File No.5(90)/11/NIT-23/AIR-EP

सत्यमेव जयते

प्रसार भारती

(भारत का लोक सेवा प्रसारक)

कार्यालयः अपर महानिदेशक अभियन्ता (उ.क्षे.)

आकाशवाणी एवं दूरदर्शन

आठवां तल, सूचना भवन, सी.जी.ओ. कॉम्प्लेक्स, नई दिल्ली 110003

सत्यम् शिवम् सुन्दरम्

Dated: 29.04.2024

Subject: Draft Tender for Misc. repair/renovation work on existing MW self Radiating 182M masts at HPT AIR Lucknow.

1. The **Draft Tender** specification of the upcoming tender is enclosed herewith to offer comments, if any by prospective bidders/firms.
2. Bidders/Firms are requested to provide information about content in respect of works along with budgetary quote & confirm Make in India. (content)
3. Bidders/Firms may please submit the above detail on or before due date by e-mail to dirpur@gmail.com or at following Address.

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Asstt. Director (Engg.)
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O/o ADG(E-NZ)
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8th floor, CGO Complex,
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Specification for: Draft Tender for Misc. repair/renovation work on existing MW self Radiating 182M masts at HPT AIR Lucknow.

Due Date to offer Comments: 14.05.2024

Enclosed:

1. Budgetary Quotation form for Misc. repair/renovation work on existing MW self Radiating 182M masts at HPT AIR Lucknow.
2. Specification Misc. repair/renovation work on existing MW self Radiating 182M masts at HPT AIR Lucknow.

29/4/24

R.K.SINGH
Asst. Director (Engg.)
For Add. Director General (NZ)

PRASAR BHARATI
DIRECTORATE GENERAL : ALL INDIA RADIO
(PLANNING & DEVELOPMENT UNIT)

SPECIFICATION DOCUMENT FOR MISCELLANEOUS REPAIR/RENOVATION WORKS OF SELF RADIATING MW MASTS AT VARIOUS STAIONS OF ALL INDIA RADIO.

Specification No	:	XTA – 320
Date of Approval	:	19.06.2013
Date of Issue	:	19.09.2013
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No. of pages	:	09
Approval File No.	:	Jalndhar-6(4)/2011-D(TD/MW)-300kW

SUMMARY OF CONTENTS :

SUMMARY :

Medium frequency self radiating omnidirectional and directional array masts at various stations of AIR are required to be repaired/renovated during XIth Plan under Replacement scheme. The works are to be carried out as per these detailed specifications. Deviations in the works from specifications, if any, will be brought out clearly by the tenderer.

N.B : 1. The tenderer should go through all the sections of the specifications carefully and shall submit clause by clause compliance of all sections clearly. **Tender without clause by clause compliance shall be rejected.**

2 The tender shall indicate the list of items offered as per schedule of requirements (Annex-II) in the technical bid without price/cost to assess the completeness of requirement.

3 The tenderer shall visit the site before submitting the tender for a realistic offer. A certificate along with the site report duly signed by station authority & tenderer's representative is to be enclosed with the tender. Concerned station authorities are to coordinate with the representative(s) of tenderer(s) as and when approached for site visit in consultation with zonal office. Zonal office and station authorities shall ensure that the scope of works and subsequent material requirement is uniform for all the tenderers.

19.09.2013

(KASHMIR SINGH)
DIRECTOR ENGINEERING (TD)

SPECIFICATIONS FOR MISC. WORKS OF SELF RADIATING MW MASTS.

Specification No.XTA-320.

I. INTRODUCTION:

This specification covers the detailed aspects of miscellaneous repairs/renovation works of MW masts including replacement of old, rusted, defective Guy Ropes, link plates, cotter pins, straining screws, Guy and mast base insulators if found damaged / defective, RF chokes, Aviation Lighting system by utilizing the existing fixtures to the extent feasible with wiring including material as per site conditions based on actuals, repainting of the masts and repairing of Mast base and Guy anchor foundation blocks if required and various miscellaneous works required for existing medium frequency self radiating antenna without modifying the guy levels & attachment configurations from mechanical point of view being used as self radiating mast with broadcast transmitters in the frequency range 531-1605 KHz at various stations of AIR. The relevant drawings of old masts as indicated in the annexure-III shall be part of this specification. A tentative schedule of works to be carried out / items to be replaced is indicated in Annexure - II.

II. GENERAL CONDITIONS:

1. Language and system of Measures:

All information supplied by the tenderer and all markings, notes, designations on the new drawings if required and associated write-ups etc. shall be in the "English" language.

All dimensions and units on drawings and all references to weights, measures and quantities shall be in "Metric" Units.

2. INFORMATION/DOCUMENTS TO BE SUPPLIED ALONG WITH TENDER:

2.1 A comprehensive schedule of materials offered along with quantity of each item quoting per unit rate.

2.2 The details of the internal test procedures/standards followed for quality control of the material offered as replacement for existing defective, rusted, worn-out material.

2.3 A general undertaking to accept / furnish the guarantee, which will be required to be complied by the tenderer as listed under Clause XI, of this section –I.

2.4 A detailed & comprehensive schedule of activities to be undertaken for replacement cum misc. works.

2.5 Any other information which the tenderer feels relevant to his offer.

2.6 Site visit certificate & report.

3. LIST OF STORES/MATERIALS TO BE REPLACED:

A detailed list , after inspecting the mast at site, of the defective material, shall be prepared in the presence of consignee's representative duly certified by both the parties for submitting realistic offer. Zonal office and station authorities shall ensure that the scope of works and subsequent material requirement in respect of each site, is uniform for all the tenderers.

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4. DELIVERY OF MATERIAL/COMPLETION OF WORKS:

The work shall be completed within 9 months from the date of award of the tender. The period of completion of works including the supply of replacement material shall be reckoned from the date of acceptance of tender and shall be firm without any further qualifications.

5. MATERIALS, WORKMANSHIP AND MISC CONDITIONS:

5.1 Supplier shall warrant that all the stores and components supplied under the subject order shall be new (except those being reutilized), of good quality and as per the relevant specifications. They shall be free from defects (even from concealed faults, deficiency in design, materials and workmanship.)

5.2 Should any defects be noticed in the design, material and/ or workmanship of any material supplied, within 12 months from the date of handing over to AIR, it shall be replaced by the supplier free of cost to the consignee. All India Radio shall inform the supplier about any defects noticed. On receipt of such intimation, the supplier shall depute their personnel within 14 days to investigate the cause of defects and arrange rectification/ replacement/ modification of the defective material at AIR site without any cost to All India Radio. All such rectifications/ replacements modification of the defective material shall be done immediately, within a period not exceeding one month from the date of inspection by the supplier. If the supplier either fails to depute their personnel within 14 days or take proper corrective action to repair/ replace the defective item/ items satisfactorily within the period of one month as stated above, All India Radio shall be free to take such corrective action as may be deemed necessary, after giving notice to the supplier, at the risk and cost of the supplier.

5.3 In case defects are of such nature that the defective material is required to be taken to tenderer(s) works for rectification, the tenderer may be allowed to take the same after giving necessary undertaking or security as may be required by All India Radio. All India Radio shall, if so requested by the tenderer, dispatch the stores "By Air" on "Freight-to-pay" basis, to the tenderer's works. After repairs tenderer shall deliver the stores at site on "Freight Pre-Paid" basis. All risks in transit, to and fro, shall be borne by the tenderer.

5.4 If the tenderer fails to honor his obligation to repair or replace defective goods within the stipulated period of time or if the tenderer refuses to carry out the work under the guarantee clause and implied guarantee conditions or if danger is anticipated or in case of severe urgency, All India Radio shall be entitled to carryout, at tenderer's cost and risk, the required repair work or replacement done by a third party. In case all the goods have not been delivered by tenderer, All India Radio will be entitled to procure the remaining goods at tenderer's cost and risk. This would not relieve the tenderer of any of his guarantee obligations. Taxes and duties of any kind whatever imposed by the authorities shall be borne by the tenderer.

5.5 AIR will not be responsible in any way for the safety and security of the contractor's Men and material etc. The storing & Safety of dismantled material including tools/materials required for works shall be the sole responsibility of contractors even though these are stored inside AIR premises.

The contractor shall insure his men while working at AIR site, against any injury, accidents death etc. Similarly the equipment, instruments, tools etc., belonging to the contractor shall be insured against damage, loss, theft etc.

5.6 The contractor shall insure safety of AIR's Inspectors while on inspection at the AIR site against any injury, accidents, death etc, at no extra cost to AIR.

5.7 The detailed list of materials / parts required to be replaced other than guy assemblies, on account of being worn out / naturally defective / damaged shall be prepared and submitted for approval for their replacement before taking up the work. For payment purpose on actual basis unit rates for items like guy and mast base insulators and various mast members on running length basis may be quoted in the tender. This will include cutting, brazing / welding, galvanizing and retrofitting etc. However for quote purpose, quantities of guy insulators, mast base insulator and running length of mast members and guy wire as indicated in the schedule of works may be quoted for each mast in the tender, even though payment will be done on actual basis only.

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D.A./Director (Engg.-TD)

6.0 PERIOD OF WORKING:

Due to operational transmitters, the working hours shall be limited to the gap between 1st and 2nd transmission during day time and after close down (1115 PM) and upto 0500 AM, (before the onset of 1st transmission) during night time. Therefore, work shall be carried out in coordination with the concerned DDG(Engineering)/ DDE /Station Engineer and Zonal Addl.DG(E) under intimation to Directorate. For assessing the quantum of works, involved the help of drawings enclosed, may be taken. In addition the field visits to sites may have to be undertaken by the tenderer for making a complete, comprehensive & precise estimation of the job.

7.0 PAYMENT TERMS;

As per commercial terms.

III. Material :

(a) Design, fabrication and other details of material to be used for replacement of old, worn out parts shall be in accordance with IS-806-1962 (with its latest amendments).

(b) **Galvanising :**

To prevent corrosion, Antenna accessories and hardware to be supplied as replacement of old defective ones shall be galvanized after fabrication by the "Hot Dip Method" and shall conform to IS-4759-1968 with latest amendments. The fasteners shall be galvanized as per IS-5388-69. The galvanizing shall be tested as per test procedure laid down in the relevant specification with latest amendments.

(c) **Superstructure, Ladder & Rest Platform**:

There is no change in the configuration and lay out of super structure, mast base insulators, ladder and platform including guy anchoring points to masts and at ground. However, the worn out / defective super structure members, bracings, fasteners, railings, ladder cage, ladder steps if any noticed during inspection survey or at the time of carrying out the work, based on actual be replaced by new ones of same strength of same material or equivalent to meet the desired mechanical strength to withstand the desired loading / pressures / wind load. The existing mast base insulators shall be re-utilised. However, spark gap across these be repaired / replaced by new ones. The spares available with the station, if any, can also be used in case of emergent requirement on recoupment basis.

(d) **Guys:**

The guy wire ropes supplied as replacement of old one shall be of stainless steel/galvanized steel wire of same or higher size and grade and shall be chosen with adequate factor of safety. The guy ropes shall conform to IS-2266/1970 and IS-3326/1966 (with amendments). The existing guy insulators/ RF Chokes of the old mast are to be reutilized for the purpose. If any Insulator is found defective/ damaged , it shall be replaced by a new one of same type or having same electrical & mechanical strength. Before replacing such insulator approval of Directorate through consignee is to be obtained. The spare guy insulator available with station, if any, may also be used. Items like cotter pins, link plates, bull dog grips also shall be replaced as per actuals.

The guys shall be prefabricated to enable easy assembly at site. Provision shall be available to adjust at site the total length of each guy to take care of relative variations in the ground level at the mast base and guy anchor points as per actual conditions.

The tensioning device if available in existing structure shall form an integral part of the guy attachment assembly at the anchor end. The size and design of the guy ropes shall be same as with the existing mast.

The new guy wire rope should withstand the designed mechanical stress with a safety margin of 3. So if required, the dia of guy wires be increased provided old insulators which are suitable for reutilization, fits correctly.

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(e) Cable Connection:

Ferruling/sleeving or socketing used in each guy section including the straining screw should be designed to withstand 80% breaking load strength of main guy rope. Suitable locking arrangement also is to be made to avoid the slipping of sleeving/ socketing and guy straining screw under storm conditions by providing clamps as backup measures in addition to ferruling/ socketing. A sample breaking load test for a new fabricated guy section shall be taken in the presence of a representative. of AIR.

IV.AVIATION OBSTRUCTION LIGHTING & INTERNAL LIGHTING FOR TRANGULAR MAST:

The existing antenna lighting will be replaced by solid state LED type. Existing Beacon lights at the top and Aviation obstruction light fittings at existing intermediate levels & internal illumination light for triangular mast shall be replaced by solid state LED type without any change in layout if it meets aviation safety regulations. The electrical cables, junction boxes, fuse fittings and water tight conduits of appropriate size from the bottom of the tower to the lights and all other accessories including their fasteners / clips etc. shall be replaced by new ones. No flexible conduit will be used while replacing the old one.

V. ANTENNA LIGHTING TRANSFORMER:

The antenna lighting circuit is connected to 230 V, 50 Hz mains supply through an Austin transformer which provides perfect isolation of the power mains circuit from the Radio Frequency voltages of the antenna. If the old transformer is defective, then it will be replaced by a new one of same rating other wise the existing good one is to be reutilized. If there is no such device, a new of suitable ratings is to be provided. The supply against this tender is for a new transformer, it shall be water proof, outdoor type, complete with mounting brackets etc.The transformer primary shall have tappings for 5% and 10% voltage variations from the normal 230 volts, 50 Hz. The transformer and its fittings shall add negligible capacitance across the antenna base.

VI. REPAIRS TO THE FOUNDATIONS:

The repairs if any to the concrete foundations blocks for the Antenna structure, guy anchors and isolation transformer will be done by the tenderer as per the site requirements.

There is no change in the design of foundation blocks, however, if any slippage is observed in any of foundation block, it will be strengthened by filling earth, securely packed all around it or suitably reinforced all around with cement concrete.

The mast base and the isolation transformer foundations will be covered with 1.6mm thick copper sheets of electrical grade on the top and all sides of the foundation upto a depth of 1 foot below the natural ground level to enable earth radials connection to it by AIR.

These sheets will be securely fastened to the foundation. The joints will be over lapping upto at least 1 inch and brazed continuously. The copper sheets, fixing and brazing material required for this work will be supplied by the tenderer.

VII. DISMANTLING OF GUY ROPES FOR REPLACEMENT :

The existing guy wire assemblies will be removed from mast by the tenderer taking care that there is no damage to the masts and guy insulators by providing temporary guys of poly propyne rope or any other suitable material for replacement/repair of old guy wire rope. The material of temporary guys should withstand the mechanical load of the mast and shall provide electrical insulation against RF pick up voltages.

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VIII. RE-HOISTING OF GUY WIRES:

The complete re-hoisting of the guy wire rope will be done by the tenderer. Before hoisting of the guy ropes, the tenderer shall get them inspected and okayed by All India Radio representative/ inspector at site. The temporary guys will be removed after the repaired/replaced one are hoisted and properly tensioned.

IX.PAINTING :

The tower after repairs shall be painted in alternate bands of international orange and white as per standard practice. The band width shall remain as in the existing structure. The old paint shall be removed completely by sand paper scratching and scrubbing. Then a coat of etch/wash primer shall be applied for preparing the surface to receive paint. Primer under coat of zinc chromate shall, then be applied on the surface to make it ready for receiving the paints. Thereafter the surface shall be prepared by applying primer coat and final coats. The relevant IS shall be strictly followed for paints, primers and colour shades.

X. GUARANTEE

(a) The tenderer shall certify and guarantee that the design of the material fabricated including accessories has been done to ensure that antenna withstands the electrical and mechanical stresses at the rated power with adequate margin of safety as per original design.

(b) The contractor shall ensure that the main leg members of the antenna structure shall remain vertical within two minutes of the arc subtended at the base of structure after the repair. The twist of the mast members will not exceed 1/2 degree. The tenderer, before start of the work, shall take initial measurement of verticality and twist in the presence of representative of AIR and then verticality and twist should be improved for better to achieve above figures.

c) The contractor shall ensure the safety of the mast during execution of job. In case of any damage to the mast, building or structure located in the complex, it will be binding on the tenderer to make good the damage / losses without any compensation from AIR.

(d) In the event of structural or electrical failure of the material supplied by the tenderer as new material within the guarantee period ie 12 months from the date of handing over after repair , on account of manufacturing defects, the tenderer shall undertake to replace the component parts which have failed and those which were damaged as a result thereof and make good any other losses to AIR's equipment / property and personnel, free of cost and re-erect the tower.

XI. DRAWING AND TECHNICAL INFORMATION:

(a) A drawing showing the general arrangement of the antenna along with the technical information given in Annexure - I. shall be submitted along with the tender. List of old mast drawings showing the general layout , guy wire assembly details and details of mast base insulator are indicated in Annexure - III.

(b) The successful tenderer shall submit four sets of the following within two months of the date of acceptance of the tender.

(c) Complete schedule and details with plans for removing of old guy assemblies, re-hoisting of new guy wire assemblies, guy tension adjustments, painting etc.

END OF THIS SECTION

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Specification No.XTA-320.

ANNEXURE –I

TECHNICAL INFORMATION TO BE SUPPLIED ALONG WITH THE TENDER

1. Guy ropes:

   (a) Type and I.S. specification reference.

   (b) Sizes of various guy ropes.

   (c) Maximum calculated working stress for each guy at the design load.

   (d) Calculated ultimate breaking strength of each guy rope (as modified by a factor depending on the type of connections).

   (e) Proof test load for each guy wire

   (f) GA drawing for guy wire assemblies

   (g) Potential distribution table along guy wire across each insulator & at attachment point

2. Type of Guy insulator protective device proposed to be used.
   (Technical details and drawings showing simulated anti resonance impedance to be enclosed)

3. Antenna lighting transformer/filter circuit details with KVA ratings (Drawing and technical details to be given)

4. Details of aviation lights With printed leaflet.

5. Wiring diagram of mast lighting.

6. Detailed procedure along with plan & schedule, for Dismantling of guy assemblies and re-hoisting to the Antenna.

7. A comprehensive list of the special tools, equipment and instruments proposed to be used during repair for dismantling and re-hoisting of strengthened guys to the mast.

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Specification No.XTA-320.

SCHEDULE OF REQUIREMENTS - (ANNEXURE-II)

SCHEDULE OF MISC. WORKS TO BE CARRIED OUT ON SELF RADIATING MW MASTS AT VARIOUS STATIONS OF ALL INDIA RADIO.

NB : Detailed list , after inspecting the mast at site, of the defective items, shall be prepared in the presence of consignee's representative duly certified by both the parties for submitting realistic offer. For this purpose, unit rate for each item should be quoted separately.

Description of Items and works for stations mentioned in Annexure-III :-

Sl. No	Description of item	Quantity	Unit Rate
(A)	**Items requiring Repair / Replacement**		
1.	a) Supply and Replacement of existing defective RF Chokes including fixture etc. across guy insulators. b) Replacement of existing spark gap fixture across mast base Insulator	As per site requirement	Ref.para 5.7 of section.-I
2.	Supply and Replacement of defective Guy wire ropes, sockets, Bull dog grips, turn buckles, link plates, Nuts & Bolts, broken/defective guy insulators including material as per requirement at site.	As per site requirement	Ref.para 5.7 of section.-I
3.	Provision of Austin Transformer including all fitting for its mounting, fuse boxes, AOL mast light fittings with fixtures, and wiring etc.	As per site requirement	Ref.para 5.7 of section.-I
4.	Covering of mast base and isolation Transformer foundation with 1.6 mm thick copper sheet as detailed in the para VI of specification.	As per site requirement	Ref.para 5.7 of section.-I
(B)	**Services/Works:**		
(i)	Installation of Austin transformer	1 job per site	
(ii)	Replacement of complete AOL system	1 Job per site	
(iii)	Replacement of existing defective RF chokes put across guy insulator including fixtures.	1 Job per site	
(iv)	Checking / Replacement of guy insulator and bull dog clamps, pins, turn buckles, bolts nuts, turn buckles etc. and repairs to rusted guy ropes by cleaning rust and greasing. Bringing down the guy ropes one by one by providing temporary guy ropes and installing guy ropes back in to positions.	1 Job per site	
(v)	Checking verticality and twist of the mast and rectifying to the extent possible. And measurement of Guy tension.	1 Job per site	
(vi)	Repairs to mast base foundation and guy anchor blocks and their enclosures as per site requirements be offered for deciding L-1. Option for placing order will rest with AIR	1 Job per site	
(vii)	Transportation of items to site	1 Job per site	
(C)	**Optional items:**		
(i)	Repainting of mast including Paint	1 Job per site	
(ii)	Provision of spare Mast base insulator	1 No. of each type	
(iii)	Provision of spare Guy insulators	2 Nos.of each type	
(iv)	Provision of spare RF Chokes	6 Nos .for each site	

Note:- During execution of works, if at any stage, it is noted that some additional items are required to be replaced, the tenderer should submit full details of the items along with justification for their replacement for obtaining additional sanction. However, tenderer has to execute the work in totality keeping all the guarantee and safety aspects given in these specifications. For this purpose, unit rate for each item mentioned above should be quoted separately.

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ANNEXURE-III Specification No.XTA-320.

List of stations with drawings attached for reference:- North Zone

1. 20 KW MW TRANSMITTER STATIONS:-

Sl. No.	Station	Frequency (KHz)	Height of Mast (mtr)	Make	Qty.	GA of Mast Drg. no.
1.	Delhi VB	1368	108	HBB	1	TM-16476,TM-10594
2.	Barmer	1458	100	ECIL	1	TM-12353
3.	Bikaner	1395	110	NEC	1	ITA-13/5110

2. 100 KW MW TRANSMITTER STATIONS:-

Sl. No.	Station	Frequency (KHz)	Height of Mast (mtr)	Make	Qty.	GA of Mast Drg. no.
1.	Varanasi	1242	110	NEC	1	ITA-5585 TM-12786

3. 200 KW MW TRANSMITTER STATIONS:- A- Active Mast, P- Pacive Mast

Sl. No.	Station	Frequency (KHz)	Height of Mast (mtr)	Make	Qty.	GA of Mast Drg. no.
1.	* Delhi A	819	185	ECIL	1-A	TM-16478
			600 Feet	BBC	1-P	MT-2001/4406, MT-1679/3877
2.	Ajmer	603	200	ECIL	1	TM-11609

* New section(s) of suitable height shall be added to meet 185 meter actual height of broken passive mast of AIR Delhi- A.

4. 300 KW MW TRANSMITTER STATIONS:- A- Active Mast, P- Passive Mast

Sl. No.	Station	Frequency (KHz)	Height of Mast (mtr)	Make	Qty.	GA of Mast Drg. no.
1.	Jammu	990	115	ECIL	1	TM-16446
2.	Jalandhar	873	140	ECIL	1	TM-16473
3.	Lucknow	747	182	ECIL	1	TM-11610
4.	Suratgarh	918	110	ECIL	1-A	TM-16371
			108	HBB	1-P	TM-10594

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ANNEXURE-I

Technical Information /Documents to be submitted along with the Tender:

1.Guy ropes:

Make:.....

(a)Types and I.S specification reference.
(b)Sizes of various guy ropes.
(c)Maximum calculated working stress for each guy at the designed load.
(d)Calculated ultimate breaking strength of each guy rope (as modified by a factor depending on the type of connections)
(e)Proof test load for each guy wire.
(f)GA drawing for guy wire assemblies.
(g)Potential distribution table along guy wire across each insulator & at attachment point.

2.Guy insulator

(a)Make .....
(b)Model .....
(c)Technical details and drawings

3. Mast Base Insulator

Make:.....

Model:.....

a) Technical data sheet of OEM of offered Insulators

b) Datasheet and justification for selection of Insulators

c) Details of Mechanical arrangement and detailed procedures for replacement of Mast Base Insulators.

d) Project report along with illustrations of similar works carried out earlier need to be submitted.

e) Details of Permanent and Temporary accessories as per OEM datasheet

f) Other related documents as required by general terms and conditions of tender and P& D Unit specifications attached

4. RF Chokes

Make...........
Model.............
(a) Technical details and drawings showing simulated anti resonance impedance

5. Detailed procedure along with plan & schedule, for Dismantling of guy assemblies and re-hoisting to the antenna.

6. A comprehensive list of the special tools, equipment and instruments proposed to be used during repair for dismantling and re-hoisting of strengthened guys to the mast.

ANNEXURE-A

Repair/Renovation works on existing MW Self Radiating 182 M mast at HPT AIR Lucknow(UP) (11th Plan Projects)

File No.:5(90)/11/NIT-2023/AIR-EP

S.No.	Description of Items/Works	Make & Model	Qty.	Unit	Rate per unit	Amount	GST	Total Amount
A)	**SUPPLY**							
1	Supply of Guy Breakup insulator for 22 mm dia GI steel Rope.		1	No.				
2	Supply of Guy Breakup insulator for 19 mm dia GI steel Rope.		10	Nos.				
3	Supply of Guy Breakup insulator for 16 mm dia GI steel Rope.		6	Nos.				
4	Supply of Mast base insulator-A0167		1	No				
5	Guy Insulator Type A-S6013M		2	Nos.				
6	Guy Insulator Type A-S5008M		4	Nos.				
7	Guy Insulator Type A-4008M		1	No.				
8	Guy Insulator Type A-4006M		1	No				
9	G I Steel Rope:-							
a)	22mm		550	Mts.				
b)	19mm		750	Mts.				
c)	16mm		200	Mts.				
10	Misc items like aviation obstruction lighting and internal lighting of triangular mast, bulldog Grip, Straining Screws, D-Shackles etc required for completion of work.		1	Lot				
	TOTAL OF SUPPLY (A)							

(B)	**WORKS**							
1	Repair of mast base foundation and guy anchor blocks and their enclosure as per site requirements.		1	Job				
2	Replacement of Mast Base Insulator.		1	Job				
3	Replacement of existing Spark Gap fixture across Mast base Insulator.		1	Job				
4	Fabrication and replacement of Existing Guys wire ropes with all accessories as per site requirement.							

S.No.	Description of Items/Works	Make & Model	Qty.	Unit	Rate per unit	Amount	GST	Total Amount
a)	Providing fabrication and hauling up of Guys with 22mm Ropes including fixing Guy insulator against the broken insulators of similar size. (17.1 mts each.)		3	Jobs				
b)	Providing fabrication and hauling up to Guys with 19mm Ropes including fixing Guys with insulator against the broken insulators of similar size. (3 Nos. 144 Mts & 3 Nos. 78 Mts.)		6	Jobs				
c)	Providing fabrication and hauling up of Guys with 16mm Ropes including fixing Guy insulator against the broken insulators of similar size. (55mm each).		3	Jobs				
d)	Any other charges to complete the installation of guys including fixing of all accessories, checking, tightening, etc.		1	LS				
5	Fixing of RF Chokes (15 Nos.) on the new fabrication Guys with providing fixing arrangement of GI material.		1	Job				
6	Checking verticality and twist of the guy mast and rectifying to the extent possible and measurement of guy tension from IIT/SERC or any Govt. Institutions.		1	Job				
7	Painting of Mast including providing of Painting material as per specifications		1	Job				
	TOTAL OF WORKS(B)							
	GRAND TOTAL (A+B)							