

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

TENDER ENQUIRY

Ref: GCNEP/20/09-100

Date: 30/09/2020

To,

1	Name of work	Fabrication, supply, laying, installation, testing and commissioning of Radio and Fiber Data Links, Data Networking with Telephony and CCTV Surveillance Infrastructure at Block-D, GCNEP Township, Bahadurgarh, Haryana, as per the technical specifications detailed in Annexure -I.
2	Location of work	Kheri-Jasaur & Jasaur-Kheri, Bahadurgarh, Haryana
3	Estimated Cost	Rs. 22,30,000/- (Rupees Twenty-Two Lakh Thirty Thousand only)
4	Period of Completion	1 month
5	Security Deposit	2.5% of the gross amount; deductible from the running/ final bill of the agency.
6	Due date & time for Submission of quotations	22/10/2020 upto 16:00Hrs
7	Place for Submission	The address on the sealed envelope (Super-Scribed with the tender Enquiry Number) Project Director, Global Centre for Nuclear Energy Partnership (GCNEP), Kheri Jasaur, Bahadurgarh, Haryana -124505
8	Place of opening	To be informed later
9	The quotation must be sent in a Sealed Envelope Super-Scribed with the Reference Number & Due Date given above. 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 10:00 hrs to 16:00 hrs.	

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Project Director, GCNEP

Annexure-I Scope of Work

Description: Fabrication, supply, laying, installation, testing and commissioning of Radio and Fiber Data Links, Data Networking with Telephony and CCTV Surveillance Infrastructure at Block-D, GCNEP Township, Bahadurgarh, Haryana, as per the detailed technical specifications.

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, RJ45 & fibre installation to make the system fully functional. All materials cables & connectors used, shall be branded and of reputed make. Such material should be used only after approval of the Engineer-in-charge. The proposed work is to be carried out at newly constructed premises. The LAN cable is already existent at some places and the location of various communication end points/ exchange room etc is already identified. Any additional LAN cables & connectors, additional electrical cables/ switch/ sockets, PDUs, face plates etc as per the requirements related to the commissioning of the system are in the scope and costs of proposed works. 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.

1.	Supply, installation, integration, testing and commissioning of all the items and peripherals meeting the listed specifications and providing one year onsite comprehensive warranty. The installation, testing and commissioning shall be carried out as per the instructions of Engineer-in-Charge.
2.	All items/ materials (including cables & connectors) offered should be of reputed make/ well established brands.
3.	Supply shall include all the installation material/ accessories/ consumables (e.g. screws, clamps, fasteners, ties anchors, supports, wires, patch cords, patch panels etc.) necessary for the installation of the systems. Any minor works related to laying of conduits, cables and conductors, installation of display, audio, and cabling (VGA, Audio, Speaker, LAN cabling etc.), providing access points that are required to make the system operational, is included in the scope.
4.	Successful agency shall have to program and configure the systems with proper inputs from Engineer-in-charge so that it can be operated by the staff involving minimum efforts. The scope of works also includes training of GCNEP staff on the configuration and use of the system as a whole. Installation work shall be done in a conscientious manner as per the OEM guidelines and best industry practices. The system shall be subjected to inspection at various stages.
5.	All items used should be as supplied by OEM. The specifications/ descriptions listed are the minimal ones. All licenses should be absolute lifetime licenses in the name of GCNEP. Anything higher/ better in configuration/ performance can be considered for acceptance.
6.	The successful agency shall submit to the Engineer-in-Charge detailed time schedule covering phases involved, detailed plans, procurement, inspection, test, delivery, and installation etc. within fifteen (15) days of receipt of work order by the contractor.
7.	All offered components for the works should be compatible with each other for all functional and performance aspects to achieve the highest level of integrated services. Finished works shall be able to achieve a minimum 80% of the rated

	performance on full load at communication end points.
8.	The agency shall submit all the technical information/ details as requested, to enable the Department/ User to make an accurate comparison and evaluation of tenders without the need of further information from the agency .
9.	All rack items wherever included (like switches, rack servers, etc.) should include the rack mounting kit/ brackets.
10.	Unless otherwise specifically mentioned, design, manufacture, testing & performance of all items shall conform to the latest edition of the applicable codes/ standards/ regulatory norms.
11.	All material used including the color, texture, shade etc. wherever applicable should be with a prior approval of Engineer-in-charge.
12.	All equipment should operate under Indian power supply standards.
13.	Engineer-in-Charge reserves the right for inspection/ demonstration of any items proposed in the work, at supplier's premises.
14.	The vendor should be capable of providing local support at GCNEP Bahadurgarh.

A. Detailed Specifications

Detailed technical specifications of the items are as follows:

Item No	Item Name & Technical Description	Offered Item Details (with model number & item specifications) (must be submitted with the financial Bid)
1	<p>SITC of Point to point RF link with following accessories:</p> <p>a) Extension of point to point RF link upto D Type Block which consists of two numbers of connectorized radio (each with 2 m non-metallic roof mountable tower) up to 200 Mbps throughput with 25dbi Dual Parabolic dish antenna, 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 pinouts Protocols Used IPv4, UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, STP, SSH, IGMP Snooping, PoE support, alongwith surge suppressor & PoE adapter for the radio, Operating Temperature: -10°C to 50°C. Preferred makes: Cambium or equivalent / better.</p> <p>b) Two numbers of Layer 3 switches each with 24-port 1 GbE switch, all Managed Ports, three 1GbE SFP uplink/ stacking ports, full Layer 3 licence for VLAN management and inter VLAN routing capabilities, 16000 MAC addresses, 255 VLANs with Tagging, 16Gbps aggregated stacking bandwidth, 500W internal AC power supply rating, 52Gbps switching data rate full duplex, 35Mpps forwarding data rate full duplex, CE/FCC/IC/IEC, IEEE standards: 802.1X, 802.1AB,</p>	

<p>802.1D-2004, 802.1p, 802.1Q with Tagging, 802.1s, 802.1w, 802.1x, 802.3 10BASE-T, 802.3ab 1000BASE-T, 802.3ad, 802.3ae, 802.3u 100BASE-TX, 802.3x, 802.3z 1000BASE-SX/LX, 802.3, support for SecureShell (SSHv2), AES with SSHv2,SCP, DHCP snooping, SNMPv2, SNMPv3, TACACS/TACACS+ and RADIUS authentication, Size: 1U. Preferred makes: Ruckus/Ubiquiti /Juniper or equivalent / better.</p> <p>c) Five numbers of Layer 2 switches each with 24-port 1 GbE switch with PoE, Minimum 4 nos. of POE+, All Managed Ports, one 1GbE, PoE ports, SFP uplink/stacking ports, 16Gbps aggregated stacking bandwidth, 500W internal AC power supply rating, 24 POE class 3 ports, 52Gbps switching data rate full duplex, 35Mpps forwarding data rate full duplex, should support upgrade option to minimal L3 capabilities, 16000 MAC addresses, 255 VLANs with Tagging, CE/FCC/IC/IEC, IEEE standards: 802.3af PoE and 802.3at PoE+, 802.1X, 802.1AB, 802.1D-2004, 802.1p, 802.1Q with Tagging, 802.1s, 802.1w, 802.1x, 802.3 10BASE-T, 802.3ab 1000BASE-T, 802.3ad, 802.3ae, 802.3u 100BASE-TX, 802.3x, 802.3z 1000BASE-SX/LX, 802.3,heat dissipation (no PoE load) 105 BTU/hr, support for SecureShell (SSHv2), AES with SSHv2,SCP, DHCP snooping,SNMPv2, SNMPv3, TACACS/TACACS+ and RADIUS authentication, Size: 1U. Preferred makes: Ruckus/Ubiquiti/Juniper or equivalent / better.</p> <p>d) One number of controller for Wireless Access Points each with licenses for central support and configuration of minimum of 25 APs on open communication protocol, 256 WLANs, Web user interface, CLI, SNMP v1 v2 v3, in-built RADIUS server support, auto-discovery, Automatic channel and power optimization, Wireless packet capture Support, Networking control and monitoring, Performance monitoring and statistics, Security standards: WPA, WPA2, 802.11i, TKIP, AES, Dynamic Pre-Shared Key, 802.1x, MAC address authentication, Internal database up to 1,000 users, local authentication database, RADIUS, LDAP, L2 MAC address-based access control, L3/4 IP and Protocol based access control, L2 client isolation, management interface access control, Time-based WLANs, Wireless intrusion detection (WIDS)- Rogue AP detection, DoS attack prevention, Ad hoc detection, Password guessing protection, captive portal based authentication, dynamic VLAN, two 10/100/1000 Mbps Ethernet ports, auto MDX, autosensing, Operating Temperature 0°C – 40°C, Preferred makes: Ruckus/ Fortinet /Ubiquiti or equivalent / better.</p>	
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e) One number of RF detector device for Wireless RF 10MHz - 8GHz Radio Signal Scanning with inbuilt battery, alarm, visual indicator with detection range of 4-50 inches

f) Two numbers of 16- Channel Network Video Recorder each with Internal Storage capacity: 6 numbers of 6TB SATA 24x7 Video Surveillance grade HDD (total: 36TB), Recording Bandwidth: 100Mbps, Recording Resolution: 2MP(1080P),1.3MP (960P), 1.0MP (720P), Display Split: 1/ 4/ 6 /8/9/10/13/14/16, Output Interface: 1 HDMI, 1 VGA, Display Resolution: 1024*768, 1280*720, 1280*1024, 1440*900, 1920*1080, 1680*1050, 1600*1200, 1900*1200, 2560*1440,3840*2160, Alarm Input/out: yes, Ethernet: RJ-45 port (1000M, e-Sata: yes, USB interface: 2 x USB, ONVIF: yes, Power Supply: AC 100~240V, Certifications: CE, FCC, Preferred makes: Impulse/ Honeywell/Bosch or equivalent / better.

g) Two numbers Type-I Wireless access point each with IEEE 802.11a/b/g/n/ac, Dual-band concurrent (5GHz/2.4GHz), RF power output: 28 dBm on 2.4 GHz; 28 dBm on 5 GHz, Client Support: Concurrent station Up to 50 clients per AP, Open communication protocol support, Frequency band: IEEE 802.11b/g/n, 2.4–2.484GHz, IEEE 802.11a/ac, 5.15–5.25GHz, 5.25–5.35 GHz, IP multicast video streaming support, pre-user rate-limiting for hotspot WLANs, 802.1X support for RADIUS and Active, Directory, Admission control/ load balancing, airtime fairness support, guest accounts, should support standalone deployment, Secure Hot spot feature, Data Rate: 802.11n/ac: 6, 9, 12, 18, 24, 36, 48, 54 Mbps., Security: WPA-PSK, WPA-TKIP, WPA2, AES, 802.11i, Authentication via 802.1X, local authentication database, support for RADIUS, LDAP, Ethernet port 2 auto MDX, auto-sensing, 10/100/1000 Mbps, RJ-45, POE port, Power: 12 VDC 1.0A, PoE 802.3af, Operating Temperature: 0°C - 50°C, Certifications: Wi-Fi Alliance certified, Inclusive of mounting bracket/arrangement for false ceiling/wall, Preferred makes: Ruckus/ Fortinet /Ubiquiti or equivalent / better.

h) 16 numbers Type-II Wireless access point each with IEEE 802.11a/b/g/n/ac Dual-band concurrent (5GHz/2.4GHz), RF power output: 12dBm for 2.4GHz and 10dBm for 5GHz, Client Support: Concurrent station Up to 10 clients per AP, Open communication protocol support, Frequency band: IEEE 802.11b/g/n, 2.4–2.484GHz, IEEE 802.11a/ac, 5.15–5.25GHz, 5.25–5.35 GHz, Antenna Gain: 3dBi physical antenna gain, IP

multicast video streaming support, pre-user rate-limiting for hotspot WLANs, 802.1X support for RADIUS and Active, Directory, Admission control/ load balancing, airtime fairness support, guest accounts, should support standalone deployment, Secure Hot spot feature, Data Rate: 802.11n/ac: 6, 9, 12, 18, 24, 36, 48, 54 Mbps, Security: WPA-PSK, WPA-TKIP, WPA2, AES, 802.11i, Authentication via 802.1X, local authentication database, support for RADIUS, LDAP, Ethernet port 2 auto MDX (one in & one out Ethernet port), auto-sensing, 10/100/1000 Mbps, RJ-45, POE port, Power: 12 VDC 1.0A, PoE 802.3af, Lock option: Hidden latching mechanism, Kensington Lock Hole, Operating Temperature: 0°C - 50°C, Certifications: Wi-Fi Alliance certified, Inclusive of mounting bracket/arrangement for false ceiling/wall, preferred makes: Ruckus/ Fortinet /Ubiquiti or equivalent / better.

i) Three numbers of 15 U Network Rack with PDS

Rack Height: 15U, Rack Width: 19", Color: Light grey
Type: Wall mountable, Weight Capacity: Static load-40 Kg, Approximate Depth (mm): 500, Top & bottom CRCA steel, four side CRCA Steel folded panels, 19" Mounting Angles, wall mounting hardware, Cable entry provision, front glass/vented door (lockable), should have 19" 1U Horizontal PVC cable manager (2 Nos.), accessories including 19 AC power distribution channel with 5 Amp power universal standard socket & surge and spike protection, equipment mounting screws/hardware packets, with two fans, Certifications: Standard Finish Power Quoted (RAL 7035), DIN- 41494, EIA-310, IEC-60297

j) One number Rack mountable IP-PBX with UC enabled IP Ready switch with integrated IP Gateways and 8 DSP resources. The PBX should be capable of supporting upto 500 users and with: Digital Trunk (PRI, 30 channels each) – 1 No., Analog Trunk lines– 1 No., License for 50 Analog users and 50 IP users, support for minimum 5 party conference, Ethernet port, ACD identification, voicemail, CSTA/TPI open standard, VoIP, call forwarding, welcome message on incoming calls, barge-in facility, configurable calling facilities, and other features as listed in the compliance following this table. CDR facility for at least 1 lakh calls with provision of generating report in assistance with external CDR software. The supply of this CDR report generation software is included in the scope/ extension over Ethernet interface using open protocol, music on hold, IVR support., Preferred makes: NEC/Unify/Gigaset or equivalent / better.

2	<p>a) Supply, laying of 1.5 km armoured 4 core single mode optical fibre cable in HDP pipe with proper clamping, route marker with end termination, two FTE converter pair. In 1.5 km, 700m is laying through existing trench and 800m involves 2 feet deep soft digging & laying. In addition, it consists of laying of 1000 m Ethernet wire with proper casing, capping and conducting.</p> <p>b) Two numbers of imaging/ surveillance devices with IP/ PoE dome imaging device with Image Sensor: 1/3” progressive scan CMOS, Image Resolution: 3Megapixel (2048x1536), Image Type: Colored, Lens:2.7mm, Day & Night: IR cut filter with auto switch, Wide Dynamic Range: Digital wide dynamic, Digital noise reduction: 2D/3D DNR, Video Compression: MJPEG/ H.264, Local recording, with micro SDHC/ SDXC slot & 64GB Micro SDHC Class 10, Event based recording, ONVIF support, Ethernet interface, POE, Operating Conditions: -10 °C ~ 50 °C, Weather Proof: IP66, IR Range: 40 meters, Certifications: CE, FCC, Inclusive of junction boxes, mounting brackets/ arrangements, preferred makes: Impulse/ Honeywell/Bosch or equivalent / better.</p> <p>c) 12 numbers of Outdoor Bullet imaging/ surveillance devices with 30m IR, IP/ PoE outdoor Bullet imaging device with following specifications: Image Sensor: 1/2.8” progressive scan CMOS, Full HD(1080P), Colored image, Lens: 2.7-12mm Manual Varifocal, Day & Night: IR cut filter with auto switch, Wide Dynamic Range: Digital wide dynamic, Digital noise reduction: 2D/3D DNR, Video Compression: H.265/ MJPEG/ H.264, Mainstream Frame Rate: (default 30fps / 2MP), Substream Frame Rate: (default 30fps / D1) D1(704*480), VGA (640*480), QVGA (320*240), Image Settings: Rotate Mode, Saturation, Brightness, Contrast, Sharpness adjustable, Day/Night Switch: Auto ONVIF support, Communication Interface: Ethernet interface, POE: Yes, Waterproof Connector: Tail wire RJ45 interface for waterproof interface, Operating Conditions: -10 °C ~ 50 °C, Weather Proof: IP66, Certifications: CE, FCC, Inclusive of junction boxes, mounting brackets/ arrangements. . Preferred makes for surveillance device: Impulse/ Honeywell/Bosch or equivalent / better.</p> <p>d) Three numbers of Outdoor Bullet imaging/surveillance device with 60m IR, Varifocal with IP/ PoE outdoor Image Sensor: 1/2.8” progressive scan CMOS, Image Resolution: Full HD (1080P), Image Type: Colored, Slow shutter: Supported, Lens: 2.7-12mm Manual Varifocal, Day & Night: IR cut filter with</p>	
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auto switch, Digital wide dynamic, 2D/3D DNR Digital noise reduction, Video Compression: H.265/ MJPEG/ H.264, Mainstream Frame Rate: (default 30fps / 2MP), ACC format, ONVIF support, Communication Interface: Ethernet interface, POE: Yes, Operating Conditions: -10 °C ~ 50 °C, Audio/microphone- yes, Weather Proof: IP66, Certifications: CE, FCC, Inclusive of junction boxes, mounting brackets/ arrangements, preferred makes: Impulse/ Honeywell/ Bosch or equivalent / better.

e) Three numbers of IP/ PoE+ PTZ imaging/surveillance device with 80m IR, SD recording interface Image Sensor: 1/2.8" progressive scan Exmor CMOS sensor, Video Standard: H.264, H.265, MJPEG, Effective Pixels: 2MP, Lens: 25x optical zoom, Horizontal FOV: 59~2.4°, Focal Length: 4.5mm - 120mm, Focus Control: Auto, Manual, Max Aperture: F1.6~F4.4, Resolution: 1080p (1920×1080p) / 720p (1280×720) / D1 (704×576/704×480) / CIF (352×288/352×240), Video Streams: Triple Streams, Video Out: PAL / NTSC, Day and Night: Yes, automatically removable IR-cut filter (ICR) with modes control, Minimum Illumination Colour: 0.05Lux@F1.6, Imaging: Individually configurable white balance modes, gain control, backlight compensation, multi-zone privacy masks, noise reduction, and video orientation controls, Automatic electronic shutter: 1/1~1/3000s, Input/ Output: 1 x audio line input, 1 x audio line output, Pan: Pan: 0° ~ 360° endless; Manual Pan Speed : 0.1° ~200° /s; Tilt: -15° ~ 90°, auto flip 180°; Manual Tilt Speed: Tilt: 0.1° ~120° /s, Presets: 100, PTZ Mode: Auto Pan, Auto Scan, Ethernet: IEEE 802.3, auto sensing, 1 x RJ45, ONVIF support, Edge Analytics: yes, Edge Storage: 1 x microSDHC/SDXC slot, Memory: 64GB MicroSDHC Class 10, min 80 MB/s (included), Weather Resistance: IP66, Power: IEEE 802.3at (PoE+) / AC24V, Temperature Control: yes, Operating Condition: -10°C ~ 50°C, Certifications: CE, FCC, UL listed, Inclusive of junction boxes, mounting brackets/ arrangements, preferred makes: Impulse/ Honeywell/Bosch or equivalent / better.

f) 16 numbers IP based audio phones with inbuilt speaker, caller ID, 3 menu/ navigation keys, 3 fixed function keys, Volume keys (+/-), keypad with 12 keys, LCD 2 line fixed graphic display 130x45 pixels, echo cancelling, wall mountable, black colour, should comply to G.711, IEEE 802.3af, POE, CE certified, power consumption 1.7W, Preferred makes: NEC/ Unify/ Gigaset or equivalent / better.

Note: Preference may be given to technically suitable Make In India/ Made In India

products. Such product(s) should have manufacturing and servicing facilities in India and should be open to technical inspection by GCNEP. The products should be competitive with standard market products in terms of performance and form factors.

Note: The work has to be executed on a turn-key basis. All fittings, connectors, cables etc. required for the operationalization are in the scope of the agency. If agency want to supply items other than preferred make, then it should be ensured that it is technically equivalent or better and data sheet of same should be attached along with the bid **otherwise bid is liable to be rejected.** The offered system should have a 100% non-blocking Switching architecture. The system should facilitate at least 3 party Ad-hoc Conferencing. The offered system should be able to restart automatically without any human intervention when the external ac power supply is resumed after complete power failure. Numbering Scheme: The offered system should support Flexible Numbering Scheme wherein every extension will be assigned different extension numbers, (ranging from minimum of two digits to a maximum of 4 digits). Also, it should be possible to change all the facility codes, group directory numbers for subscriber hunt groups and trunk/page groups, abbreviated dialing codes, etc. as per the requirements. The system should have an inbuilt LAN port. It should be possible to access the system from any node of the LAN for maintenance purpose. The offered system should support centralized system administration using SNMP (Simple Network Management Protocol). Direct Inward Dialing (DID) and Direct Outward Dialing (DOD) Access. It is being clarified by agency that offered items should have India based authorized service centre.

B. Terms and Counditions

1. **Agency is required to quote for above works as per Annexure-I & the Financial Bid Format in Annexure-II.**
2. SITC & connectivity to the existing network infrastructure at the Guest House is within the scope of this work.
3. Agency /Agency/Contractor should be an Indian Registered Company and should have PAN, GST Number, and Company registration certificate.
4. Agency preferably should have similar work experience. Works related to Radio or Fibre Data Links or Data Networking with Telephony or CCTV Surveillance Infrastructure.
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. **The item details and standards certifications should be submitted along with the product specifications.**
8. The works shall be subjected to inspection by Engineer in Charge. Necessary inspection facilities should be provided to them during fabrication and inspection at agency 's premises without any extra costs.
9. The agency 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 agency. The items required shall be installed at GCNEP, Kheri-Jasaur, Bahadurgarh, Haryana-124505.
10. Details of Relative in DAE (if any) (Name, Unit, Position Held, Relationship) may be provided on company letter head along with quotation. (for more information please refer Enlistment Rules, CPWD Works Manual).

11. Bidder must give the declaration on the letter head that firm has not been BLACKLISTED by any PSUs/Govt. Bodies.
12. Project Director, GCNEP reserves the right to accept / reject any or all quotations without assigning any reason.
13. If an agency fails to fulfill its bid commitment or withdraw its within offer validity period after opening the bid the agency is liable to be debarred from participating in GCNEP Enquiries (Tender/LPS/Minor Fabrication) for a period of one year.
14. The operational area included in scope of work shall consists of all locations within GCNEP Campus & Township. This shall include all existing operational buildings or any other additional facility which is made operational within GCNEP campus & Township.
15. The specifications mentioned are minimal and the items/deviations are acceptable within acceptable engineering limits margins at the discretion of GCNEP Authority.
16. If required, the interested agency 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.
17. There is no free issue material. All items/material to be supplied/ used should be brand new and factory manufactured condition. All materials including the color, texture, shade etc. wherever applicable should be with a prior approval of Engineer in charge.
18. A **security deposit of 2.5%** of the gross amount is deductible from the final bill of the agency. The security deposit shall be refunded to the contractor after the completion of one-year period as specified.
19. The safety & security of personnel, material & machinery shall be the responsibility of the contractor. Contractor should have a qualified person carrying out the job.
20. Payment Terms: Single bill payment. No advance is admissible. Payment including taxes will be made only after the successful completion of works and after the submission of signed & stamped documents (Original bills, Pre-receipt, cancelled cheque or Account details of the contractor, Copy of PAN/ GSTN).
21. The following deductions will be made from the bill(s):
 - a. Security Deposit: The security deposit mentioned in the enquiry shall be deducted and is refunded to the contractor after the expiry of the guarantee period (i.e. one year from issue of Completion Certificate).
 - b. Penalty: Any delay which is attributable to the contractor is liable for penalty @ 1.5% per week of remaining work and upto a max. of 5% of Work Order value.
 - c. TDS: TDS shall be deducted as per the standard rates.

C. On-site support & warranty:

1. **COMPREHENSIVE MAINTENANCE CONTRACT:** The offer by a company/ firm/ agency shall include “Comprehensive Maintenance Contract” (CMC) for the works including the supplied instruments/ materials and workmanship, immediately after completion of the works for a period of One (1) Year from the date of satisfactory installation, commissioning & integration of the system. GCNEP shall not extend any medical, housing, transportation facilities or any other benefits to any contract/ hired workers of the agency in order to meet the CMC requirements. GCNEP shall not be liable to any additional/ future claims arising out of these CMC works and onsite support requirements. The CMC shall generally include attending of preventive maintenance at regular intervals and attending of all kinds of break down calls, with supply/ provision of all necessary spare parts of the instrument required for restoring function of the

instrument under CMC. Spare parts shall mean all items required for restoring function of the instrument under CMC.

2. All items being offered under works should have India based service support.
3. GCNEP may lodge complaints by any mode i.e. phone, e-Mail etc.
4. The entire Hardware as supplied under the project should be interoperable. In case any additional device/ software is required for interoperability, the same shall be provided, installed and maintained by the agency at no extra cost for entire warranty period.
5. In the event of an operation critical item not repaired/ replaced within 48 hours, a backup of the item shall be provided until the item is repaired/ replaced.
6. The visit of any external service engine
7. eers of the firm to GCNEP premises, other than the dedicated operational support made available by the firm/ agency at site, shall be arranged by the firm at no extra cost during the warranty period.
8. All works related to workmanship shall be subject to warranty of one year with effect from the date of installation by the supplier and all item/material should have a One-year warranty from OEM wherever applicable. Maintenance service shall be Comprehensive and Onsite in nature which shall include preventive and corrective maintenance of all assets.
9. In the event the firm does not attend to the service calls of the office within the stipulated time, the office reserves the right to get the items/parts repaired/replaced through other firms or individuals, the expenditure incurred thereby shall be recovered from any payments due to the firm.
10. 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 firm's premises and vice versa shall be at the risk and cost of the firm.
11. Defective parts shall be replaced by new parts of the same model & make and the cost of replacement shall be borne by the firm. 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.
12. If a particular asset is irreparable, then the irreparable item shall be replaced by a new asset of the same brand/model or higher and the cost of the new asset shall be borne by the firm. This office may also ask the firm to repair/replace/supply the items damaged due to fire/flood/natural disaster/earth leakage or to upgrade any hardware on chargeable basis. However, the charges for these items shall not, in any case, be more than the prevailing wholesale market price. This office may also arrange to rectify/repair/replace those exempted items through other firms or from the open market. In that case, after rectification/repair/replacement of the said exempted items shall automatically come under the warranty.
13. All items should be maintained in working/ usable conditions by the agency 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 agency at no extra cost during the warranty period.
14. 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:

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 along with the quote. **Annexure-I Scope of Work, should be duly filled and submitted along with the financial bid,** without which the bid is liable to be rejected.

The offer should specify all-inclusive total cost of works, with GST component.

Schedule of Quantities and Rates

Item No (1)	Item name (2)	Item description (3)	Item Qty (4)	Unit (5)	Unit Rate (Rs) (6)	Sub-total (Rs) (7)=(4)x (6)	GST on sub-total (Rs) (8)	Total (Rs) (9)=(7)+ (8)
1.	SITC of Point to point RF link with accessories	<p>SITC of Point to point RF link with following accessories:</p> <p>a) Extension of point to point RF link upto D Type Block which consists of two numbers of connectorized radio (each with 2 m non-metallic roof mountable tower) up to 200 Mbps throughput with 25dbi Dual Parabolic dish antenna, 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 pinouts Protocols Used IPv4, UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, STP, SSH, IGMP Snooping, PoE support, alongwith surge suppressor & PoE adapter for the radio, Operating Temperature: -10°C to 50°C. Preferred makes: Cambium or equivalent / better.</p> <p>b) Two numbers of Layer 3 switches each with 24-port 1 GbE switch, all Managed Ports, three 1GbE SFP uplink/ stacking ports, full Layer 3 licence for VLAN management and inter VLAN routing capabilities, 16000 MAC addresses, 255 VLANs with Tagging, 16Gbps aggregated stacking bandwidth, 500W internal AC power supply rating, 52Gbps switching data rate full duplex, 35Mpps forwarding data rate full duplex, CE/FCC/IC/IEC, IEEE standards: 802.1X, 802.1AB, 802.1D-2004, 802.1p, 802.1Q with Tagging, 802.1s, 802.1w, 802.1x, 802.3 10BASE-T, 802.3ab 1000BASE-T, 802.3ad, 802.3ae, 802.3u 100BASE-TX, 802.3x, 802.3z 1000BASE-SX/LX, 802.3, support for SecureShell (SSHv2), AES with SSHv2,SCP, DHCP snooping, SNMPv2, SNMPv3, TACACS/TACACS+ and RADIUS authentication, Size: 1U. Preferred makes: Ruckus/Ubiquiti /Juniper or equivalent / better.</p> <p>c) Five numbers of Layer 2 switches each with 24-port 1 GbE switch with PoE, Minimum 4 nos. of POE+, All Managed Ports, one 1GbE, PoE ports, SFP uplink/ stacking ports, 16Gbps aggregated stacking bandwidth, 500W internal AC power supply rating, 24 POE class 3 ports, 52Gbps switching data rate full duplex, 35Mpps forwarding data rate full duplex, should support upgrade option to minimal L3 capabilities, 16000 MAC addresses, 255 VLANs with Tagging, CE/FCC/IC/IEC, IEEE standards: 802.3af PoE and 802.3at PoE+, 802.1X, 802.1AB, 802.1D-2004, 802.1p, 802.1Q with Tagging, 802.1s, 802.1w, 802.1x, 802.3 10BASE-T, 802.3ab 1000BASE-T, 802.3ad, 802.3ae, 802.3u 100BASE-TX, 802.3x,</p>	1	Set				

802.3z 1000BASE-SX/LX, 802.3, heat dissipation (no PoE load) 105 BTU/hr, support for SecureShell (SSHv2), AES with SSHv2, SCP, DHCP snooping, SNMPv2, SNMPv3, TACACS/TACACS+ and RADIUS authentication, Size: 1U. Preferred makes: Ruckus/Ubiquiti/Juniper or equivalent / better.

d) One number of controller for Wireless Access Points each with licenses for central support and configuration of minimum of 25 APs on open communication protocol, 256 WLANs, Web user interface, CLI, SNMP v1 v2 v3, in-built RADIUS server support, auto-discovery, Automatic channel and power optimization, Wireless packet capture Support, Networking control and monitoring, Performance monitoring and statistics, Security standards: WPA, WPA2, 802.11i, TKIP, AES, Dynamic Pre-Shared Key, 802.1x, MAC address authentication, Internal database up to 1,000 users, local authentication database, RADIUS, LDAP, L2 MAC address-based access control, L3/4 IP and Protocol based access control, L2 client isolation, management interface access control, Time-based WLANs, Wireless intrusion detection (WIDS)- Rogue AP detection, DoS attack prevention, Ad hoc detection, Password guessing protection, captive portal based authentication, dynamic VLAN, two 10/100/1000 Mbps Ethernet ports, auto MDX, autosensing, Operating Temperature 0°C – 40°C, Preferred makes: Ruckus/ Fortinet /Ubiquiti or equivalent / better.

e) One number of RF detector device for Wireless RF 10MHz - 8GHz Radio Signal Scanning with inbuilt battery, alarm, visual indicator with detection range of 4-50 inches

f) Two numbers of 16- Channel Network Video Recorder each with Internal Storage capacity: 6 numbers of 6TB SATA 24x7 Video Surveillance grade HDD (total: 36TB), Recording Bandwidth: 100Mbps, Recording Resolution: 2MP(1080P), 1.3MP (960P), 1.0MP (720P), Display Split: 1/ 4/ 6 /8/9/10/13/14/16, Output Interface: 1 HDMI, 1 VGA, Display Resolution: 1024*768, 1280*720, 1280*1024, 1440*900, 1920*1080, 1680*1050, 1600*1200, 1900*1200, 2560*1440, 3840*2160, Alarm Input/out: yes, Ethernet: RJ-45 port (1000M), e-Sata: yes, USB interface: 2 x USB, ONVIF: yes, Power Supply: AC 100~240V, Certifications: CE, FCC, Preferred makes: Impulse/ Honeywell/Bosch or equivalent / better.

g) Two numbers Type-I Wireless access point each with IEEE 802.11a/b/g/n/ac, Dual-band concurrent (5GHz/2.4GHz), RF power output: 28 dBm on 2.4 GHz; 28 dBm on 5 GHz, Client Support: Concurrent station Up to 50 clients per AP, Open communication protocol support, Frequency band: IEEE 802.11b/g/n, 2.4–2.484GHz, IEEE 802.11a/ac, 5.15–5.25GHz, 5.25–5.35 GHz, IP multicast video streaming support, pre-user rate-limiting for hotspot WLANs, 802.1X support for RADIUS and Active, Directory, Admission control/ load balancing, airtime fairness support, guest accounts, should support standalone deployment, Secure Hot spot feature, Data Rate: 802.11n/ac: 6, 9, 12, 18, 24, 36, 48, 54 Mbps., Security: WPA-PSK, WPA-TKIP, WPA2, AES, 802.11i, Authentication via 802.1X, local authentication database, support for RADIUS, LDAP, Ethernet port 2 auto MDX, auto-sensing, 10/100/1000

Mbps, RJ-45, POE port, Power: 12 VDC 1.0A, PoE 802.3af, Operating Temperature: 0°C - 50°C, Certifications: Wi-Fi Alliance certified, Inclusive of mounting bracket/arrangement for false ceiling/wall, Preferred makes: Ruckus/ Fortinet /Ubiquiti or equivalent / better.

h) 16 numbers Type-II Wireless access point each with IEEE 802.11a/b/g/n/ac Dual-band concurrent (5GHz/ 2.4GHz), RF power output: 12dBm for 2.4GHz and 10dBm for 5GHz, Client Support: Concurrent station Up to 10 clients per AP, Open communication protocol support, Frequency band: IEEE 802.11b/g/n, 2.4–2.484GHz, IEEE 802.11a/ac, 5.15–5.25GHz, 5.25–5.35 GHz, Antenna Gain: 3dBi physical antenna gain, IP multicast video streaming support, pre-user rate-limiting for hotspot WLANs, 802.1X support for RADIUS and Active, Directory, Admission control/ load balancing, airtime fairness support, guest accounts, should support standalone deployment, Secure Hot spot feature, Data Rate: 802.11n/ac: 6, 9, 12, 18, 24, 36, 48, 54 Mbps, Security: WPA-PSK, WPA-TKIP, WPA2, AES, 802.11i, Authentication via 802.1X, local authentication database, support for RADIUS, LDAP, Ethernet port 2 auto MDX (one in & one out Ethernet port), auto-sensing, 10/100/1000 Mbps, RJ-45, POE port, Power: 12 VDC 1.0A, PoE 802.3af, Lock option: Hidden latching mechanism, Kensington Lock Hole, Operating Temperature: 0°C - 50°C, Certifications: Wi-Fi Alliance certified, Inclusive of mounting bracket/arrangement for false ceiling/wall, preferred makes: Ruckus/ Fortinet /Ubiquiti or equivalent / better.

i) Three numbers of 15 U Network Rack with PDS
Rack Height: 15U, Rack Width: 19", Color: Light grey
Type: Wall mountable, Weight Capacity: Static load-40 Kg, Approximate Depth (mm): 500, Top & bottom CRCA steel, four side CRCA Steel folded panels, 19" Mounting Angles, wall mounting hardware, Cable entry provision, front glass/vented door (lockable), should have 19" 1U Horizontal PVC cable manager (2 Nos.), accessories including 19 AC power distribution channel with 5 Amp power universal standard socket & surge and spike protection, equipment mounting screws/hardware packets, with two fans, Certifications: Standard Finish Power Quoted (RAL 7035), DIN- 41494, EIA-310, IEC-60297

j) One number Rack mountable IP-PBX with UC enabled IP Ready switch with integrated IP Gateways and 8 DSP resources. The PBX should be capable of supporting upto 500 users and with: Digital Trunk (PRI, 30 channels each) – 1 No., Analog Trunk lines– 1 No., License for 50 Analog users and 50 IP users, support for minimum 5 party conference, Ethernet port, ACD identification, voicemail, CSTA/TPI open standard, VoIP, call forwarding, welcome message on incoming calls, barge-in facility, configurable calling facilities, and other features as listed in the compliance following this table. CDR facility for at least 1 lakh calls with provision of generating report in assistance with external CDR software. The supply of this CDR report generation software is included in the scope/ extension over Ethernet interface using open protocol, music on hold, IVR support., Preferred makes: NEC/Unify/Gigaset or equivalent / better.

2.	<p>Extension of armoured fiber optical cable link from Guest House Block-A to D Type Block with imaging/surveillance devices</p>	<p>a) Supply, laying of 1.5 km armoured 4 core single mode optical fibre cable in HDP pipe with proper clamping, route marker with end termination, two FTE converter pair. In 1.5 km, 700m is laying through existing trench and 800m involves 2 feet deep soft digging & laying. In addition, it consists of laying of 1000 m Ethernet wire with proper casing, capping and conducting.</p> <p>b) Two numbers of imaging/ surveillance devices with IP/ PoE dome imaging device with Image Sensor: 1/3" progressive scan CMOS, Image Resolution: 3Megapixel (2048x1536), Image Type: Colored, Lens:2.7mm, Day & Night: IR cut filter with auto switch, Wide Dynamic Range: Digital wide dynamic, Digital noise reduction: 2D/3D DNR, Video Compression: MJPEG/ H.264, Local recording, with micro SDHC/ SDXC slot & 64GB Micro SDHC Class 10, Event based recording, ONVIF support, Ethernet interface, POE, Operating Conditions: -10 °C ~ 50 °C, Weather Proof: IP66, IR Range: 40 meters, Certifications: CE, FCC, Inclusive of junction boxes, mounting brackets/ arrangements, preferred makes: Impulse/ Honeywell/Bosch or equivalent / better.</p> <p>c) 12 numbers of Outdoor Bullet imaging/ surveillance devices with 30m IR, IP/ PoE outdoor Bullet imaging device with following specifications: Image Sensor: 1/2.8" progressive scan CMOS, Full HD(1080P), Colored image, Lens: 2.7-12mm Manual Varifocal, Day & Night: IR cut filter with auto switch, Wide Dynamic Range: Digital wide dynamic, Digital noise reduction: 2D/3D DNR, Video Compression: H.265/ MJPEG/ H.264, Mainstream Frame Rate: (default 30fps / 2MP), Substream Frame Rate: (default 30fps / D1) D1(704*480), VGA (640*480), QVGA (320*240), Image Settings: Rotate Mode, Saturation, Brightness, Contrast, Sharpness adjustable, Day/Night Switch: Auto ONVIF support, Communication Interface: Ethernet interface, POE: Yes, Waterproof Connector: Tail wire RJ45 interface for waterproof interface, Operating Conditions: -10 °C ~ 50 °C, Weather Proof: IP66, Certifications: CE, FCC, Inclusive of junction boxes, mounting brackets/ arrangements. Preferred makes for surveillance device: Impulse/ Honeywell/Bosch or equivalent / better.</p> <p>d) Three numbers of Outdoor Bullet imaging/surveillance device with 60m IR, Varifocal with IP/PoE outdoor Image Sensor: 1/2.8" progressive scan CMOS, Image Resolution: Full HD (1080P), Image Type: Colored, Slow shutter: Supported, Lens: 2.7-12mm Manual Varifocal, Day & Night: IR cut filter with auto switch, Digital wide dynamic, 2D/3D DNR Digital noise reduction, Video Compression: H.265/ MJPEG/ H.264, Mainstream Frame Rate: (default 30fps / 2MP), ACC format, ONVIF support, Communication Interface: Ethernet interface, POE: Yes, Operating Conditions: -10 °C ~ 50 °C, Audio/microphone- yes, Weather Proof: IP66, Certifications: CE, FCC, Inclusive of junction boxes, mounting brackets/ arrangements, preferred makes: Impulse/ Honeywell/ Bosch or equivalent / better.</p> <p>e) Three numbers of IP/ PoE+ PTZ imaging/surveillance device with 80m IR, SD recording interface Image Sensor: 1/2.8" progressive scan Exmor CMOS sensor, Video Standard: H.264, H.265, MJPEG, Effective Pixels: 2MP, Lens: 25x</p>	1	Set				
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	<p>optical zoom, Horizontal FOV: 59~2.4°, Focal Length: 4.5mm - 120mm, Focus Control: Auto, Manual, Max Aperture: F1.6~F4.4, Resolution: 1080p (1920×1080p) / 720p (1280×720) / D1 (704×576/704×480) / CIF (352×288/352×240), Video Streams: Triple Streams, Video Out: PAL / NTSC, Day and Night: Yes, automatically removable IR-cut filter (ICR) with modes control, Minimum Illumination Colour: 0.05Lux@F1.6, Imaging: Individually configurable white balance modes, gain control, backlight compensation, multi-zone privacy masks, noise reduction, and video orientation controls, Automatic electronic shutter: 1/1~1/3000s, Input/ Output: 1 x audio line input, 1 x audio line output, Pan: Pan: 0° ~ 360° endless; Manual Pan Speed : 0.1° ~200° /s; Tilt: -15° ~ 90°, auto flip 180°; Manual Tilt Speed: Tilt: 0.1° ~120° /s, Presets: 100, PTZ Mode: Auto Pan, Auto Scan, Ethernet: IEEE 802.3, auto sensing, 1 x RJ45, ONVIF support, Edge Analytics: yes, Edge Storage: 1 x microSDHC/SDXC slot, Memory: 64GB MicroSDHC Class 10, min 80 MB/s (included), Weather Resistance: IP66, Power: IEEE 802.3at (PoE+) / AC24V, Temperature Control: yes, Operating Condition: -10°C ~ 50°C, Certifications: CE, FCC, UL listed, Inclusive of junction boxes, mounting brackets/ arrangements, preferred makes: Impulse/ Honeywell/Bosch or equivalent / better.</p> <p>f) 16 numbers IP based audio phones with inbuilt speaker, caller ID, 3 menu/ navigation eys, 3 fixed function keys, Volume keys (+/-), keypad with 12 keys, LCD 2 line fixed graphic display 130x45 pixels, echo cancelling, wall mountable, black colour, should comply to G.711, IEEE 802.3af, POE, CE certified, power consumption 1.7W, Preferred makes: NEC/ Unify/ Gigaset or equivalent / better.</p>								
Total Cost (inclusive all taxes)									
Total Cost (inclusive all taxes) (in words)									

Note: Financial comparison for awarding the work order will be done on the total cost basis.

- I. All Patch cords, connectors, cables, krone modules, face plates, jack panels with labels, junction boxes, mounting arms/ stands, including I/O, Strain relief and bend limiting boot, cable glands etc. along with approximately 100m of ISI mark 2.5sqm 3-core electrical copper cable - as required for completion of works are included in the scope and costs.
- II. **The required Comprehensive Onsite Support Warranty for works** is inclusive in the costs. This shall also include four (4) preventive maintenance during this period.

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.

I undertake to abide by the preferred makes or equivalent or better, as specified in the enquiry document for the works and **all technical data sheets are attached along with this bid.** I understand and agree that my offer is liable to be rejected if it does not meet the technical parameters. This offer is valid for 60 (Sixty) days.

Place:
Date: __/__/____

Signature
Name of the Signatory:
Name of the Agency:
Agency Stamp: