



भा.कृ.अ.प.-राष्ट्रीय उच्च सुरक्षा पशुरोग संस्थान  
ICAR-National Institute of High Security Animal Diseases  
(एवियन इन्फ्लूएंजा ओ.आई.ई. संदर्भ प्रयोगशाला)  
(OIE Reference Laboratory for Avian Influenza)  
आनंद नगर, भोपाल - ४६२०२२ (म.प्र.), भारत  
Anand Nagar, Bhopal - 462022 (M.P.), India



EPABX Tel. No. 0755-2757542, 2750647, FAX: 0755-2758842, Website: www.nihsad.nic.in

F. No. 9-162/18-19/NIHSAD (P&S)

Dated: - 26.12.2018

To,

Sub:- Quotation (Under two bid system) for Installation of Plate Earthing for DG Set and Sub-Station Equipments – reg.

Dear Sir(s),

Reputed firms/Authorized firms are invited for quoting their rates for the supply of following work as per under mentioned specification: -

Sr. No.	Name of item:- [Supply, Installation and Testing of Earth Pits and Earth Strips for DG Sets and Lightning Arrester Specification as per Annexure – I As per Scope of work (Annexure – I)]	Qty.	Unit Rate (In Rupees)	Total Price (In Rupees)
01.	Earthing with G.I. earth plate 600 mm x 600 mm x 6 mm thick including accessories.	06 Nos.		
02.	Earthing with copper earth plate 600 mm x 600 mm x 3 mm thick including accessories.	07 Nos.		
03.	Supplying and laying 25 mm x 6 mm G.I strip at below ground/hume pipe as strip earth electrode.	150 Meter s/ as per actual		
04.	Supplying and laying 25 mm x 3 mm copper strip below ground/hume pipe as strip earth electrode.	123 Meter s/as per actual		
	<b>Applicable GST @ 18%</b>			
	<b>*Total FOR NIHSAD, Bhopal</b>			

**\*(Financial bid must be submitted in separate envelope duly sealed)**

**Relevant terms & conditions are as below:-**

Contd....2

01. Quotations should be submitted under two bid system in a separate envelope (Technical Bid + Financial Bid) clearly mentioning at the top Tender No. F. No. 9-162/18-19/NIHSAD (P&S) "Installation of Plate Earthing for DG Set and Sub-Station Equipments". The Technical bid and the Financial bid should be sealed in a separate envelopes and both these sealed covers are to be put in a bigger cover which should also be sealed. The last date of receipt of above quotation is **28.01.2019 upto 5:00 PM**. This Institute will not be responsible for any postal delays.
02. Only the technically suitable bids will be considered for financial evaluation.
03. The rates should be quoted for F.O.R. ICAR-NIHSAD, Bhopal basis alongwith indicating separately brand name its price in clear terms.
04. Discount, if any, should be indicated clearly.
05. This Institute is registered with the Department of Scientific & Industrial Research (DSIR), Govt. of India for purpose of availing custom duty exemption in terms of Government. Notification No. 51/96-Customs dated 23 July, 1996 and central excise duty exemption in terms of Government Notification No. 10/97-Central Excise dated 1 March, 1997.
06. GST should be indicated in clear terms separately. GSTIN Registration/TIN Number should be mentioned.
07. Unless otherwise mentioned in the quotation, it will be presumed that the quoted rates are inclusive of all taxes/levies.
08. The rates quoted should be valid for **180 days** from the date of opening of quotation.
09. There should be no cutting/overwriting. The cutting if any should be duly attested.
10. Warranty – 01 Year from the date of completion of works.
11. Unattested/amended/overwritten figure will not be considered.
12. In all matters of disputes, the decision of the Director of this Institute shall be final and binding.
13. Minimum period of completion of works – 30 days.
14. TDS will be deducted from the bill as per applicable tax rules.
15. PAYMENT TERMS: Payment will be made reasonable time say within 30 days from the date of receipt of material in good condition without any damage and after installation of the equipment in accordance with the ordered specification at the end satisfactory completion of the work as per scope of technical specifications. **Since the mode of payment will be e-payment system, hence, Bank Account, Number, name of bank with location and IFSC code Number of Bank may be furnished on the body of the bill.**

16. **Performance Security:** Within 30 (Thirty) days after the issue of a letter/PO by this Institute, the supplier, shall furnish performance security to the institute for an amount of **10% (of Total Ordered value)** including the warranty obligation before supply.
17. The Institute reserves the right to reject any or all the quotation(s) received without assigning any reasons thereof.
18. Tentative date of opening of Technical bid **29.01.2019 at 11:30 AM.**

Yours Sincerely



**(S. K. GUPTA)**  
**Sr. Adm. Officer**

**SCOPE OF WORK**

<b><u>Name of Work: -</u></b>		“Supply, Installation and Testing of Earth Pits and Earth Strips for DG Sets and Lightning Arrestor at NIHSAD Substation”.	
<b><u>Eligibility of bidder:-</u></b>			
01.	The Bidder should have valid Electrical Contractor “Class A” license from MP Licensing board.(Copy of valid ‘Class A’ license should be enclosed).		
02.	Experience of two similar works of at least Rs 1 lakh value each during the last five years in Govt/PSU/Autonomous bodies/Reputed private organization.(Copy of work order should be submitted along with address of clients).		
<b><u>SCOPE OF WORK</u></b>			
Sr. No.	Description	Qty	Unit
01.	Earthing with G.I. earth plate 600 mm x 600 mm x 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 3 meter long etc. with charcoal/ coke/bentonite and salt as required for 3 DG Sets (2x300kVA & 1x500kVA) Body Earth.	06	Nos.
02.	Earthing with copper earth plate 600 mm x 600 mm x 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 3 meter long etc. with charcoal/ coke/bentonite and salt as required for 3 DG Sets (2x300kVA&1x500kVA) Neutral & Lightning Arrestor.	07	Nos.
03.	Supplying and laying 25 mm x 6 mm G.I strip at below ground/hume pipe as strip earth electrode, including connection/terminating with G.I. nut, bolt, spring, washer etc. as required (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50 mm) for 3 DG Sets(2x300kVA & 1x500kVA) Body Earth.	150	Meters/ as per actual
04.	Supplying and laying 25 mm x 3 mm copper strip below ground/hume pipe as strip earth electrode, including connection/terminating with nut, bolt, spring, washer etc. as required from Earth electrode to equipment (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50 mm) for 3 DG Sets (2x300kVA&1x500kVA) Neutral& Lightning Arrestor.	123	Meters/ as per actual

01.	<p><b>SPECIFICATIONS OF EARTHING SYSTEMS :-</b></p> <ul style="list-style-type: none"><li>• Earth pit of size of 1 meter diameter &amp; 3 meter depth shall be excavated. Excavation of the rocky earth, soft murrum, hard murrum etc and back filling with black cotton soil, <b>charcoal salt/bentonite Earthing chemical</b> for the earth pits.</li><li>• After 3 meter depth, the size of excavation shall be <b>900*300*900</b> mm for burying copper/GI plate.</li><li>• A copper plate of <b>600x600x3mm</b> and GI plate of <b>600x600x6mm</b> will be buried vertically in depth as described above.</li><li>• At bottom <b>150 mm</b> layer of salt and charcoal (wooden) pieces shall be filled then copper plate shall be installed.</li><li>• Minimum <b>120kg</b> each of charcoal (wooden) pieces and salt shall be used.</li><li>• The copper plate shall be connected to copper earth strip of <b>25*3 mm</b> at minimum two points and joints shall be protected by heavy coat of bitumen.</li><li>• The GI plate shall be connected to GI earth strip of <b>25*6 mm</b> at minimum two points and joints shall be protected by heavy coat of bitumen.</li><li>• GI pipe for watering shall be used of <b>50 mm</b> diameter of 3meter length with 5mm thick will have hole of <b>12 mm</b> diameter in zigzag manner starting from <b>15 cm</b> away from bottom to <b>2 meter</b> height.</li></ul> <p>Funnel with a mesh shall be provided on the top portion of the earth electrode for watering purpose.</p>
02.	<p><b>Earthing System Inspection Chamber:-</b></p> <p>Earthing system inspection chamber (concrete box) of <b>300*300*300</b> mm (inside dimension) with lid cover approx <b>50 mm</b> thick with pulling hook ,painting of earth pit covers, Labeling of the earth pits, measurement of earth pit resistance conforming to IS- 3043.</p>
03.	<p><b>Earth Strip:-</b></p> <ul style="list-style-type: none"><li>• The earth conductors (copper strip) shall be fixed to the wall/columns etc., at every 500mm with 10mm spacers. The total Earthing system shall be mechanically and electrically connected to provide in dependent path to earth.</li><li>• The area of cross section for copper conductor shall be minimum 25mm*3mm.</li><li>• The area of cross section for GI strip conductor shall be minimum 25mm*6mm.</li><li>• Joints and tapings in the main earth loop shall be made in such a way that reliable and good electrical connections are permanently ensured. All welded joints shall be suitably protected by applying red oxide paint and bitumen.</li><li>• GI Earthing strip welded to the earth electrode at the top shall have hot dip galvanized coating of not less than 10 microns thickness.</li><li>• Welding should be free from defects; the joint is to be properly cleaned.</li></ul> <p>Bolting of earth strips to be done at end of connecting earth strip to earth pit and also at the other end where earth strips are connected to equipments/structures etc.</p>

04.	<b>Earth Resistance:-</b> The earth resistance of combined earth system shall be less than or equal to 1ohm. It shall be measured by an approved earth testing apparatus for individual earth pits.
05.	<b>Anti-corrosive measures:-</b> <ul style="list-style-type: none"><li>• Fittings should be resistant to the corrosive agencies or be otherwise suitably protected.</li></ul> Joints and bonds may be protected with bitumen or embedded in plastic compound according to the local conditions.
06.	<b>Testing &amp; Commissioning of Earthing System:-</b> <ul style="list-style-type: none"><li>• Earthing Systems shall keep in performance check for a period of 1 year from the date of bidder work completion.</li></ul> The resistance of Earthing system shall be less than or equal to 1 Ohm throughout the year irrespective of the seasonal variation and in no case it should exceed the specified value.
<b><u>Other Terms &amp; Conditions: -</u></b>	
01.	In some locations, the work may be carried out near Live High voltage bus bars/lines, contractor has to follow all Electrical safety rules & regulations etc. and guide his manpower for safe working.
02.	It is responsibility of the contractor to undertake necessary care and make arrangement for transportation and the treatment of his worker in case of any accident.
03.	The total length of strips (GI/Copper) specified as above is approximate and the quantity of strips used as per actual will be considered.