for Supply, Erection & Commissioning of EPAXs and associated equipment, for the revised quantities, as per the provision for quantity variation vide clause 34 (Section III, GTC) of tender specification, at total package cost of **Rs. 1,84,27,878.00** (Rupees One Crore Eighty Four Lakhs Twenty Seven Thousand Eight Hundred and Seventy Eight only) as indicated below and the details are in Annexure-1 (Schedule of Prices).

1) SCOPE OF CONTRACT:

This contract relates to Supply, Erection, Commissioning of EPAXs and associated equipment detailed under clause (2) below and covers design, manufacture, testing before dispatch, delivery F.O.R. destination.

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- 2) **SCHEDULE OF MATERIALS AND PRICES:** Supply, Erection, Commissioning of EPAXs and associated equipment (inclusive of Freight & Insurance, Packing & Forwarding and GST) detailed in Annexure-1.

Sl. No.	Description	Total Amount (in Rs.)
1	Supply, Erection & Commissioning of EPAXs and associated equipment including all Taxes (Details in Annexure-1).	1,84,27,878.00
	Total Package value	1,84,27,878.00
(Rupees One Crore Eighty Four Lakhs Twenty Seven Thousand Eight Hundred and Seventy Eight only)		

- 2.1 The Prices accepted above are FIRM during the process of the contract and until the warranty period is completed.
- 2.2 The prices accepted are inclusive of Freight & Insurance, Packing & Forwarding and GST.
- 2.3 The above prices are inclusive of unloading charges at destination stores.
- 2.4 M/s. Intellicon Pvt. Limited is responsible for all the Taxes applicable on this contract.
- 2.5 Income Tax, other taxes if any, will only be towards the supplier's account and would be recovered from the supplier bills for arranging payment as directed by the concerned department.
- 2.6 **STATUTORY VARIATION:** It is responsibility of bidder to consider the correct rates of the duties and taxes leviable on the equipment/material/work at the time of bidding. After considering the correct rates of duties and taxes only the bidder shall quote the prices.

Any variation up or down in statutory levy or new levies introduced after tender calling date under this specification will be to the account of TSTransco, provided in cases where delivery schedule is not adhered to by the contractor/manufacturer and there are upward variation/revision after the agreed delivered date, the contractor/manufacturer will bear the impact of such levies and if there is downward variation/revision, the TSTransco will be given credit to the effect.

In case of bought out items statutory variation shall not be applicable on that taxes and duties. For this purpose, bought out items means the material/equipment not manufactured by the bidder i.e. statutory variation will be applicable on taxes and duties involving direct transaction between bidder and TSTransco only and not for the taxes and duties between the bidder and his sub vendors.

- 2.7 The purchaser reserves the right to vary the order quantity by ± 50 % during execution of the contract.

3) **Delivery Schedule:** (Details in Annexure-2)

- a. Consignment -1: The Supplies shall be completed within 2 Months from the date of issue of LOI. Erection and Commissioning of the equipment shall be completed within 1 Month from the date of intimation from TSTransco, for the Substations which are ready.
- b. Consignment -2: The Supplies shall be completed within 2months thereafter (i.e., 4 Months from the date of issue of LOI). Erection and Commissioning of the equipment shall be completed within 1 Month from the date of intimation from TSTransco, for the Substations which are ready.

4) **FREIGHT & TRANSIT INSURANCE:** Insurance shall be arranged by the supplier to cover transit risks and 45 days storage cover at site. The insurance will be in an amount equal to 100% FADS value of equipment on all-risks basis. The policy shall have a provision for extension to cover further storage if necessary at destination stores/site at TSTransco cost.

5) **DESPATCH INSTRUCTIONS:** The Dispatch instructions for the equipment will be issued separately after inspection.

The details of consignee, paying officer and other officers will be furnished along with dispatch instructions, while approving the Inspection/Test Certificates.

6) **PERFORMANCE SECURITY:**

- 6.1 The supplier shall furnish to the purchaser the performance security in the name of **The Chief Engineer/P&MM, TSTransco, VidyutSoudha, Hyderabad-82**, for an amount equal to 10% of the total contract value i.e. for an amount of **Rs. 18,42,788/-** for proper fulfillment of the contract, shall 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.
- 6.2 The performance security shall be executed in accordance with the clause (6) will be furnished on a stamp paper of value Rs.100/-. The B.G shall be extended if required suitably, in accordance with the provisions of Clause (38) of specification.
- 6.3 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 have to be extended to a further period of 12 months and the Performance Bank Guarantee for proportionate value will have to be extended 60 days over and above the extended warranty period.

The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to fulfill its obligations under the Contract.

7) TERMS OF PAYMENT:-

- i) a) 80% payment towards the equipment cost will be arranged within 45 days for the material/equipment supplied in complete shape subject to their delivery as per the schedule of work and on its receipt in good condition at the destination / stores (i.e., from check measurement date in Form-13), on prorata basis against the submission of the following documents.

- i) Form 13
- ii) Contractor's detailed invoice
- iii) Detailed Challan Acknowledged by Consignee
- iv) Manufacturer's/Supplier's Warranty Certificates
- v) Approved Test Certificates
- vi) Copy of Insurance Policy Certificate
- vii) Copy of Acceptance Letter of Performance Security issued by Purchaser

One additional copy each of the above and delivery challan shall be sent to the consignees. Copies of the above documents shall be sent to the Chief Engineer/ P&MM/TSTransco, VidyutSoudha, Hyderabad-82 immediately after delivering the materials at the destination stores.

- b) 10% payment towards equipment cost will be made after erection of equipment/ material on prorata basis against the submission of invoice.
- c) Balance 10% payment towards equipment cost will be made along with the total erection & commissioning charges after commissioning of equipment / material duly certified by concerned Divisional Engineer/Telecom on prorata basis against the submission of invoice.
- ii) The Supplier Bank details are as detailed below for RTGS payment (Real Time Gross Settlement).

1.	Vendor Name	M/s. Intellicon Private Limited.
2	Complete Address	B-20, Electronic Estate, Sector-25, GIDC Gandhi Nagar, Gujarat – 382 024, India. Tel. 917940143217.
3	Name	HDFC Bank Ltd.
4	Branch Address	Plot No.448, Sector-16, Next to Pragna Petrol Pump, Gandhinagar-382016, Gujarat.
5	Branch Code city	109, Gandhi Nagar.
6	Account No.	01902790000051
7	MICR Code	380240006
8	IFSC No.	HDFC0000190
9	Income Tax PAN No.	AAACI4324C

The Bank details as above are final and shall not be revoked under any circumstances. The Bank Charges if any will be made to the account of M/s. Intellicon Private Limited and will be recovered from the bill amount per each disbursement on LOA raised by unit officers.

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

The Banker charges involved if any in establishing and operating the Cheque / Bills shall be to your account.

- iii) If the supplier has received any over-payments by mistake or if any amounts are due to the TSTransco due to any other reason, when it is not possible to recover such amounts under this contract, the TSTransco reserves the right to collect the same from any other amounts and / or Bank guarantees given by you due to or with the TSTransco.
 - iv) The supplier should invariably submit Inspection/test certificates and other documents that the purchaser specifies, before dispatch is made so that they can be checked and approved well before it is dispatched and due for payment.
 - v) When the supplier does not at any time, fulfill his obligations in replacing / rectifying etc. of the damaged / defective materials in part or whole, promptly to the satisfaction of the TSTransco Officers, the 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, wharf ages or damage occurring to the consignments so dispatched.
- 8) **CURRENCY OF PAYMENT:** All payments will be made in non-convertible Indian Rupees.
- 9) **WARRANTY:** The equipment shall be guaranteed for satisfactory performance for a minimum period of 18 months from the date of check measurement in form-13 i.e., receipt of goods in the departmental stores in good condition.

During this period, if the equipment is found defective it shall be replaced or repaired by you free of all costs to the TSTRANSCO within 30 days, which shall in no circumstances be more than the delivery period indicated in this order.

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 shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to fulfill its obligations under the Contract.

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- 10) **RESPONSIBILITY OF THE SUPPLIER FOR LOSS OR DAMAGE:** The supplier is responsible for the safe delivery of the goods in good condition at the destination stores. He should acquaint himself of the conditions prevailing for handling and transport of the goods to the destination and shall include and provide for security and protective packing of the goods so as to avoid damage in transit.
- 11) **PACKING:** The supplier shall provide such packing of the Materials / equipment as is required to prevent their damage or deterioration during transit to their final destination, as indicated technical specification. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Materials / equipment final destination and the absence of heavy handling facilities at all points in transit.
- 12) **INSPECTION:** The accredited representative of the TSTransco have access to you or your sub-contractor's works at any time during the working hours for the purpose of inspecting the materials during manufacture of the plant and equipment and testing, and may select samples from the materials going into the plant and equipment. You shall on such occasions provide proper and adequate facilities for testing the selected samples at any time. The final acceptance tests and routine tests shall be conducted in the presence of TSTransco's representative who will be deputed for the purpose.
- The program of inspection is to be intimated to the TSTransco with 15 days prior notice for acceptance tests. The goods shall not be dispatched until such inspection is conducted or waived in writing and followed by dispatch clearance communicated by the purchaser in writing.
- 13) **TESTS AND CERTIFICATES:** Three copies of the test certificates containing the results of all the tests including acceptance and routine tests carried out shall be forwarded to Chief Engineer/P&MM and got approved before the presentation of the bills for payment.
- The manufacturer's test certificates shall be submitted immediately after the acceptance tests are conducted and got approved before the equipment is dispatched.
- 14) **GUARANTEED TECHNICAL PARTICULARS AND DRAWINGS:** The Guaranteed Technical Particulars and Drawings were approved vide Lr.No.CE/P&MM/SE/P&MM/DE-31/F.TSPMM31-42/2017(EPAX)/D.No.243/18,Dt.12-10-2018 (GTPs are enclosed in Annexure3).
- 15) **GENERAL CONDITIONS OF CONTRACT:** Except in so far as it is provided otherwise in this contract, you shall abide by the terms and conditions indicated in the Tender specification No. TSPMM31-42/2017 which includes the TSTransco's General Terms and Conditions of contract' enclosed to the ref (1). "Except as specifically accepted in this order, the terms and conditions mentioned in your quotation under reference are not accepted".

- 16) **RISK:** The risk in the property is entirely yours till the goods are received in good condition at destination stores as certified by the consignee.
- 17) **PENALTY FOR DELAY IN SUPPLIES:** The time for and the dates for delivery mentioned in the contract will be deemed to be the essence of the contract. Subject to force majeure clause No.18, if the supplier fails to deliver any or all of the Materials / equipment or fails to perform the services within the period (s) specified in the Contract, the purchaser will, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to 0.5% per week on the undelivered portion subject to a maximum of 5% of the total value of the contract. Once the maximum is reached the Purchaser may consider termination of the contract.

The check measurement date in form-13 i.e, date of receipt of materials at destination stores in good condition will be taken as the date of delivery. Materials / Equipment which are not of acceptable quality or are not conforming to the specification would be deemed to be not delivered. For penalty, the number of days would be rounded off to the nearest week and penalty calculated accordingly.

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

- 18) **FORCE MAJEURE:** The Supplier will not be liable for forfeiture of its performance security, penalty for late delivery, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

For purposes of this clause, "Force Majeure" means an event beyond the control of the supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

If a Force Majeure situation arises, the supplier will promptly notify the Purchaser in writing of such condition and the cause thereof. Unless or otherwise directed by the Purchaser in writing, the Supplier will continue to perform its obligations under the Contract as far as is reasonable in practice, and will seek all reasonable alternative means for performance not prevented by the Force Majeure event.

No price variance will be allowed during the period of force majeure.

- 19) **CORRESPONDANCE:** Your acknowledgement to this order and any correspondence, general or technical in nature shall be addressed to the Chief Engineer/P&MM, TSTransco, VidyutSoudha, Hyderabad-500082.

All correspondence regarding dispatch and payment shall be addressed to the consignee under intimation to the Chief Engineer/P&MM, VidyutSoudha, Hyderabad-82.

- 20) 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.
- 21) OPERATION AND MAINTENANCE MANUALS:** One set of Manuals consisting of operating instructions and programming schedules and approved drawings for each of the equipment shall be supplied in the package along with respective equipment's at the time of dispatch. They shall contain clear instructions on erection, commissioning and maintenance for the guidance of operating staff. Any items requiring the special attention of the Operation Engineer shall be highlighted.
- 22) CONTRACT AMENDMENTS:** No variation in or modification of the terms of the contract will be made except by written amendment by the Purchaser and accepted by the supplier
- 23) TERMINATION FOR DEFAULT:**
- 23.1** The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:
- i. If the supplier fails to deliver any or all of the Materials / equipment within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser.
 - ii. If the supplier fails to perform any other 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.
- 23.2** In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner, as it deems appropriate, materials/equipment or services similar to those undelivered, and the supplier will be liable to the purchaser for any excess costs for such similar materials/equipment or services. However, the supplier will continue performance of the contract to the extent not terminated.
- 24) 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 was accrued or will accrue thereafter to the Purchaser.

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25) 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 will specify the termination is for the Purchaser's convenience, the extent to which performance of the supplier under the Contract is terminated and date upon which termination becomes effective.
- (b) However the materials/equipment those 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.

26) JURISDICTION: All and any dispute or differences arising out of or touching this order will be decided by the courts or tribunals situated in Hyderabad or Secunderabad only. No suit or other legal proceedings will be instituted elsewhere.

27) ACKNOWLEDGEMENT: Please acknowledge this order soon on its receipt by returning the extra copy of the order enclosed, duly signing it with date in token of acceptance.

Yours faithfully,

Sd/-

Encl:1.Annexure-1(Schedule of Prices)
2. Annexure-2(Delivery Sechedule)
3. Annexure-3(GTPs)

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

"WE ACCEPT THE TERMS AND CONDITIONS STIPULATED IN THIS P.O."

Signature of the Contractor with seal

Copy to:

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

The Chief Engineer/Telecom/TS TRANSCO/Vidyut Soudha/ Hyderabad

The Pay Officer/TS TRANSCO/Vidyut Soudha/ Hyderabad

The SAO/ P&A/ TSTransco/Vidyut Soudha/Hyderabad.

The FA&CCA/ACCOUNTS/TSTransco/Vidyut Soudha/Hyderabad.

The SE/OMC/Metro-Central /Hyderabad /TSTransco/NIMS GIS/Erramanjil/Hyderabad.

The Superintending Engineer/Telecom/TSTransco /132/33KVSS Opp. to Court Jagityala road, Karimnagar-500501.

The Superintending Engineer/Telecom/Metro/ TSTransco /132KVSS Chilakalaguda/ Hyderabad

The Superintending Engineer/Telecom/ TSTransco / 220KV SS/ Mulugu Road / Warangal

The Superintending Engineer/Telecom/Rural/ TSTransco / GTS Colony/ Erragadda/Hyderabad

Contd...P/10

The Divisional Engineer/Telecom/Mamidipally/Pahad-e-Sharif/Hyderabad----- (Through e-mail)

****to check measure the equipment at stores

The Divisional Engineer/Telecom/Metro/Narayanaguda GIS/Hyd----- (Through e-mail)

The Divisional Engineer/Telecom/Erragadda/Hyderabad ----- (Through e-mail)

The Divisional Engineer/Telecom/Sanagareddy/Mint Compound/Hyderabad --- (Through e-mail)

The Divisional Engineer/Telecom/132KVSS/Mettuguda /Mahaboobnagar ---- (Through e-mail)

The Divisional Engineer/Telecom/Nalgonda ----- (Through e-mail)

The Divisional Engineer/Telecom/132KVSS/Ellandu Road/Khammam507002 -(Through e-mail)

The Divisional Engineer/Telecom/220KVSS/Mulugu Road/Warangal ----- (Through e-mail)

The Divisional Engineer/Telecom/Nizamabad ----- (Through e-mail)

The Divisional Engineer/Telecom/Adilabad ----- (Through e-mail)

The Divisional Engineer/Telecom/Karimnagar ----- (Through e-mail)

The Divisional Engineer/Transmission Stores/ TSTransco/Erragadda/GTS Colony/ Hyderabad

The Asst. Div. Engi./Transmission Stores/220KV SS/Shapurnagar/Hyd.

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Annexure- 1 (Schedule of Prices) to P.O.No.217 , Dt.: 12 .10.2018

Tender Specification No.: TSPMM31-42/2017

(All financial figures are in Indian Rupees)

Sl. No.	Description of the equipment	UOM	Total Qty.	Units Ex-work price	Unit Freight charges	Unit Insurance charges	Unit Packing charges	Unit Erection & Commissioning charges	GST@18% on Unit Ex-works+F+I+P+E&C	Unit landed Price with taxes	Total landed price inclusive of all taxes
1	Supply, Erection & Commissioning of EPAX(16/16) with 2 E1 Cards, 128 Universal Ports Fully Wired.	Nos	38	123718.00	1337.18	668.59	668.59	10000.00	24550.62	160942.98	6115833.24
2	Supply, Erection & Commissioning of EPAX(16/16), 128 Universal Ports Fully Wired.	Nos	45	108000.00	1160.00	580.00	580.00	8000.00	21297.60	139617.60	6282792.00
3	Supply, Erection & Commissioning of EPAX(8/8), 128 Universal Ports Fully Wired.	Nos	25	89000.00	970.00	485.00	485.00	8000.00	17809.20	116749.20	2918730.00
4	Supply of EPB Telephones	Nos	410	610.00	6.10	3.05	3.05	0.00	112.00	734.20	301022.00
5	Supply of 6 pair PVC Copper telephone Cable	mtrs	13100	42.00	0.42	0.21	0.21	0.00	7.71	50.55	662205.00
6	Supply of Single pair PVC Copper telephone Cable	mtrs	10900	8.00	0.08	0.04	0.04	0.00	1.47	9.63	104967.00
Spares											
7	Supply of Mandatory Spare Set for EPAX (One Module for each type) for Capacity of (16/16) with E1 Card EPAX	Nos	16	51600.00	516.00	258.00	258.00	0.00	9473.76	62105.76	993692.16
8	Supply of Mandatory Spare Set for EPAX (One Module for each type) for Capacity of (16/16) EPAX	Nos	7	34850.00	348.50	174.25	174.25	0.00	6398.46	41945.46	293618.22
9	Supply of Mandatory Spare Set for EPAX (One Module for each type) for Capacity of (8/8) EPAX	Nos	18	34850.00	348.50	174.25	174.25	0.00	6398.46	41945.46	755018.28
	Total (Rs.)										18427877.90
	Or Say:										1,84,27,878.00
(Rupees One Crore Eighty Four Lakhs Twenty Seven Thousand Eight Hundred and Seventy Eight only)											

Sd/-
Chief Engineer/P&MM
Contd...P/12

Annexure-2 (Delivery Schedule)

Tender Specification No.: TSPMM31-42/2017; P.O.No.127, Dt.:12.10.2018

Sl. No.	Description of the equipment	UOM	Total Qty.	Consignment-1	Consignment-2	Delivery Schedule	Destination for delivery of material
(A) Material Supply							
1	Supply of EPAX(16/16) with 2 E1 Cards, 128 Universal Ports Fully Wired.	Nos.	38	19	19	Consignment-1: The Supplies shall be completed within 2 months from the date of issue of LOI.	Anywhere in Telangana State
2	Supply of EPAX(16/16), 128 Universal Ports Fully Wired.	Nos.	45	22	23		
3	Supply of EPAX(8/8), 128 Universal Ports Fully Wired.	Nos.	25	12	13		
4	Supply of EPB Telephones	Nos.	410	205	205		
5	Supply of 6 pair PVC Copper telephone Cable	mtrs	13100	6500	6600		
6	Supply of Single pair PVC Copper telephone Cable	mtrs	10900	5400	5500		
	Spares					Consignment-2: The Supplies shall be completed within 2 months thereafter (4 months from the date of LOI).	
7	Supply of Mandatory Spare Set for EPAX (One Module for each type) for Capacity of (16/16) with E1 Card EPAX	Nos	16	8	8		
8	Supply of Mandatory Spare Set for EPAX (One Module for each type) for Capacity of (16/16) EPAX	Nos	7	3	4		
9	Supply of Mandatory Spare Set for EPAX (One Module for each type) for Capacity of (8/8) EPAX	Nos	18	9	9		
(B) Erection and Commissioning							
10	Erection & Commissioning of EPAX(16/16) with 2 E1 Cards, 128 Universal Ports Fully Wired.	Nos	38	19	19	Erection & commissioning of the equipment shall be completed within ONE month for the Substations which are ready from the date of intimation from TSTRANSCO.	Anywhere in Telangana State
11	Erection & Commissioning of EPAX(16/16), 128 Universal Ports Fully Wired.	Nos	45	22	23		
12	Erection & Commissioning of EPAX(8/8), 128 Universal Ports Fully Wired.	Nos	25	12	13		

Sd/-
Chief Engineer/P&MM

Contd...P/13

Annexure-3**Guaranteed Technical Particulars for EPAX:-**

S. No.	Parameters	Description
1	Technology (Type)	PCM / TDM with 32 bit microprocessor based digital technology Electronic Private Automatic Telephone Exchange (EPAX) on E & M signaling and DC loop signaling to work with PLC Communication System.
2	Control	Stored Programme Control (SPC)
3	Back-Up Memory	Flash ROM Based
4	System Capacity Full capacity of trunks Initially required capacity Required Capacity of E & M Trunks / Subscribers	128 Universal Ports Programmable to E & M, Loop Interrupt Trunks and Subscribers.: 16/16 with 2E1(4 Port PLCC Module)-38 Nos., 16/16 (4 Port PLCC Module)-45 Nos. 8/8 (4 Port PLCC Module)-25 Nos.
5	Configuration	Universal Slots for Extension / Trunk Interface
6	Priority Facility	Shall be provided as per Clause 4.9 of Technical Specification.
7	Communication Links	100 % Non-Blocking
8	Architectural Design	Distributed Design
9	System Modularity	Easy expansion by adding Modules
10	Approvals Required	TEC with ISDN, BRI and PRI
11	Trunk Interface with LED indication for all trunks	4W / 2W E & M Interface with LED indication with DP / DTMF E1 / R2 (2Mbps Digital Link) with RJ45 connector VoIP Interface CO Trunk Lines
12	E1 Interface	ISDN BRI & PRI Trunk Lines
13	Alarm On Indication	Self-diagnostics with alarm on fault condition shall be provided.
14	Protection	All the Trunk Lines and Subscriber lines shall be provided with Surge Arresters on the MDF
15	Extension Interface	Station Interface for normal analog PBT Digital Extension Interface for Key Phones Hybrid Station Interface for PBT / Key Phones
16	Redundancy	System should have redundancy for PSU & CPU.
17	System Voltage	-48V DC (positive ground) + 15%, -10%
18	Power Consumption	Less than 300W
19	EMI / EMC	EMI / EMC
20	The EPAX shall be compatible to the following codes for pulses in various signaling circuits.	
	(i) Engage pulse	Complied
	(ii) Priority pulse	Complied
	(iii) Digit pulse	Complied
	(iv) Inter digit pulse	Complied
	(v) Release pulse	Complied

Sd/-
Chief Engineer/P&MM
Contd...P/14

Guaranteed Technical Particulars for Push Button Telephones:-

Item No.	Description	Data
(a)	Manufacturer's Name & Address / Supplier's Name & Address	Protel/BEETEL Make
(b)	Type	Electronic Push button Telephones (Decadic) supporting both pulse and DTMF signaling and ring LED.
(c)	Dial speed	10 PPS $\pm 5\%$
(d)	Break-make ratio (PPs with +/-)	2:01
(e)	Inter digit pause (msec.)	800 ms
(f)	Reliability	The performance of the instrument should be very reliable and accurate with large MTBF as per TEC requirements.
(g)	Operating temperature (deg. C)	45
(h)	Tone/Pulse switchable	Yes
(i)	Last no. redial facility	15
(j)	Ringer OFF-LOW-HI facility	Yes
(k)	Hold on music	Yes
(l)	Pause facility	Yes
(m)	Ring LED (Yes/No)	Yes
(n)	Display	Yes

Sd/-
Chief Engineer/P&MM
Contd...P/15

Guaranteed Technical Particulars for Telephone cable :-

6Pair/1Pair Telephone cable			
1	Manufacturer Name & Address	:	Delton/Finolex make
2	Governing Standards	:	IS Standards
3	Voltage grade	:	300V
4	No. of pairs	:	6 Pair & 1 Pair
5	Conductor	:	Copper
	a) material	:	Annealed Tin Copper
	b) size	:	0.5mm +/- 0.1mm
	c) resistance	:	57 Ohms/Km
	d) elongation	:	20.0 (Min)
6	Insulation	:	
	a) material	:	Solid Medium density polythene
	b) thickness	:	0.25 mm Nominal
	c) Max.dia of core	:	1.2mm
	d) resistance	:	.95 Ohms /km
8	Overall sheath	:	-
	a) material	:	Extruded PVC ST-1
	b) thickness	:	1.4mm Nominal/1.0mm Nominal
	c) colour	:	
9	Overall dia of cable	:	8.0 mm / 5.5 mm
10	High voltage	:	2kv rms for 1 Min
11	Packing length	:	100m +/-5% coil

Sd/-
Chief Engineer/P&MM