

POLICE



DEPARTMENT

No. E1-13101/2020/Tele(2)

Police Telecommunication
Headquarters,
Thiruvananthapuram
✉sptele.pol@kerala.gov.in
☎04712448707
Dated. 22-01-2021

Government procurement (e-Gp) - NOTICE INVITING TENDER

The Superintendent of Police, Telecommunications, Kerala Police Department, Government of Kerala invites online bids from reputed manufacturers/authorized dealers or reputed vendors for the supply and installation of 40 Feet Aerial Masts with Arrestor. The Specifications/ Requirements are furnished below.

SPECIFICATIONS

40 FEET HEAVY DUTY-RETRACTABLE TELESCOPIC AERIAL MAST WITH LIGHTENING ARRESTOR (5 Nos)

Scope of Work :- Supply, installation and commissioning **5 nos** of **40 FEET HEAVY DUTY-RETRACTABLE TELESCOPIC AERIAL MAST** in the following district

1. **2 Nos at Ponmudi and Attingal in Tvpm District**
2. **1 No at Poonchira in Kottayam District**
3. **1 No in Kasaragod District &**
4. **1 No at Malayattoor in Ernakulam District**

- Model: Ground Based Tower
- **Design: 2 Section Triangular, telescopic**
- **Material:**MS(Mild Steel) Pipes, angles, and rods, steel rope of Standard quality (STQ).
- **Diameter and thickness** : 1st section-40mm, 2nd section-32mm, With Wall Thickness : 14SWG >2mm
- **Finish:** Painted with rust proof –*Lacaloid*Color Black Special coat
- 3 Nos Service Seats for crew members, to be permanently fixed for installation, maintenance and inspection, These seats are attached with the outer section with proper support bars and the seats are of special anti-slip protected.
- Outer section provided with integrated ladder and all sections with Easy-climb Z ladder design made of MS rods. Section locking plates and U clamps.
- Provisions for fixing optional Cross booms, which can be fixed at any height on the



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tower for mounting additional antennas.

- Triangular tilt base made of 50 x 50 x 6mm MS angle with tongue hinges for tilting of the retracted sections to horizontal plane.
- 16 x 600mm foundation bolts with double nuts and bolts.
- *Nylocoat* coated steel rope for the Guy wires
- Guywires (Stay) in 2 stages x 3 anchored on the guy holders of 16mm x 600mm to be concreted one equilateral triangle equidistance away from each side of the tilt base, which may be adjusted according to the erection sites. Cable guides, D shackles and Anti rust coated turn buckles for adjusting the Guy wire tension.
- Central retractable pipe with the inner section for mounting antennae or lightning arrestors.

- Anti surge protection: Electrical earth with imported GEM Chemical *Super Earth* kit with 10mm stainless steel central electrode.

Details of installation work done at sites

1. RC Concrete foundation with foundation bolt for the tower and concrete foundation for the 3 stay holding hooks.
2. Telescopic configuration of 2 triangular sections of 20 feet length, added with 10 feet 2 inch diameter MS pipe for the centre section to hold the ESE Lightning Arrestor Unit, making to total extended height of minimum 40 feet
3. ESE (Early Streamer Emission) Lightning Arrestor Unit is mounted on the top.
4. ESE Unit is mounted on a Fiberglass Insulator tube of One meter clear height on top to isolate from the tower.
5. Earth is connected to the ESE Unit using full tower run length of flexible heavy duty Fire Retardant Copper Cable of 70 Square mm, specially made by Finolex Cables, connected to Earth rods, inter linked with Heavy Galvanic coated strips and filled with Chemical Backfill Compound, using Stainless steel nuts and bolts. The flexible 70 square mm cable is used for the ease of retracting the tower for any future maintenances
6. Two stage Guy wires of 3 nos using *Nylocoat* steel ropes and turnbuckles were done. Cable clamps are Stainless steel.
7. The extended tower sections were locked with U-clamps and stopper plates
8. Multiple antennae and cable supplied by the department is fixed on special crossbooms, such that the top of the antenna is below the fiberglass insulator-not to defeat the performance of the Lightning Arrestors. All cables routed and anchored using cable ties.
9. Warranty – Two Years for complete Tower and all accessories

TECHNICAL SPECIFICATIONS FOR LIGHTNING PROTECTION SYSTEMS

Direct Lightning Strike Protection System using ESE Air terminals

The Direct Lightning strike protection system should be based on advance technology Early Streamer Emission designed to intercept the lightning by anticipating an upward leader by corona effect before a lightning strike and safely convey the lightning current to earth through a known and preferred route.

It shall include components like air termination equipment, Air Terminal maintenance/function test meter, LCD based advanced Lightning Flash Counter, mechanical support, down conductor(s), and maintenance free earthing system based on Chemical earth enhancing compound to reduce the earth resistance and a transient earth bonding unit.



The design of the components shall be in accordance with ESE standards NFC-17-102 and also proven with Indian conditions and traceable to field research, laboratory testing, fundamental analysis, and statistical levels of the lightning event.

Essential Requirements for Air Terminal.

- Air terminal must be Early Streamer Emission type and comply with international ESE standards such as NFC-17-102 to provide an umbrella protection against Lightning strikes covering a radial distance.
- It should also be tested in a high voltage laboratory for evaluation of gain triggering time.
- The laboratory test must be in accordance with NFC-17-102 Appendix-C
- The calculation of protection radius of the air terminal must be based on the Rolling Sphere Methodology (RSM) as per standards..
- The air terminal shall be non-radioactive and require no special licensing. The materials used shall be non-corroding in all weather conditions i.e. rain, thunderstorm, snow, wind, dry and humid conditions. The air terminal must be totally Autonomous electric device collecting the energy from the ambient electrical field..
- The offered air terminal must work on negative as well as positively polarized cloud discharges.
- The air terminal offered must not be fitted with user replaceable parts/components such as batteries/transducers/piezo electric cells etc. The operation of the air terminal must be purely autonomous and do not use batteries or any other external source of power for its normal operation.
- The Air terminal must be capable of handling multiple strokes of lightning currents and should be maintenance free.

Specifications

- I. Type : Early Streamer Emission (ESE) Lightning Conductor Air Terminal
- II. ΔT value : 20 μs for protection radius upto 58 meters
- III. Material used : Stainless Steel Water Proof Enclosure
- IV. Level of Protection : Level -III protection (Standard Grade)
- V. Height of elevation pole : 1 meter above finished Tower level
- VI. Constructional details : Central Pick-up rods, upper and lower series of electrode and triggering device housed in a stainless steel weather proof and non-corroding Housing
- VII. Triggering device- type : Electronic triggering device fitted inside the stainless steel housing.
- VIII. Sensors – type : Lower and upper series sensors arranged around the central pick-up rod internally connected with the triggering device for the fast sensing of atmospheric charge buildup

Down conductor

A good quality ISI mark PVC insulated flexible copper down conductor should be provided with suitable clamping/saddling to convey the captured energy by the ESE Air terminal to the grounding system to a maintenance free low impedance earth pit charged with chemical earth enhancing compound.

- I. Two down conductors must be used if the height of the installation is more than 28 meters or the horizontal run of the down conductor is more than the vertical height.



- II. Down conductors should be provided for each Air Termination as per ESEstandard NFC 17-102 and should be connected to individual earth pits.
- III. The size of down conductor should not be less than 70 Sq.mm.
- IV. Down conductor used should be pure electrolytic Copper Cable with PVCInsulation.
- V. In the final 3m to the ground and where it is exposed to human intervention, thedown conductor shall be placed in a protective PVC pipe of 3mm minimum wallthickness so as to avoid mechanical damage and increase human safety.
- VI. The down conductor should not be subject to bends of less than 0.5 meters radius.
- VII. The down conductor shall be secured to the structure/building by approvedmetallic fastenings at least every 1 meters.

Earthing& Grounding

- I. Earth pits must be made using chemical earth enhancing compounds and must bemaintenance free and tested by CPRI
- II. The earth resistance of the individual earth pit must not exceed 2 ohms staticimpedance.
- III. Earthing shall be done with copper earth tube of 2.5” dia, 8fts long, 1.6mm thickat least 3 meter depth and back filled with Chemical earth enhancing compound.
- IV. A 25x3mm copper strip must be securely connected to the earth tube andextended upto the earth pit chamber through a 40mm dia class B GI pipe.
- V. A minimum quantity of 20 Kg of Earth enhancing compound must be used perearth pit.
- VI. An earth pit chamber made of lockable plastic material must be used asinspection chamber.

Transient Earth Bonding Unit.

All the equipments, structures & earth pits should be bonded together to form one complete system to ensure that there is complete continuity in the lightning protectionssystem and thus eliminating the possibility of any flashover. However, bonding ofLightning, electrical and communication earthing should be made through a TransientEarth Bonding Unit to keep the two earths separate during normal conditions. Transientearth bonding unit should be enclosed in an IP68 Explosion proof and weather proofnon corrosive enclosure.

Technical Specifications for Transient earth Bonding Unit.

- i. Operating voltage : up to 230V DC
- ii. Firing voltage : 230V DC
- iii. Impulse firing voltage : <600V at 1kV/us
- iv. Surge rating : 20KA 8/20us
- v. Rating : IP68
- vi. Connections : 6mm lugs via 10mm²
- vii. Conductor : 300mm length nom.

Test Point

A test point, fitted at approximately 500-600mm from ground level, shall be provided on each down conductor. The test point shall be of the screw down type, suitable forisolating the earth terminations for testing purposes.The test point may be formed by a bi-metallic connector link.

The bidders should comply with the following conditions in addition to the



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conditions of the tender:

General:-

1. A reputed vendor can participate in the tender provided the vending outfit is Functioning in the field for at least 5 years.
2. The OEM/supplier must have service center functioning in South India to cater to immediately after sales requirement. Service Centre details must be enclosed along with Tender document. (Preferably bidder should have a Service point in Kerala).
3. The bidder/Manufacturer have a successful track record for supply completion of tendered item within the delivery period at any State Government organizations for a minimum period of 5 years, List of Orders executed has to be enclosed along the tender.
4. The Bidder should have valid GST registration. Copy of GST registration certificate should be enclosed along with the tender.
5. The bidder should have valid PAN/Taxation Index Number. Copy of PAN/Taxation Index Number allocation letter should be enclosed along with the tender.
6. The Bidder must fulfill the following minimum qualification criteria to prove the techno-commercial competence and submit the documents in support thereof:
 - a. Certificate of Registration / Incorporation Certificate of Bidder along with Copy of Service and sales Tax registration certificates.
 - b. Last 3 years financial status of the Bidder's/P&L and Balance sheet
 - c. The tenderer /manufacturer should submit a warranty Certificate along with invoice
 - d. **The tenderer shall provide Warranty for 2 years from the date of commissioning.**
 - e. The tenderer shall visit the location with prior permission, to acquaint themselves with the exact site requirement and site condition and quote as per their site survey at their own expense

7. Salient Features

1.	Tender No.& Date	07/2021/Tele
2	Item	40 Feet Aerial Masts with Arrester
3	Quantity	5 Nos
4	Estimated amount	Rs. 8,00,000/-
5	Tender fees(through on line mode only)	Rs.2000/-+ GST 18% GST amount on tender fees mentioned above shall be paid to GST Department directly by the bidder.
6	Earnest money deposit (through on line mode only)	Rs.8000/-
7	Specifications/requirements	Mentioned Above
8	Date of	10.01.2021



9	publication of e-tender.	19.01.2021
9	Date of submission of e tender	19.01.2021
10	Last date and time for online submission of e tender.	30.01.2021 06.00 pm
11	Date and time of opening of e-tender.	01.02.2021 11.45 AM
12	Place of opening	Police Telecommunication Headquarters, Pattam, TVPM
13	Date and Time of Financial Bid Opening	Will Be informed later
14	Date, Time and place of Technical evaluation	03.02.2021 at 03.00 pm at Police Telecommunication Headquarters
15	Bid validity(total no.of days upto which the rates are to be firm)	60 days
16	Warrenty and AMC	2 Years
17	Address of tender inviting authority	Superintendent of Police Telecommunication HQrs, Pattom, TVPM-695004 Ph:0471 2448707 e-mail:sptele .pol@kerala.gov.in Website:www.keralapolice.gov.in

8. Mode of submission of bids: - online. All Bid documents shall be submitted only in online procedure through the e-Gp website 'www.etenders.kerara.gov.in' in their designated online covers. Details of covers are given separately. No other mode of submission shall be accepted and such tenders will be rejected outright.

9. Cover details: - No. of covers - 2. i) Technical Bid ii) Financial Bid. The AMC/ATS after warranty period also to be quoted in the Financial Bid. In the case of Foreign Equipments, the rate must be quoted in Indian Rupees. The documents to be uploaded under each online covers are specified in the website.

10. Downloading of e-Tender documents: - The tender documents can be downloaded from the e-GP website www.etenders.kerala.gov. in from the date and time of publication of e-tender onwards to last date and time for online submission of e-tender. Downloading of tender documents will not be possible after the date specified above.

11. Submission of e-Tender documents: - The digitally signed tender document and other specified documents shall be submitted online through the e-Gp website other specified documents shall be submitted online through the e-Gp website www.etenders.kerala.gov.in well in advance before the last date and time mentioned above. No submission shall be allowed after the last date mentioned above.



12. Payment of Tender Fees - A non-refundable tender fee shall be paid in online mode through the e-Gp website www.etenders.kerala.gov.in at the time bid submission. No other mode of payment shall be accepted. THE TENDERS OF BIDDERS WHO DO NOT REMIT FEES THROUGH ONLINE WILL BE REJECTED OUTRIGHT.

13. Payment of Earnest Money Deposit (EMD): - The EMD shall be paid in online mode through the e-Gp website www.e-tenders.kerala.gov.in at the time bid submission. No other mode of remittance shall be accepted.

14. Exemption from payment of EMD: - Bidders who are registered with Store Purchase Department, Kerala or National small Scale Industries corporation Ltd., New Delhi (for the items tendered) are exempted from submission of EMD. Those bidders claiming exemption shall submit valid registration certificate from the SPD, Kerala or NSSIC, New Delhi. Tenders of bidders who do not remit EMD online or do not upload documental proof (digitally signed) for exemption of EMD will be rejected outright.

15. withdrawal and re-submission of e-Tender: - The Bidders are at liberty to withdraw the submitted tender/documents and to submit fresh tender/documents till the last date and time of submission of e-tender after which withdrawal/re-submission will not be allowed.

16. Opening of e-Tenders: - The bids shall be opened online through the e-Gp website www.etenders.kerala.gov.in at the Police Telecommunication Headquarters, Pattom Thiruvananthapuram on the date and time mentioned above in the presence of the Bidders/ authorized representatives who wish to attend at the above address. If the tender opening date happens to be a holiday or non-working day due to any valid reason, the tender opening process will be done on the next working day at the same time and place specified. Any change in the opening date/time/venue due to other reasons shall be informed by way of Corrigendum published in the e-Gp website. The Technical Bids will, be evaluated by a Technical Evaluation committee and those that do not conform to the specifications or to the satisfaction of the committee will be rejected. The financial bids of the Technically qualified tenderers only will be considered for opening. The date of opening of financial bids will be intimated to the concerned technically qualified tenderers, over phone/e-mail.

17. Technical Evaluation:- All tenderers who quote for the supply of above items are required to be ready for Technical evaluation to be held in the Office of the Police Telecommunication Head Quarters, Pattom ,TVPM on 03.02.2021 at 03.00 pm. The decision of the Technical Evaluation Board will be final. The Technical Evaluation Committee will be consisting of the following officials:

- 1) The DySP(C&W) Telecommunication Chairman (Ph.No.- 9497990309)
- 2) The IP Telecommunication CWS Member (Ph.No. 9497987439)
- 3) The IP HF Control Member (Ph. No. 9497987441)

The Chairman of the Committee can co-opt any other technical member of his choice to the Committee for proper evaluation of the tendered item. Any clarification/doubts regarding the specification or related matters pertaining to the items tendered may be freely got cleared through the officers included in the above committee by contacting them in the numbers shown against their names above.



18. All Bidders who participates in e-tender should produce hard copies of all relevant documents related to e tender at the time of technical evaluation, without fail.

19. As the items are urgently required, the selected bidder will have to supply and install the item without loss of time, preferably within 20 days

20. Note to Bidders:

i) Bidders have to procure legally valid Digital Certificate (Class III) as per Information Technology Act, 2000 for digitally signing their electronic bids. Bidders can procure the same from any of the license certifying authority of India. For more details, please visit the e-GP website www.etenders.kerala.gov.in

ii) Bidders are advised to note the Tender_Id and Tender No. & Date for future reference.

iii) All uploaded documents should contain the signature and the office seal of the bidder/ authorized persons and should be digitally signed while uploading. Documents uploaded without digitally signing shall entitle rejection of the tender. without digitally signing shall entitle rejection of the tender.

iv) In the case of Foreign Equipments, the rate should be quoted in Indian Rupees. Preference will be given to those who are ready to supply the item without opening Letter of Credit. Ordinarily, no advance payment will be made for procuring the above item.

v). For obtaining Digital Signature Certificate and help on e-tendering process, contact Kerala State IT Mission, e-Government Procurement PMU & Helpdesk, Basement floor of Pension Treasury Building, Uppalam Road, Statue, Thiruvananthapuram; Ph :0471-2577088, 2577 IBB; Toll free no: 18002337315; e-mail:etendershelo@kerala.gov.in; Website: www.etenders.kerala.gov.in on all government working days from 9:30 am to 5:30 pm.

vi) The Superintendent of Police Telecommunication Headquarters is empowered to reject any tender without assigning reason.

vii) For any clarifications regarding the terms and conditions in this tender notice or the tender document, please contact Deputy Superintendent of Police (C&W), Telecommunication Head Quarters ,Pattom, Thiruvananthapuram on all Government working days from 10:30 am to 5:00 pm. Ph: 9497990309

viii) Bidders who are using Internet Banking are requested to make online payment 72 hours in advance.

NOTE:-BIDDERS ARE ADVISED TO GO THROUGH THE CONDITIONS IN THE NOTICE INVITING TENDER AND THE TENDER DOCUMENT CAREFULLY AND COMPLY THEM TO AVOID OUTRIGHT REJECTION OF THEIR TENDER.

For any litigation relating to this order, the jurisdiction will be Thiruvananthapuram City.



Dr ARVIND SUKUMAR IPS
Superintendent of Police (ic)



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To : The Additional Director General of Police (SCRB) for information and necessary action

Copy To : 1) All Sub Unit heads for vide publicity. 2) AA/JS 1/JS 2/ HC/Cashier/CA to SP Tele for information and necessary action



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