



प्रसारभारती / PRASAR BHARATI
भारतीयलोकसेवाप्रसारक/ INDIA'S PUBLIC SERVICE BROADCASTER
अपरमहानिदेशक(अभि.) (द.क्षे) काकार्यालय/ O/o. ADDL. DIRECTOR GENERAL (E)(SZ)
आकाशवाणीएवंदूरदर्शन / ALL INDIA RADIO & DOORDARSHAN
स्वामीशिवानंदासालै, चेन्नई / SWAMY SIVANANDA SALAI, CHENNAI – 600 005

No. ADG(E)(SZ)/AIR/INST/IO - /2022-23/P

Date: 01.07.2022

To,

Sir,

SUB:- SITC of Copper Plate and GI Pipe Earthing at AIR,Rameshwaram and LPTV, Pathanamthitta.

Sir,

Sealed quotations are invited for the following mentioned works at AIR,Rameshwaram and LPTV,Pathanamthitta:

S NO.	Description of work	Quantity	Unit Rate	Total Amount
1	SITC of Earthing System as per the specifications as detailed Annexure-I	<u>Copper Plate Earthing:</u> <u>10Nos</u> (AIR,Rameshwaram : 8Nos) (LPTV,Pathanamthitta:2Nos) <u>GI Pipe Earthing: 2 Nos</u> (LPTV,Pathanamthitta:2Nos)		
2	Laying of earth conductor at 450MM below the surface from the earth pit to the main earth bus bar inside the building and Earthing Interconnection as per the specifications as detailed Annexure-I.	<u>100M.</u> For deciding L1, Tenderer has to quote rate for 100 metres Length. However, payment will be made as per actuals based on site condition.		
		TOTAL		
		GST		
		GRAND TOTAL		

Note:

The following Materials only will be supplied by the Department for each Pit and rest of the materials has to be supplied by Tenderer:

- i)Copper Plate of Size: 600mm x 600mm x 3.5mm
- ii)Copper strip 25MM/50mm x 1.6mm/3mm

1) Consignee:

i) Installation Officer, HPT,AIR/DDK, RAMAR PADHAM ROAD,
RAMESWARAM, Pin Code:623526.

ii) Installation Officer: LPTV/100 W FM All India Radio, Doordarshan
Relay Centre , Mannarmala, Pathnamthitta PO,- 689645,Kerala

2)Delivery Period : Work should be completed within 45 days from the date of Work Order.

3) Payment terms : 100% will be paid on satisfactory completion of the work.

4) Eligibility Criteria :

The bidder should have carried out SITC of Earthing in the past 5Years. Completion certificates of such works carried out for any Government Department/PSU's shall be enclosed in the Technical Bid. Such works must have been directly carried out for clients; Works undertaken as subcontract will not be considered.

5) Eligible Bidders may send their Bids to Director(E), Room No 207, O/o Additional Director General(E), AIR & TV, Swamy Sivananda Salai, Chennai – 600005 on or before 4 PM on 21.7.2022. Bids will be opened at 4:30 PM on 21.7.2022. Bids should be marked on the Cover ‘ **SITC Of Earthing System at AIR, Rameshwaram and LPTV, Pathanamthitta**’.

6) General terms and conditions:

- i) The bidder shall carryout the works with utmost care and not to damage any existing equipment. Bidder will be held responsible for any damages caused to property of AIR during the execution of the work and shall make good such damages at his own cost.
- ii) All the safety precautions are to be ensured and safety tools/equipment are to be brought by the contractor.
- iii) The contractor is liable to compensate the department for any damages to All India Radio property or personnel during the execution of work.
- iv) This office does not take any responsibility for any mishap which may occur to him or any of his personnel/equipment during the course of work.
- v) The undersigned has the right to accept or reject the quotation /quotations without assigning any reason.

7) The quotation should be valid for a period of 6 months from the date of opening .

Yours faithfully

SANJEEV K.P
Director(E)

Specifications for SITC of Earthing at AIR,Rameshwaram and LPTV,Pathanamthitta

A) Scope : The scope of work in this tender includes Supply, Installation and Commissioning of Copper Pipe earthing and GI Pipe Earthing at following Places as indicated.

1. LPTV,Pathanamthitta(Kerala)
i)Copper plate earthing: 2Nos
ii)GI Pipe Earthing: 2Nos.

2.AIR,Rameshwaram(Tamil Nadu)
i)Copper plate earthing: 8Nos

B) Detailed Specification of Copper Pipe and GI Pipe Earthing:

- i) The location of the Earth Pits will be identified by the Installation Officer.
- ii) At Each of the places, **Copper Plate Earthing** has to be carried out as per following: 2 Nos of Copper Pipe Earthing has to be carried out for Earthing Indoor equipment's. Wherever it is indicated by Installation Officer, two earthing's have to be interconnected with 2Nos of copper strip of size 25mm x 1.6mm/3mm with high insulation PVC sleeve and should be routed underground 450mm below Ground Level. From this busbar 2Nos of 25mm x 1.6mm/3mm with high insulation PVC sleeve routed underground 450mm below Ground Level should be terminated inside the building.
- iii) **At LPTV,Pathanamthitta, GI Pipe Earthing** has to be carried out as per following: 2 Nos of Pipe earthing has to be carried out for Earthing 45M heighten Tower. These two earthing's have to be interconnected with 2Nos of copper strip of size 25mm x 1.6mm/3mm with high insulation PVC sleeve and should be routed underground 450mm below Ground Level.

IV)) Specification of Copper Plate Earthing: Refer Drawing at Annexure -II

Sl. No.	Description	AIR Specification
1	Removal of Earth from Ground Level & digging of Earth Pit.	Size of Earth Pit: 300 x 300 x 3000 mm
2	Earth Electrode. Copper Plate of Size: 600mmx600mmx3.5mm and Copper strip 25mm 50mm x 1.6mm /3mm will be supplied by the Department.	Copper Plate of Size 600mm x 600mm x3.5mm has to be rolled to Copper Pipe of Size 3 1/8”(D) x 3.5mm(T) x 600MM(L) Two nos. of copper strip electrodes of size 25/50 x 1.5/3mm are to be connected to the Copper Pipe of Size 3 1/8”(D) x 3.5mm(T) x 600MM(L) by means of brass nut/bolts using spring washer and then Joints & Interconnections of the Copper Strips & Copper pipe are to be properly brazed & tightened / welded as applicable and covered with non-corrosive material.

3	Supply & Installation of GI Pipe in the Earth Pit. & Laying of Earth Conductor. Copper Strip of Size: 25 x 3/1.5mm will be	Heavy Duty, Class 'C', 50mm dia, 3 Mtr. length GI Pipe is to be provided with continuous holes of 12mm dia, in Zig Zag fashion, spacing 15cm apart, starting from the bottom up to height of 3 Mtr. he GI Pipe should have clean surface, not covered by Enamel or Poorly conducting material. 2)Two Nos of 25MM x 1.5/3MM copper strips brazed with a
4	Filling of Earth Pit	After integrating GI Pipe, Copper Pipe and Copper Strips as above, the entire assembly has to be installed in Earth Pit. Then the Earth Pit has to be filled with Charcoal, sand & Salt alternatively (each layer 200 mm depth) up to the height of 3000 mm (from the bottom of the pit to the top). If terrain Is rocky then they have to be filled with Bentonite.
5	Construction of Masonry Work	Masonry brick work of a height of 600mm has to be constructed with MS Angle Iron Frame at the top. A CI [Cast Iron] lid of size 12" x 12" with suitable handle and hinges is to be provided. 50 mm cylindrical holes all around the concrete enclosure for seepage of water into the earth pits from surrounding area to be provided 4" – 6" thick sand layer around the masonry work for facilitating ingress of filtered rain water to be provided.
6	Measurement of Earth Resistance.	After completion of the Earthing System, a complete set of Measurements have to be taken using standard Earth Megger in the presence of Installation Officer. 2)The value of the Earth Resistance should be preferably Less than One Ohm.

V)Specification of GI pipe Earthing:

Sl. No.	Description	AIR Specification
1	Removal of Earth from Ground Level & digging of Earth Pit.	Size of Earth Pit: Appropriate Size Required for inserting GI Pipe

2	Supply & Installation of GI Pipe in the Earth Pit. & Laying of Earth Conductor. Copper Strip of Size: 25 x 3/1.5mm will be supplied by the	1)Heavy Duty, Class ‘C’, 50mm dia, 3 Mtr. length GI Pipe is to be provided with continuous holes of 12mm dia, in Zig Zag fashion, spacing 15cm apart, starting from the bottom up to height of 3 Mtr. The GI Pipe should have clean surface, not covered by Enamel or Poorly conducting material. 2)Two Copper strips of size 25/50 x 1.5/3mm suitably brazed with each other at the Top and Bottom has to be properly fixed with the GI pipe at the top and Bottom with Steel Nuts and
3	Filling of Earth Pit	The entire assembly of Copper Strips and GI Pipe has to be positioned inside the Earth pit and the Earth Pit has to be filled with Charcoal, sand & Salt alternatively (each layer 200 mm depth) up to the height of 3000 mm (from the bottom of the pit to the top). If terrain Is rocky then they have to be filled with Bentonite.
4	Construction of Masonry Work	1)Masonry brick work of a height of 600mm has to be constructed with MS Angle Iron Frame at the top. A CI [Cast Iron] lid of size 12” x 12” with suitable handle and hinges is to be provided. 2)50 mm cylindrical holes all around the concrete enclosure for seepage of water into the earth pits from surrounding area to be provided 3)4” – 6” thick sand layer around the masonry work for facilitating ingress of filtered rain water to be provided.
5	Measurement of Earth Resistance.	After completion of the Earthing System, a complete set of Measurements have to be taken using standard Earth Megger in the presence of Installation Officer.

NOTE:

❖ **The following Materials only will be supplied by the Department. Rest of the materials has to be supplied by Tenderer:**

- 1. Copper Plate of Size: 600mmx600mmx3.5mm**
- 2. Copper strip 25MM/50mm x 1.6mm/3mm**

C) Guarantee / Warrantee: One years from the date of completion of the work.

D) Payment terms : 100% of will be paid on satisfactory completion of the work.

E) Eligibility Criteria :

- i. The bidder should have carried out SITC of Earthing in the past 5Years. **Completion certificates of such works carried out for any Government Department/PSU's shall be enclosed in the Technical Bid.**
- ii. **Such works must have been directly carried out for clients; Works undertaken as subcontract will not be considered.**

COPPER PIPE EARTING

ANNEXURE-II

