

**Government of India**  
**Department of Atomic Energy**  
**Global Centre for Nuclear Energy Partnership**  
**Kheri Jasaur, Bahadurgarh, Haryana 124 505**

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**TENDER ENQUIRY**

Ref: GCNEP/18/09-53

Date: 19/09/2018

To,

GCNEP Website

1	Name of work	Fabrication, supply, installation, testing and commissioning of communication systems including two 24 meter self-supported mast towers with required point to point wireless links between GCNEP Campus and GCNEP Township, at GCNEP, Kheri-Jasaur, Bahadurgarh, Haryana, as per the technical specifications detailed in Annexure – I.
2	Location of work	Kheri-Jasaur, Bahadurgarh, Haryana
3	Estimated Cost	<b>Rs. 20,00,000/- (Rupees Twenty Lakh only)</b>
4	Period of Completion	<b>1 month</b>
5	Security Deposit	<b>2.5%</b> of the gross amount; deductible from the running/ final bill of the agency.
6	Due date & time for submission of quotations	<b>15/10/2018 up to 16:00 Hrs</b>
7	Place for Submission	The address on the sealed envelop ( <b>Super-Scribed</b> with the <b>Reference Number: GCNEP/18/09-53 dated 19/09/2018 &amp; Due Date: 15/10/2018</b> ) should read:  <b>Project Director,</b> <b>Global Centre for Nuclear Energy Partnership (GCNEP),</b> <b>Kheri Jasaur , Bahadurgarh, Haryana -124505</b>
8	Place of opening	16/10/2018 at 14.00 Hrs; Address: Atomic Minerals Directorate, 7, West Block, RK Puram, New Delhi, Delhi 110066
9		The quotation must be sent in a <b>Sealed</b> envelope <b>Super-Scribed</b> with the <b>Reference Number &amp; Due Date</b> given above. <b>The quotations must be sent by either Registered Post OR Speed Post Services of India Post OR delivered By Hand against receipt on any working day at submission address from 11:00 hrs to 16:00 hrs.</b>

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Project Director, GCNEP

## Annexure-I

**Title:** Fabrication, supply, installation, testing and commissioning of communication systems including two 24 meter self-supported mast towers with required point to point wireless links between GCNEP Campus and GCNEP Township, at GCNEP, Kheri-Jasaur, Bahadurgarh, Haryana, as per the technical specifications detailed below.

**Description:** The proposed work is to be carried out at GCNEP, Kheri-Jasaur, Bahadurgarh, Haryana. The work is spread across two sites- GCNEP Campus and GCNEP Township, separated by an approximate road distance of 3km. The agencies willing to take up this work can plan a visit to office site for mapping the exact requirements. Such a visit, however, must be with a prior intimation to & approval of this office.

**Scope of Work:** The works shall be carried out as per the instructions of Engineer-in-charge for the works. The works includes all related civil works, including laying of associated electrical & communication cables to make the system fully functional. All materials including cables & connectors used, shall be branded and of reputed make. Such material should be used only after approval of the Engineer-in-charge.

### **A. Detailed Specifications**

Detailed technical specifications of the items are as follows:

Sr. No.	Item Name	Technical specifications/ description	Quantity
1.	Self supported mast tower with associated systems	<p>A 24meter high self supported mast tower consisting of the following:</p> <p>A) 3 inch Outer Dia, 2.5mm Thick Hot Dip Galvanized pipe (Jindal Make or equivalent) base extending upto 24 meter height with proportionately reducing OD, supported on a triangular base pipe self supported Mast Tower with 8 mm Usha martin rust protected (plastic/ nylon coated) Gye Rope support (twin wire) at three points, duly painted in red &amp; white color. Please see the representative Figure-1 below.</p> <p>B) Two number of sensor based 6W Aviation Light, ICAO compliant product design and performance, omnidirectional RED light source, bird spikes for protection against droppings, operating temperatures ranging from (-20°C to +80°C), wind withstand capacity of 150 mph, humidity: 80%, no EM/ RF Interference, Aluminium alloy body, IP 65 Standard, Intensity 50cd, horizontal divergence 360°, with expected Lamp Life of 1,00,000 hrs, connected using 2 Core 8 MM Power Cable.</p> <p>C) Light Arrestor for Tower –Standard, 0.5 mm Copper Based Hollow Pipe with Cone and Neil, with copper earthing cable.</p> <p>D) Civil Foundation of Tower: (2 x 2 x 2) Mtr. Approved design RCC Base with 100mm base PCC, 16mm</p>	Two (2)

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		<p>Foundation Anchor Bolt &amp; 12 mm iron rod Slab/ RCC. Please see the representative Figure-2 below.</p> <p>E) Supporting Gye Rope RCC anchor Base Size of 2 ft x 2 ft x 3 ft</p> <p>F) A chemical earth pit (1 x 1 x 3 ) Ft with Mix-up of Salt &amp; Coal.</p> <p>G) A (3 X 3) Sqm. base platform raised to a height of 2 feet above the surrounding ground level, finished with prefabricated cement interlocking tiles.</p> <p>H) Floor mount IP55 Outdoor Rack 1.5 Mtr x 1 Mtr x 1 Mtr (HxDxW), Welded Galvanized Steel Construction 1.5mm Thick, Front lockable door with gasket sealing, Fresh Air intake filter With Outer Hood, 2 Pair heavy duty vertical mounting rail for equipment mounting, Height as per Rack Unit, Load Bearing Capacity up to 400kg, Welded/Integrated Canopy on top, Locking arrangement, Protection Rating IP55, Fan Cooled Cabinet through Dual Fan, Aluminum wire mesh filter, Powder Coated, Light Smoke Grey color, adjustable 19" mounting Channels, Cable Entry through IP Rating PG Cable Entry Glands, Power Distribution Unit- 6 Socket 5A, 5/15A , Cable Management- Horizontal, Silicon sealant protection on all joint area, NABL Accredited lab certified, installation with clamp and accessories, fitted with 2 KVA APC make UPS, 150Ah-12v Battery.</p> <p>I) 75W pole based solar light system -10 feet high, 3inch pipe pole based solar LED 6W light alongwith requisite Solar Cell Plate, 12 V, 48 AH Battery, installed inside the 3x3sqm area, complete with all mounting accessories.</p> <p>J) 1.5 meter height GI chain link fencing, 2.5mm thick, 50x50mm+-5mm mesh size, over a foundation base of (1 x 1) sqf, green painted, to enclose an area of (3 X 3) Sqm., with 1.5 Mtr. wide lockable openable Gate, supported by intermediate/ terminal GI angle posts maximum 1.5m apart.</p> <p>K) Supply of one set of safety helmet, belt, hook and safety rope of required length to service the top of 24m tower.</p>	
2.	Point To Point Wireless Communication Systems	A) Two number of connectorized radio up to 200 Mbps throughput with 25dbi Dual Parabolic dish antenna, Cambium or equivalent make, GHz Model: 4910 - 5970 MHz, Channel Width 5   10   20   40 MHz, operating in the 5 GHz frequency spectrum, QoS management, Physical Layer 2x2 MIMO/OFDM Ethernet Interfaced 10/100/1000 BaseT, IP54, Compatible with Cambium PoE & Standard PoE	Two (2)

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		<p>pinouts Protocols Used IPv4, UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, STP, SSH, IGMP Snooping, PoE support, alongwith surge suppressor &amp; PoE adapter for the radio, approx.. weight of 250g, Operating Temperature: -10°C to 85°C, installed on the 24m high mast tower.</p> <p>B) 1" HDPE Pipe with 22 mm inner dia to carry the PoE and pother cables from the tower top to the bottom rack unit</p> <p>C) Metallic body Link Aggregator with 10 Port Giga Bit Ethernet Port and 1 SFP Port + 1 USB port, duly installed</p> <p>D) Installation &amp; Laying through digging of soil up to 1.5 ft Depth &amp; 1 ft width, of 6 Core Single Mode Fiber Cable (D-Link or equivalent make) 800m length, laying to be done in 1" HDPE pipe from tower location to the server room, thickness of Jacket:1.8+-0.2mm , operating Temp:-10 deg to +60 deg, alongwith three number of Single Mode dual Fiber Gigabit Media Converter (make- D-Link or equivalent) metallic body, Interface: 10/100/1000 Mbps, Fiber Mode: Duplex Single Mode Dual Fiber</p> <p>E) D-Link or equivalent Cat6 SFTP Cable of length 305 Mtr for radio connectivity atop the tower</p> <p>F) Laying of 100m 2 Core 12 MM armored Cable from power room to the Outdoor Rack placed below the tower.</p> <p>G) Splicing of 6 Core Fiber Cable at both ends.</p>	
<p><b>3.</b></p>	<p>Miscellaneous Security Systems</p>	<p>A) Five (5) number of hand held metal detectors with sensitivity adjustment as per user requirement, detection of ferrous and non-ferrous metals, low voltage operation -upto 7V battery, indication of low battery voltage, switch on/ off of Audio prompt function, in-built battery charging circuit and rechargeable socket, inclusive of 9V rechargeable battery, double alarming mode: Buzzer, LED and Vibration detecting, approx. weight of 500g, approx. detection distances: pin:25-60mm, inclusive of holster for belt mounting.</p> <p>B) Two (2) numbers of 9-Zone walk-through fixed frame/ door metal detector with LED indicator lamps, sensitivity and alarm controls at the console at the top of the door frame, indication: Piezoelectric beeper for indication of metal, Height: 8 Ft., Width: 3 Ft., Power Supply: 90 V to 230V, operating frequency of 4khz-8khz, 12 V Internal Battery Backup:12 Hrs., microprocessor based system, with intelligent traffic counter,</p>	<p>One (1)</p>

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		<p>wireless remote control, password protection, each zone independent, indication of the location of detected metal masses through full height light bar displays, installation alongwith Que Manager consisting of nine number of 1000mm length SS Pole, 2.5 inch ribbon width, 9 Mtr. Ribbon Length with end clippings installed.</p> <p>C) Two (2) number of Under vehicle search trolley mirrors with approximate mirror size of 2 Ft X 1 Ft, telescopic handle bar length of 4 ft, roller wheels assisted ground movement, a detachable torch light source, fully powder coated.</p> <p>D) Two (2) number hand held Under vehicle search mirrors with approximate mirror size 12" X 6", a detachable torch light source, Telescopic handle bar of length 4 Ft, fully powder coated.</p> <p>E) Four (4) number of LED Rotating Search Light, LED Power: 50 Watt ( 5w X 10) Operating Voltage-12/24V, Color Temp: 6000k, expected lifetime of 50,000 hrs, horizontal rotation of 360deg, vertical rotation of 90deg, heavy base for stability, Water Proof Rating: IP 67, Beam Distance: up to 500m, remote controlled, adjustable handle, complete installation with mounting clamps and mount of height up to 1.5metre.</p>	
4.	VHF Communication Systems	<p>A) Eight (8) number of VHF portable radios with display, Motorola or equivalent make, operating frequencies 136-174 MHz, VHF 1 to 2 km in Open Area, 256 programmable channels, analog and digital interoperability, rugged design, including OEM hands free.</p> <p>B) One (1) number of fixed VHF mobile digital base station with mike, Motorola or equivalent make, 160 programmable channels, transreceiver, operating in 136-174 MHz frequency Band comprising of Switchable RF output up to 25Watt Alpha numeric display &amp; SMS facility,, voice announcement, IP54 rated, DMR compliant, including supply and installation of the ground plane VHF antenna, 50 mtrs of antenna installation cable with connectors included.</p> <p>C) Inclusive of first year statutory operating license in the name of GCNEP for all these nine items above, from the Government regulatory authority. This includes all Government Fees paid for 8 Hand Held &amp; 1 Base Set.</p>	One (1)
5.	Second Year comprehensive	<p>The onsite comprehensive AMC shall include:</p> <p>1) A minimum of one monthly visit by a qualified</p>	One (1)

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	on-site support and maintenance (CMC)	<p>engineer to check the health status on preventive grounds.</p> <p>2) Attending faults as and when communicated, including replacement of faulty components at no extra costs to GCNEP.</p> <p>3) Annual Renewal of statutory operating licenses in the name of GCNEP for the Items under Sr. No. 4 above, from the Government regulatory authority. This includes the 8 Hand Held &amp; 1 Base Set License. Only the Government Fees as applicable at that time shall be payable by GCNEP on submission of the original license fee receipts by the agency.</p>	
6.	Third Year comprehensive on-site support and maintenance (CMC)	<p>The onsite comprehensive AMC shall include:</p> <p>1) A minimum of one monthly visit by a qualified engineer to check the health status on preventive grounds.</p> <p>2) Attending faults as and when communicated, including replacement of faulty components at no extra costs to GCNEP.</p> <p>3) Annual Renewal of statutory operating licenses in the name of GCNEP for the Items under Sr. No. 4 above, from the Government regulatory authority. This includes the 8 Hand Held &amp; 1 Base Set License. Only the Government Fees as applicable at that time shall be payable by GCNEP on submission of the original license fee receipts by the agency.</p>	One (1)

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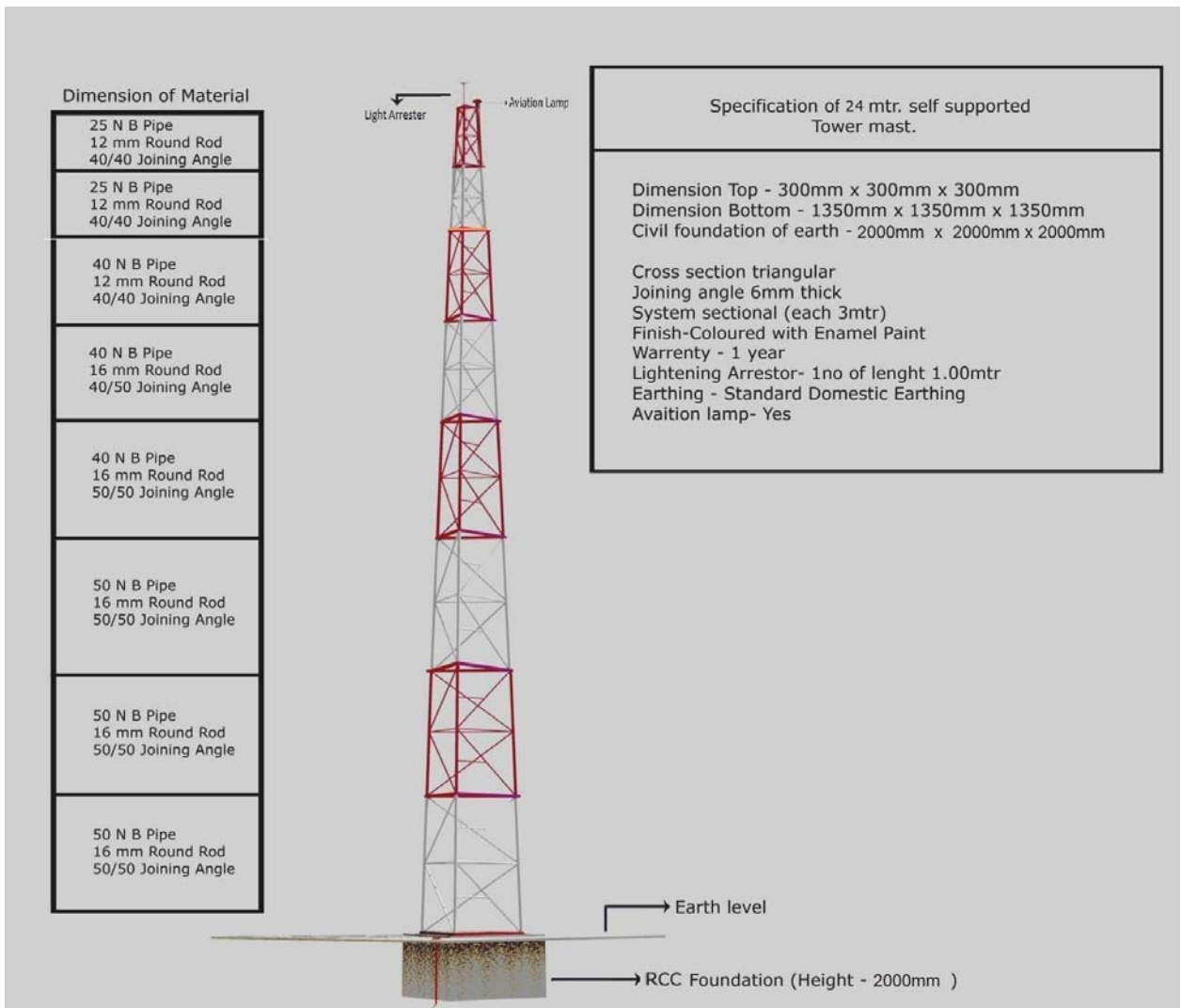


Figure-1 The 24 meter high self supported mast tower

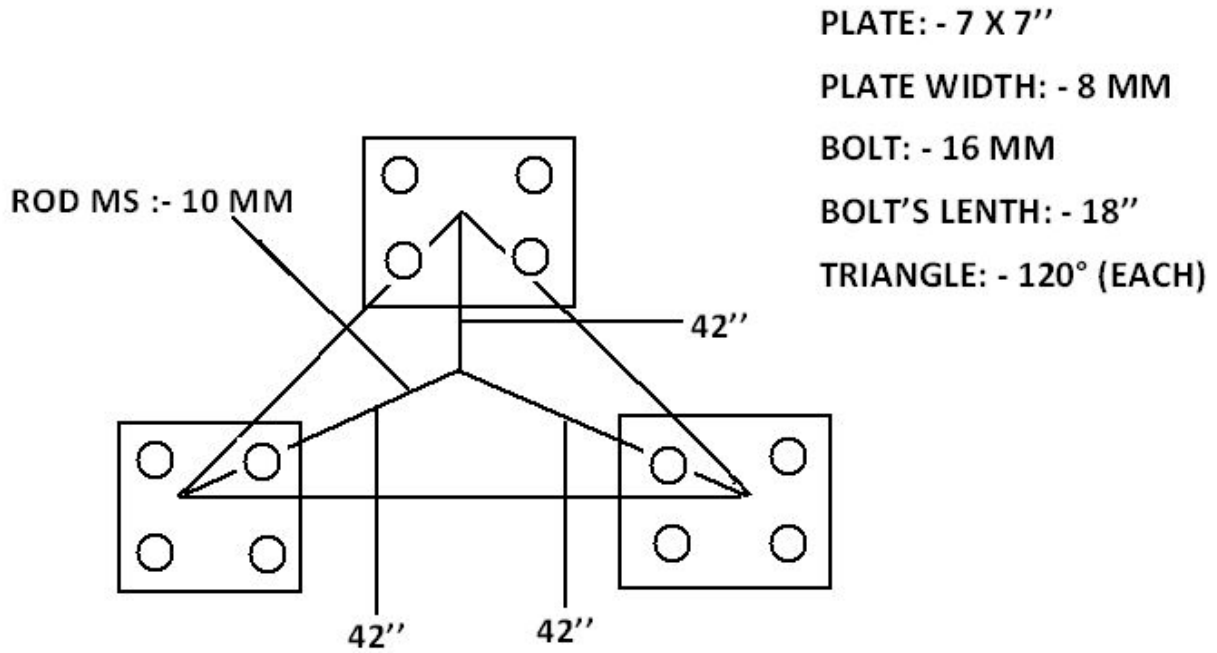


Figure-2 Tower foundation details

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- Note:
1. All dimensions are within 2% tolerance and subject to approval by Engineer in-charge.
  2. The work has to be executed on a turn-key basis.
  3. All connectors, cables etc. required for the operationalization are in the scope of the contractor.
  4. All fit & finish should be smooth and approved by Engineer in-charge.
  5. The installed data throughput has to be demonstrated as a part of acceptance criteria.

## **B. Terms and Conditions**

1. **Bidders are requested to quote for above works as per the Financial Bid Format in Annexure-II.**
2. Bidder/Agency/Contractor should be an Indian Registered Company.
3. Bidder must have at least three (03) years of work experience in the similar works in India, ending previous day of the last day of submission of bid.
4. Bidder should not have been blacklisted in the last five years from any state/central government due to gross violation/breaching of tender clauses.
5. A single party based turn-key solution is invited to ensure installation & operational consistencies. Partial quotes/ quotes for partial works are liable to be rejected without any further correspondence.
6. The contractor shall not sub-contract the work or any part thereof without written consent from GCNEP, if at all required.
7. Bidder should clearly confirm that all the facilities, equipment, tools are available in his factory, and these shall be made available for inspection.
8. The item details and standards certifications should be submitted along with the product specifications.
9. Bidder shall quote for entire work including fabrication, supply & installation of the supplied items along with accessories and their integration with existing system.
10. The works shall be subjected to inspection by Engineer in Charge. The finished components shall not be dispatched to site prior to approval by our Engineer in charge at bidder's premises. Necessary inspection facilities should be provided to them during fabrication and inspection at bidder's premises without any extra costs.
11. The bidder shall deliver the finished components after approval by Engineer in charge within the completion period effective from the date of issue of work order to the bidder. The items required shall be installed at GCNEP, Kheri-Jasaur, Bahadurgarh, Haryana-124505. Any delay which is attributable to the contractor is liable for penalty @ 1%/ week after the stipulated completion period.
12. Project Director, GCNEP reserves the right to accept / reject any or all quotations without assigning any reason.
13. The offer should be valid for a minimum of 90 days.
14. If required, the interested bidders can plan a visit to Office Site for mapping the exact requirements but with a prior intimation & approval of Engineer in charge only. Drawings / Sketches (if any) must be returned along with the offer.
15. There is no free issue material. All items/material to be supplied/ used should be brand new and factory manufactured condition. All material used including the color, texture, shade etc. wherever applicable should be with a prior approval of Engineer in charge.
16. A security deposit of 2.5% of the gross amount is deductible from the final bill of the bidder. The security deposit shall be refunded to the contractor after the completion of CMC period as specified.





17. Unless otherwise specifically mentioned, design, manufacture, testing & performance of all items shall conform to the latest edition of the applicable codes/ standards.
18. The safety & security of personnel, material & machinery shall be the responsibility of the contractor. Contractor should have a qualified person carrying out the job.
19. Payment Terms: A single bill payment shall be made after the completion of fabrication, supply, installation, testing and commissioning at site. Subsequent running bills towards AMC/ CMS shall be admissible on an annual basis.

**C. Eligibility criteria:**

1. Copy of PAN, GST Number, Company registration certificate
2. Average Annual Turnover of company for the last three years shall not be less than 100% of the estimated cost. CA Certificate of Financial Turnover for the last three consecutive financial years should be furnished.

**D. On-site support & warranty:**

1. All material supplies, installation & workmanship should include a comprehensive on-site warranty (CMC) of one year after the satisfactory completion and acceptance of the work, at no extra costs to GCNEP. **The cost towards this first year onsite support and CMC is assumed to be subsumed in the offer rates towards fabrication, supply, installation, testing & commissioning of Item No. 1 to 4 of the Financial Bid (refer Annexure-II).**
2. **The cost comparison shall be done on a total cost basis which includes the costs towards second and third year CMC as in Item No. 5 & 6 of the Financial Bid (refer Annexure-II).**
3. The second and third year CMC charges shall be payable on production of bills only on successful completion of the job for the respective periods/ years. The CMC for second and third years at the quoted shall be all inclusive, covering all items supplied & workmanship, with no extra costs to GCNEP.
4. GCNEP may lodge complaints by any mode i.e. phone, e-Mail etc.
5. All items should be maintained in working/ usable condition by the bidder at no extra costs for entire warranty period. The visit of engineers/ technicians of the Agency to the office premises shall be arranged by the bidder at no extra cost during the warranty period.
6. In the event the Agency does not attend to the service calls of the office within the stipulated time, GCNEP reserves the right to get the items/parts repaired/replaced through other Agencies or individuals, the expenditure incurred thereby shall be recovered from any payments due to the Agency.
7. If at all, any asset or its part shall require to be moved out of this office premises for rectification of any complaint, then written permission is to be sought, specifying the details of the items to be taken out of office and reasons thereof. Safety & security as well as the transportation of assets to the Agency's premises and vice versa shall be at the risk and cost of the Agency.
8. Defective parts shall be replaced by new parts of the same model & make and the cost of replacement shall be borne by the Agency. In the event of such new part not being compatible with the existing part, such existing part shall also be replaced with the new original part. The contractor shall keep sufficient stock of all spare parts of assets and standby assets.



## Annexure-II

### (Financial Bid)

Name of the Agency/Bidder:

Please go through Annexure-I for detailed technical specifications of the items to be quoted for. The details on all material/ make/ model etc, are to be attached alongwith the quote.

The offer should specify total cost of works, with details of taxes, duties, transportation, installation charges, services charges etc, as applicable.

#### Schedule of Quantities and Rates

Item No.	Item Name	Quantity	Unit	Unit Cost (Rs.)	Total Cost (Rs.)	Applicable GST Rate %	Total Cost (inclusive of all taxes) (Rs.)
1.	Self supported mast tower with associated systems	Two (2)	No.				
2.	Point To Point Wireless Communication Systems	Two (2)	No.				
3.	Miscellaneous Security Systems	One (1)	No.				
4.	VHF Communication Systems	One (1)	No.				
5.	Second Year comprehensive on-site support and maintenance (CMC)	One (1)	No.				
6.	Third Year comprehensive on-site support and maintenance (CMC)	One (1)	No.				

**Total cost inclusive of all overheads (excluding GST): Rs. \_\_\_\_\_**

**GST: Rs. \_\_\_\_\_**

**Grand Total (inclusive of all overheads and taxes): Rs. \_\_\_\_\_**

**(In Words \_\_\_\_\_)**

**Note: The cost comparison shall be done on a total cost basis which includes the costs towards second and third year CMC as in Item No. 5 & 6 above.**

This is to certify that before signing this offer I/We have read and fully understood all the terms and conditions contained herein and undertake myself/ourselves to abide by them.

This offer is valid for 90 (Ninety) days.

Place:

Date: \_\_/\_\_/\_\_\_\_

Signature

Name of the Signatory:

Name of the Agency:

Seal of the Agency