



DEPARTMENT OF CNS VISAKHAPATNAM

Name of Work: Supply, Installation, Testing of Earthing System for EDtS/ Inline X-Ray machine at NITB/ Terminal Building, Visakhapatnam Airport, Visakhapatnam.

NIQ NO.AAI/VZ/CNS/STORES/ Earthing System/2021

ESTIMATED COST: Rs.1,85,908/- -exclusive of GST



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SECTION - I

NOTICE INVITING QUOTATIONS

NAME OF THE WORK: 'SITC OF EARTHING SYSTEM FOR EDTS IN NITB AT VISAKHAPATNAM AIRPORT'.

Sealed quotations are invited by the DGM (CNS), AAI, Visakhapatnam Airport, Visakhapatnam-530009 on behalf of AAI for the work "SITC OF EARTHING SYSTEM FOR EDTS IN NITB AT VISAKHAPATNAM AIRPORT" from any Earthing System Executor.

The NIQ document can also be downloaded from AAI website <https://www.aai.aero>

The postal address is given below:

The Deputy General Manager (CNS), O/o The AIRPORT DIRECTOR, AAI, VISAKHAPATNAM AIRPORT, VISAKHAPATNAM -530 009.

1. Bid shall be submitted in two bids system (a) TECHNICAL BID and (b) FINANCIAL BID.
2. Both the above bids should be sealed separately in envelopes superscripted "Technical bid" and "Financial bid" and both these envelopes to be placed in a sealed envelope superscripted with the name of work and NIQ number.

3. Critical dates:

Publishing Date & Time	15.02.2021 1800 Hrs
Bid Submission Start Date & Time	16 .02.2021 From 0930hrs
Bid Submission End Date & Time	23.02.2021 Upto 1600hrs
Bid opening Date: Envelope – I (Tech Bid))	24.02.2021 at 1530hrs
Bid opening Date: Envelope – II (Price Bid)) -	26.02.2021 at 1530 Hrs

4. The technical bid which will be opened first, shall contain the following documents specified as below
 - a. Self-attested copy of valid PAN card.
 - b. Self-attested copy of valid GST registration.
 - c. Self-attested copy of valid firm / company registration certificate;
Self-attested copies of Memorandum and Articles of Association in case of Companies;
Partnership Deed in case of partnership firms or
Approved by laws in case of co-operative societies.
 - d. Copy of signed and stamped unconditional acceptance as per Annexure-I in NIQ document.



- e. Self-declaration of debarment and bribe as per Annexure-II.
 - f. Duly filled and signed Annexure-III for compliance of Technical Specification with make and model of supplying items. The Annexure-IV shall be downloaded from our website. Retyped or printed on vendors letter head are not accepted.
 - g. Bank account details of the bidding agencies such as account Number, Name of the Bank and branch with IFSC code etc. as per Annexure-V.
 - h. Signed NIQ document.
5. The bids of the bidders who fail to submit the documents as mentioned above from points a to h at SLNO.4, shall be rejected out rightly.
 6. Bidders must fill the required information only on pages of NIQ which were down loaded from AAI web site (<https://www.aai.aero>) or from the pdf document sent by us on request through e-mail. NIQ Document matter typed on bidder's letter head is not valid.
 7. **Financial Bid**
The financial bid should be in the prescribed format available in the NIQ document as given in Schedule-A
 8. Any changes in the date of technical bid shall be intimated through e-mail.
 9. If at any stage, any information/ documents submitted by the bidder/firm are found to be false, Bid will be rejected or order will be cancelled even if work awarded. The agency shall be liable for debarment from tendering in AAI. Apart from the above, any other appropriate/ legal action.
 10. AAI reserves the right to accept or reject any or all bids without assigning any reason. AAI reserves the right to reject the tender document of working agencies whose performance at ongoing project below par and unusually poor.

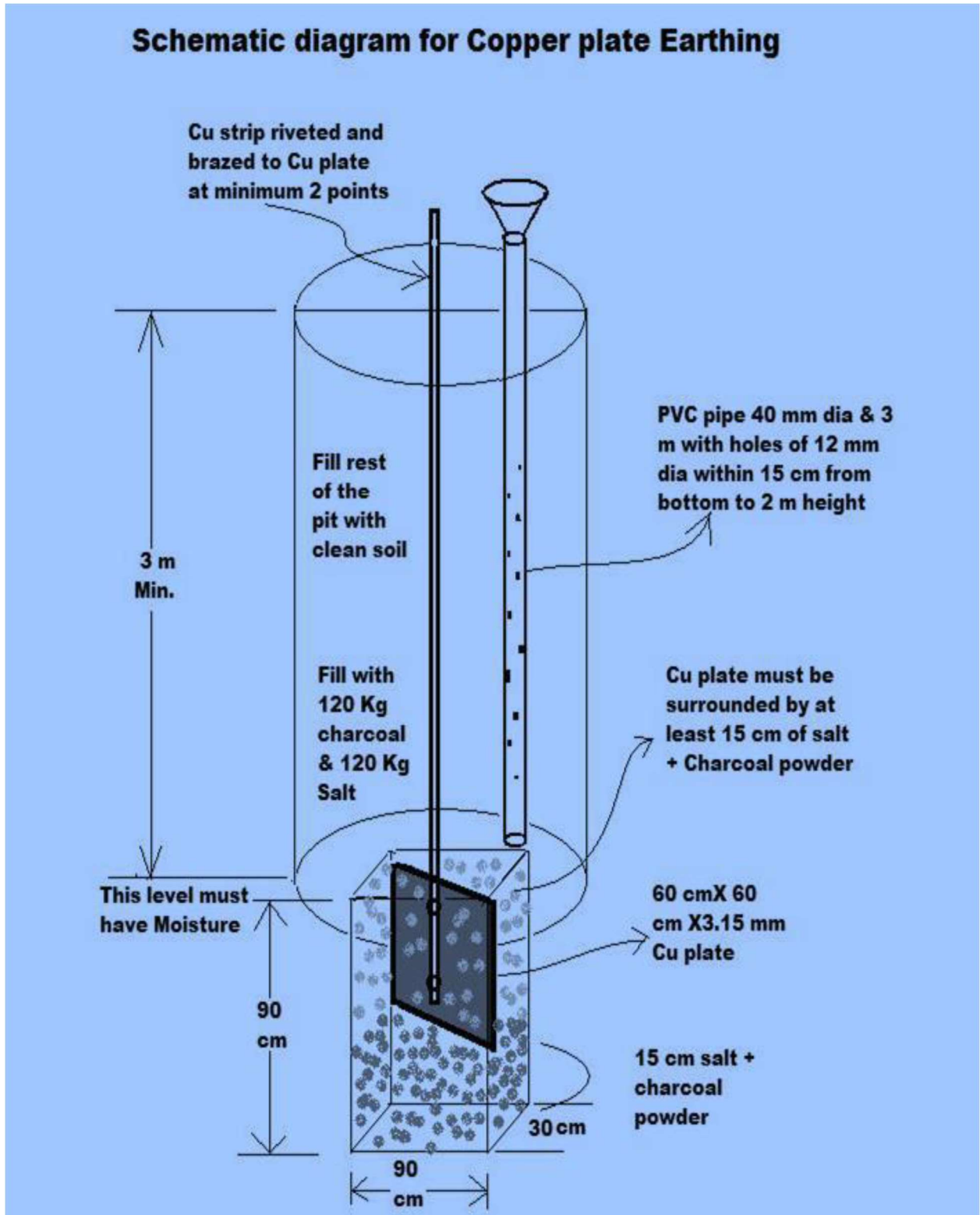
DGM (CNS)
AAI Visakhapatnam Airport



SECTION -II

SCOPE OF WORK

The work includes following components.





EARTHING SYSTEM:

Conventional earthing using copper plates as per IS 3043:-

1. Earth Pit of the Size of 1 meter diameter and 3 meter depth shall be excavated, after depth of 3 meter the size of excavation shall be 900 X 300 X 900mm depth.
2. Plate Electrodes shall be in vertical position.
3. PVC pipe for Watering shall be used of 40mm Diameter, length of 3m (contain hole of 12mm Diameter in Zigzag manner starting from 15 cm away from bottom to 2 meter height).
4. At bottom 150mm layer of salt and charcoal powder shall be installed, then plate shall be installed.
5. Min 120 Kg each of charcoal powder and salt shall be used for each earthing pit.
6. The plate/pipe electrode, as far as practicable, shall be buried below Permanent Moisture level but in no case less than 2.5 meter below finished ground level.
7. 600 mm x 600 mm x 3.15 mm copper plate buried at a depth of 8 ft in vertical position with the pit filled with alternate layers of charcoal and salt up to 4ft from bottom.
8. The copper plates shall be connected to earth strip by riveting and brazing at no less than two points and the joints shall be protected by heavy coat of bitumen.
9. Schematic diagram for copper plate earthing is shown in Figure above.

GENERAL REQUIREMENT:

Earthing Systems shall comprise of Conventional copper plate earthing system.

- a. The Earth pit shall be 1meter diameter and 3 meter depth. Earth pit shall have 1 No's copper plate of 600mm x 600mm x 3.15mm size or better and shall be connected by Copper Strip of 25 mm wide x 3 mm thick via riveted and brazed to copper plate at minimum 2 points and shall be extended out of the pit as earth. A PVC pipe 40 mm diameters and 3 meter with holes of 12mm diameter within 15 cm from bottom to 2m height. The pit shall be filled with alternating layers of charcoal, salt & clear soil, as required. Approximately 1 ft of hollow pipe shall be above the ground level. Proper protection, painting, marking / serial no shall be given to it and shall be shown in the layout drawings.. Earth resistance shall be less than or equal to 1Ω.
- b. The PVC insulated copper strip needs to be run from Earth pit to Server Room along the route provided by AAI. Wherever the Copper Strip is exposed, the strip is required to be laid through GI pipe and GI pipe needs to be fixed properly on the walls. Copper strip is to be fixed with insulated spacers on the wall or the metallic structure.
- c. An insulated 10 sq mm copper wire is to be laid from the server room to EDtS 1 Xray machine and EDtS 2 Xray machine through the false ceiling ducts along the route provided by AAI.
- d. All jointing shall be brazed with copper.
- e. The earth distributor with copper strip with 6 holes is to be provided in the Server Room.
- f. All masonry work (concrete) shall be made on earth pits protecting, easy identification, maintenance etc.
- g. An earth pit chamber should be provided with lock.
- h. Earthing system shall have minimum useful life of at least 06 years.



- i. An earth pit chamber made of lockable plastic material shall be used as inspection chamber.
- j. A detailed drawing for Copper Plate Earthing System is placed as above.

Installation: The installation work will be carried out as per directions of the Technical team constituted by the competent authority and successful bidder will start the work only after receiving orders from competent authorities via email/letter , as the time for Installation may vary depending on the site readiness and as per discretion of the competent Authority. No compensation shall be made by AAI in case there is delay at AAI end.

Installation work shall be completed within 45 days after receiving orders from competent authorities via email/letter.

1. Excavation of trench to a nominal depth in the operational area within the premises of Visakhapatnam Airport and laying as per specifications.
2. Laying of Copper Strip at desired site, extending to the desired room by laying GI pipes, PVC pipes etc., both vertically & horizontally along the wall , roof etc., Any other associated works including the various items for which the rates are prefixed in tender document, will be in the scope of the work and shall be done on the directions of the Competent Authority.
3. While trenching, the Contractor should not cause damage to any underground installations belonging to other agencies and **any damage caused should be made good at his own cost and expense.**
4. The Contractor should himself provide the necessary digging tools, camping materials for his workers, caution boards, red lamps during night, etc. at his own cost and he should also observe all prescribed precautions during this work for safety of pedestrians, vehicular traffic, etc.
5. Earth pit shall be apart from building by about 10m and depending on site conditions.

OPERATIONAL REQUIREMENT

1. It will be the responsibility of the contractor to arrange entry passes for its staffs including payment for issue of entry pass as applicable for which nothing extra will be paid by AAI.
2. The submission of applications for Temporary photo Identification cards (PICs) in advance along with Certificate of Police Verification etc. as per the prevailing practice and regulations of BCAS will be the responsibility of contractor. Any financial expenditure involved such as fees for PICs, Photos, fees for Police Verification will be borne by the contractor nothing extra will be paid by AAI.
3. Its responsibility of contractor to remove the surplus materials after completion of work from the site and clean off the site completely nothing extra will be paid by AAI.



SECTION-III

TERMS & CONDITIONS

1. No bid shall be accepted to a party or an individual falling under the following categories:
 - Having outstanding dues in respect of any contract with AAI, at any airport under its administrative control.
 - Debarred/black-listed by Central Vigilance Commission, Central Bureau of Investigation or by Airports Authority of India.
2. The terms and conditions contained in the NIQ Document issued AAI shall be carefully read and understood.
3. The successful bidder must give acceptance letter within 10 days from the receipt of work order.
4. Time Period for completion of work is 45 days from the date of issue of work order.
5. AAI cannot be held responsible for damage occurred to vendor or his man power if any during work execution.
6. The bidder firm shall possess the required tools, plants, skilled manpower, etc. required for execution of the subject scope of work in the tender.
7. Works subletting or outsourcing to any third party is not permitted.
8. Original documents submitted during technical bid submission shall only be accepted for verification.
9. The right to accept the tender in full or in part/parts will rest with AAI. However, AAI does not bind itself to accept the lowest tender and reserves to it-self the authority to reject any or all the tenders received without assigning any reason whatsoever.
10. Technical Bids of bidders shall be scrutinized by AAI to ensure whether the same are in conformity with the eligibility, operational requirement & technical specifications. Bidder should provide complete information to substantiate compliance of the technical specifications listed in the tender. In case of incomplete compliance statement or inadequate information, tenders shall be finalized on the basis of the information available. It shall, therefore, be in the bidders' interest to give complete and comprehensive technical particulars, description and details while submitting the bid.
11. AAI may seek clarifications on technical details or any other information deemed necessary. The queries raised should be replied positively within the time specified, failing which the evaluation will be done on the basis of the information available.
12. Tenders/Quotations not accompanied with prescribed information or are incomplete in any respect, and/or not meeting prescribed conditions are not fulfilled, shall be considered non-responsive and are liable to be rejected.
13. AAI also reserves the right at its sole discretion not to award any order under the NIQ/tender called. AAI shall not pay any costs incurred in the preparation and submission of any tender.
14. The specifications indicated in this NIQ are the minimum and bids of the firms not complying with these minimum specifications or having deviations equivalents to the minimum requirements shall be rejected. However, higher than the minimum requirements shall be technically acceptable without any additional financial implication.
15. Any correspondence after the opening of the technical bid, from the bidder, regarding the bid unless specifically sought by AAI shall not be considered.
16. Technical specifications & schedule of quantities mentioned in Annexure-III and Annexure-IV must be complied perfectly and there should not be any deviation in this regard, otherwise the



bid shall be considered non-responsive and are liable to be rejected. Schedule A shall filled in the downloaded format available in our web site. Printed technical compliance on Letter heads or other altered formats are not accepted.

17. **Payment terms:** -

100% payment shall be released by Airport Director, Visakhapatnam airport to the supplier on submission of documents as below.

- a. GST Bills (Invoices) in duplicate
- b. Delivery Challan
- c. Certificate from AAI works inspector for successful completion of SITC of the awarded work.
- d. Submission of BG.

18. **Warranty:**

Onsite warranty must be for a period of not less than one year from the date of successful testing or onsite warranty period offered by OEM whichever is high. In case of any defects in the supplied items/parts which may be noticed within the warranty period, the supplier shall be fully responsible to rectify or replace the items/parts, which may cause unsatisfactory performance, at his own expense to the satisfaction of AAI.

19. **Liquidity Damage:**

If the bidder fails to complete the awarded work successfully within the stipulated period and no justifiable reasons are found for the delay, you may be liable to pay the compensation for delay at the rate of 1% of the total value of work order per week of delay subject to a maximum of 10% of the value. The amount of compensation for delay or waiver of compensation for delay in case of justified reasons shall be decided at the discretion of the AIRPORT DIRECTOR, AAI,, Visakhapatnam and same shall be final binding on you.

20. Inspection at Customer Premises: The supplier will demonstrate the specifications at customer premises within 4 days of delivery of items, if required by AAI.

21. The rates quoted shall be exclusive of GST and transportation and other charges up to Visakhapatnam airport.

22. **Bank Guarantee (BG) / Security deposit:**

The successful bidder is required to furnish Security Deposit (SD), after completion of work. The SD shall be submitted in the form cash/DD or in the form of irrevocable bank guarantee to the extent of **3 % (Three percent)** of the entire contract amount as per Proforma at Annexure "II" from nationalized/Scheduled Bank (as per RBI schedule) having office in India. The bank Guarantee shall remain valid for a period of **15 months** from the date of successful commissioning of system.

23. The rates quoted in the tender shall remain valid for a period of 90 days from the date of opening financial bid. The rates once approved shall be final and no escalation, deviation shall be accepted under any circumstances.



24. In case the successful bidder does not accept the work order, the party will also be debarred for future participation in the tenders for a period of three years.
25. AAI may grant an extension of time limit set for the completion of the work in case the timely completion of the work is delayed by force majeure beyond the bidder's control. Force majeure is defined as an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, storms etc.), acts of states, the direct and indirect consequences of wars (declared or un declared), hostilities, national emergencies, civil commotions and strikes (only those which exceed a duration of ten continuous days) at successful Bidders factory. The successful bidder's right to apply for an extension of the time limit for completion of the work in above mentioned cases.
26. Except where otherwise provided for in the contract, all questions and disputes relating to the meeting of the specifications, designs, drawings, and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works, or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be settled within thirty (30) days (or such longer period as may be mutually agreed upon) from the date that either party notifies in writing that such dispute or disagreement exists. Provided that any dispute that remains unresolved by DRC appointed by the ED/Member (planning)/Chairman, AAI, shall be settled under the Rules of Indian Arbitration and Conciliation Act, 1996, by a sole arbitrator appointed by Member (Planning)/Chairman, AAI. The venue of Arbitration shall be New Delhi, India. The arbitration award shall be final and binding upon the parties and judgment may be entered thereon, upon the application of either party, by any court having jurisdiction.
27. Bidder should take into account any corrigendum published/ e-Mail on the tender document before submitting their bids.
28. Please go through the NIQ/Tender advertisement and the NIQ/ Tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
29. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable.
30. **ASSISTANCE TO BIDDER:**
- Any queries relating to the NIQ/Tender document and the terms and conditions contained therein should be addressed to the NIQ/Tender Inviting Authority for a tender or relevant contact person indicated in the tender.
31. AGM (CNS), Airport System, VISAKHAPATNAM AIRPORT is the project officer to execute the work.



ANNEXURE – I

UNCONDITIONAL ACCEPTANCE LETTER

To
The Airport Director,
Airports Authority of India,
Visakhapatnam Airport,
Visakhapatnam-530009.

(To be submitted in Technical bid)

Subject: Unconditional acceptance of Terms and Conditions of Tender

**Name of the work: SITC OF EARTHING SYSTEM FOR EDTS IN NITB AT
.VISAKHAPATNAM AIRPORT.**

Sir,

The NIQ/Tender document for the above-mentioned work has been issued by AAI and I hereby certify that I have read and understood the entire terms & conditions and work description of the NIQ/Tender made available to me in the office of the DGM(CNS), Visakhapatnam Airport which shall form part of the contract agreement and I shall abide by the conditions/clauses contained therein.

I hereby unconditionally accept the tender conditions of AAI's NIQ/Tender document in its entirety for the above works.

It is certified that after unconditionally accepting the NIQ/Tender document in its entirety, it is not permissible to put any remarks/conditions in the tender uploaded to e-portal and the same has been followed in the present case. In case any provisions of the tender are found violated after opening tenders, I agree that the tender shall be rejected and AAI shall without prejudice to any other right or remedy be at liberty to forfeit the full said earnest money absolutely.

I have not paid /will not pay any bribe to any official of AAI for awarding this contract at any stage during the execution or at the time of payment of bills and further if any official asks for any bribe/gratification, I will report it to the appropriate authority in AAI.

Date:

Yours faithfully,

(Signature with stamp)



ANNEXURE – II

“Undertaking for Not Black-Listed”

“To be submitted with e-Envelope I –Technical Bid”

To,

Airport Director,
Airports Authority of India,
Visakhapatnam Airport,
Visakhapatnam-AP - 530009.

“SITC OF EARTHING SYSTEM FOR EDTS IN NITB AT VISAKHAPATNAM AIRPORT”.

1. It is certified that I/We have not been Debarred/black listed by CBI or AAI or any Public-Sector Undertaking/Departments like Railways, Defense or any other department of Govt. of India or State Govt.
2. It is also certified that neither I/ We nor our firm or its partner or its Directors have been black listed or any case is pending or any complaint regarding irregularities is pending, in India or abroad, by any global international body like World Bank/International Monetary Fund/World Health Organization etc. or any Indian State/Central Government Departments or Public-Sector undertaking.

Signature of Bidder with seal



ANNEXURE-III

Technical Specifications & Compliance Statement
(To be submitted along with Technical bid-ENVELOP-1)

S.No	ITEM	SPECIFICATIONS	PURITY OF MATERIAL	Complied (Yes/ No)
1	Copper Plate	Size 600X600X3.15mm Copper plate should be brazed at the bottom of the copper strip.	Purity of Copper 99.99%	
2	Copper Strip with PVC cover	25mm X3mm ETP grade and conform to IS:191-Part-V (Thickness) Two copper strip should be riveted and brazed on copper plate at least at two positions for each strip.	Purity of Copper 99.99%	
4	Insulated Copper Wire	PVC insulated copper cable of 10mm square cross section	Purity of Copper 99.99%	
5	GI pipe	1.5 inch	Heavy duty Class C	
6	Heavy duty PVC pipe plastic corrugated hose	2 inch dia with holes of 12mm dia within 15 cm from bottom to 2 m height		
7	Salt	Granular	About 1-3cm granules	
8	Charcoal	Granular	About 1-3cm granules	
9	Cast iron box with lid	Prefabricated earthing inspection chambers with proper dimensions may also be used. On the lid date of testing and average resistance value shall be written with yellow paint of black background		
10.	Brick Housing as per requirement.			
11.	Removal of Earth from ground level and digging of earth pit and filling with Black cotton Soil	Size of earth pit: 1sq meter & 4 meter depth		
12.	Laying of GI pipe at different locations.			
13.	Installation including laying of Copper strip and Cable in desired locations	Copper strip shall be fixed to the wall/columns etc., at every 500mm with brass spacers.		



ANNEXURE-IV

Schedule of Quantities

S.No	ITEM	SPECIFICATIONS	QUANTITY
1	Copper Plate	Size 600X600X3.15mm Copper plate should be brazed at the bottom of the copper strip.	1 no's
2	Copper Strip with PVC cover	25mm X3mm ETP grade and conform to IS:191-Part-V (Thickness) Two copper strip should be riveted and brazed on copper plate at least at two positions for each strip.	140 meter
4	Insulated Copper Wire	PVC insulated copper cable of 10mm square cross section	130 meter
5	GI pipe	1.5 inch	60 mts
6	Heavy duty PVC pipe plastic corrugated hose	2 inch dia with holes of 12mm dia within 15 cm from bottom to 2 m height	10 ft
7	Salt	Granular	120 kg
8	Charcoal	Granular	120 kg
9	Cast iron box with lid	Prefabricated earthing inspection chambers with proper dimensions may also be used. On the lid date of testing and average resistance value shall be written with yellow paint of black background	1 no
10.	Brick Housing as per requirement.		1 no.
11.	Removal of Earth from ground level and digging of earth pit and filling with Black cotton Soil	Size of earth pit: 1sq meter & 4 meter depth	
12.	Laying of GI pipe at different locations.		
13.	Installation including laying of Copper strip and Cable in desired locations	Copper strip shall be fixed to the wall/columns etc., at every 500mm with brass spacers.	01 job



SCHEDULE-A

FINANCIAL BID

(To be submitted separately in Financial Bid envelope)

Name of work: SITC OF EARTHING SYSTEM FOR EDTS IN NITB AT VISAKHAPATNAM AIRPORT”.

S.No	ITEM	QUANTITY	Rate excl GST
1	Copper Plate	1 no's	
2	Copper Strip with PVC cover	140 meter	
4	Insulated Copper Wire	130 meter	
5	GI pipe	60 mts	
6	Heavy duty PVC pipe plastic corrugated hose	10 ft	
7	Salt	120 kg	
8	Charcoal	120 kg	
9	Cast iron box with lid	1 no	
10.	Brick Housing as per requirement.	1 no.	
11.	Removal of Earth from ground level and digging of earth pit and filling with Black cotton Soil		
12.	Laying of GI pipe at different locations.		
13.	Installation including laying of Copper strip and Cable in desired locations	01 job	
	Total Amount		

(Total Rupees in words:)

Signature of the bidder
with seal and date.



ANNEXURE-V

FOR REFUND OF EMD, FOLLOWING IS REQUIRED FROM THE PARTICIPATING AGENCIES / BIDDERS: -

BENEFICIARY DETAILS FOR RTGS FUNDS TRANSFER

S. No	Particulars	Information Required
1	Name of the Account Holder i.e. Bidder	
2	Mobile number / land line number of the vendor	
3	PAN / TAN No. of the Party i.e. Bidder	
4	Name of the Bank	
5	Address of the Bank	
6	Bank Account No.	
7	Bank MICR Code	
8	IFSC Code of the Bank	
9	Type of the Bank Account	

Note: In addition of the above scanned copy of cancelled cheque may please be provided.

(Beneficiary's i.e. Bidder's Name & Address)

Place:

Date:

**Annexure-VI****Check list for Documents to be submitted in Technical bid.**

Sl. No.	Name of the Documents	Envelope	Attached
01	Self-attested copy of valid PAN card.	Technical	Yes / No
02.	Self-attested copy of valid GST registration.	Technical	Yes / No
03.	Self-attested copy of valid firm / company registration certificate; Self-attested copies of Memorandum and Articles of Association in case of Companies; Partnership Deed in case of partnership firms or	Technical	Yes / No
04.	Signed and stamped Unconditional acceptance as per Annexure-I in NIQ document	Technical	Yes / No
05	Self-declaration of debarment and bribe as per Annexure-II.	Technical	Yes / No
06	Duly filled signed and Stamped Annexure-III for compliance of Technical Specifications	Technical	Yes / No
07	Bank account details of the bidding agencies such as account Number, Name of the Bank and branch with IFSC code etc. as per Annexure-V	Technical	Yes / No
08	Signed NIQ document.	Technical	Yes / No
09	Financial bid (BOQ)	Financial	Yes/No
10	Check list for Documents to be submitted in Technical bid.	Technical	Yes / No

Sign of the Bidder.