

Bid Document



GUJARAT INFORMATICS LIMITED
Block No. 2, 2nd Floor,
C & D Wing, Karmayogi Bhavan
Sector - 10 A, Gandhinagar – 382010.
Phone No: 23256022, Fax No: 23238925

**Rate Contract for Horizontal connectivity work Including
Supply, Installation and Commissioning of Last Miles
Equipment on Turnkey basis for Government Offices in
the State of Gujarat (Tender No. HWT21082026)**

Pre-Bid meeting: 01.09.2026 1500 hours
Last Date of Submission of Bid: 16.09.2026 1500 hours
Last Date of Submission of Bid Processing Fees & EMD: 16.09.2026 1500 hours

Bid Processing Fee: Rs.17,700/-

Introduction

Gujarat Informatics Limited (GIL), on behalf of the DST (Department of Science and Technology), Govt. of Gujarat, Gandhinagar hereinafter referred as the “TENDERER” invites the bidders for Rate Contract for Horizontal connectivity work Including Supply, Installation and Commissioning of Last Miles Equipment on Turnkey basis for Government Offices in the State of Gujarat.

The selected Agency shall be fully capable and experienced in the work of Horizontal connectivity work Including Supply, Installation and Commissioning of Last Miles Equipment on Turnkey basis for Government Offices. The Selected Agency must have trained and certified manpower including technicians capable of carrying out this job. The agency is required to deploy the trained & experienced manpower for this project.

Bidder is requested to offer the cost for all the items and all the accessories as mentioned in bid document. GIL does not guarantee any fixed quantity at the time of signing the tender.

Proposal in the form of BID are requested for the item(s) in complete accordance with the documents to be uploaded as per following guidelines:

- 1) Bidder shall submit their bids.
- 2) The Bidder will have to submit the Earnest Money Deposit (E.M.D.) of **Rs. 60,00,000/-** (Rupees Sixty lakh only) (Refundable) within stipulated time defined in the bid in a sealed cover at GIL office with the heading “EMD for **Tender No HWT21082026** for Rate Contract for Horizontal connectivity work Including Supply, Installation and Commissioning of Last Miles Equipment on Turnkey basis for Government Offices in the State of Gujarat.
 - a. EMD as mentioned above, shall be submitted in the form of Demand Draft (Please affix the stamp of your company on the overleaf of demand draft)
 - OR
 - b. In case of RTGS, please find below bank details of Gujarat Informatics Ltd
Saving Account No: 50200010918090
IFSC Code: HDFC0000190
Bank Name: HDFC
Bank Branch Address: Sector-16, Gandhinagar
 - OR
 - c. In the form of an unconditional Bank Guarantee [which should be valid up to **9 months** from the date of bid submission of any Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative & Rural Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the **G.R. No. FD/MSM/e-file/4/2024/2859/DMO dated 01/05/2025** issued by Finance Department or further instruction issued by Finance department time to time] in the name

of “Gujarat Informatics Ltd.” payable at Gandhinagar and must be submitted along with the covering letter.

- 3) The bid shall specify time schedule of various activities.
- 4) Bid complete in all respects should be uploaded on or before the Bid due date.
- 5) Interested and eligible Bidders are required to upload the eligibility related document in Eligibility Bid Section, technical related document in Technical Bid Section & commercial bid in Commercial Bid Section. The Bids should be accompanied by a bid security as specified in this Bid Document. The Eligibility, Technical & Commercial Bid must be uploaded to & the Bid Security must be delivered to the office of Gujarat Informatics Ltd.
- 6) Bidders are required to mention Make and Model of the product. Bidder has to submit one make and model against each line item. If multiple make and model mentioned in any line item then submitted bid is liable to reject.
- 7) The Bid Security Section and Eligibility Section will be opened on the specified date & time in presence of the committee members and representatives of the bidders who choose to attend. The representative will be held responsible for all commitments made on behalf of the bidder and that will be considered valid for all further dealings related to this tender process.
- 8) Services offered should be strictly as per requirements mentioned in this Bid document. Please spell out any unavoidable deviations, Clause / Article-wise in your bid under the heading Deviations.
- 9) Once quoted, the bidder shall not make any subsequent price changes, whether resulting or arising out of any technical/commercial clarifications sought regarding the bid, even if any deviation or exclusion may be specifically stated in the bid. Such price changes shall render the bid liable for rejection.

Section – 1: PROJECT PROFILE

1.1 Introduction

- 1.1.1 Government of Gujarat is in the process of establishing Horizontal connectivity Infrastructure for various Government offices located at State, District and Taluka Locations levels, in the entire state of Gujarat.
- 1.1.2 GIL on behalf of Department of Science and Technology, Govt. of Gujarat, invites bid for Rate Contract to supply, installation and commissioning of structure LAN cabling of CAT-6A, laying, splicing, jointing, Optical Fiber Cable (OFC), Wireless and copper cabling including their associated accessories such as patch cords, termination box, OFC accessories, switches, transceivers, racks, manageable switches etc. The works are to be completed on turnkey basis and to be maintained as per terms and conditions of the work order/ LOI.
- 1.1.3 Services offered should be strictly as per the requirements mentioned in this Bid document. Conditional bids are liable for rejections.
- 1.1.4 Once quoted, the bidders are not allowed for any type of price changes, whether resulting or arising out of any technical/commercial clarifications sought regarding the bid. Such price changes shall render the bid liable for rejection.
- 1.1.5 In addition to this RFP, the following sections attached are part of Bid Document

Section -1	Project Profile
Section -2	Eligibility Criteria
Section -3	Scope of Work
Section -4	Instruction to Bidders
Section -5	Specifications
Section -6	Technical Bid Format
Section -7	Financial Bid Format
Section -8	Performa for Performance Bank Guarantee
Section -9	Annexures

- 1.1.6 GIL/DST will select bidder for Horizontal connectivity work in GSWAN on Turnkey basis and Supply, Installation and Commissioning of Last Mile Equipment for Government Offices in the State of Gujarat.
- 1.1.7 The LOCATION OF WORKS will be across the Gujarat state.

1.2 Abbreviations

- 1 GoG: Government of Gujarat
- 2 DST: Department of Science & Technology
- 3 DIT: Directorate of ICT & e-Governance
- 4 GIL: Gujarat Informatics Limited
- 5 GSWAN: Gujarat State Wide Area Network
- 6 GSDC: Gujarat State Data Centre
- 7 SICN: Sachivalaya Integrated Communication Network
- 8 GSCAN: Gujarat Sachivalaya Campus Area Network

- 9 OEM: Original Equipment Manufacturer
- 10 O&M: Operations & Maintenance
- 11 EMS: Enterprise Management Suite
- 12 NMS: Network Monitoring System
- 13 EMD: Earnest Money Deposit
- 14 PBG: Performance Bank Guarantee
- 15 SLA: Service Level Agreement
- 16 FAT: Final Acceptance Test
- 17 TPA: Third Party Agency
- 18 SoW: Scope of Work
- 19 IMS: Integrated Infrastructure Management System
- 20 MP: Monthly Payment
- 21 TENDERER: GIL/Government of Gujarat

1.3 Gujarat State Wide Area Network (GSWAN)

Government of Gujarat implemented the Gujarat State Wide Area Network (GSWAN 1.0) in the year 2001-02 and it has been upgraded time to time. The current GSWAN 2.0 has been upgraded in Year 2016-17. The end-to-end IP based network has been designed for the service convergence (Voice, Video and Data) on the same backbone. The key objectives were:

- To modernize the intra-governmental communication setup
- To improve administrative effectiveness and efficiency
- To facilitate improvements in the Quality of Public services

1.3.1 GSWAN Overview

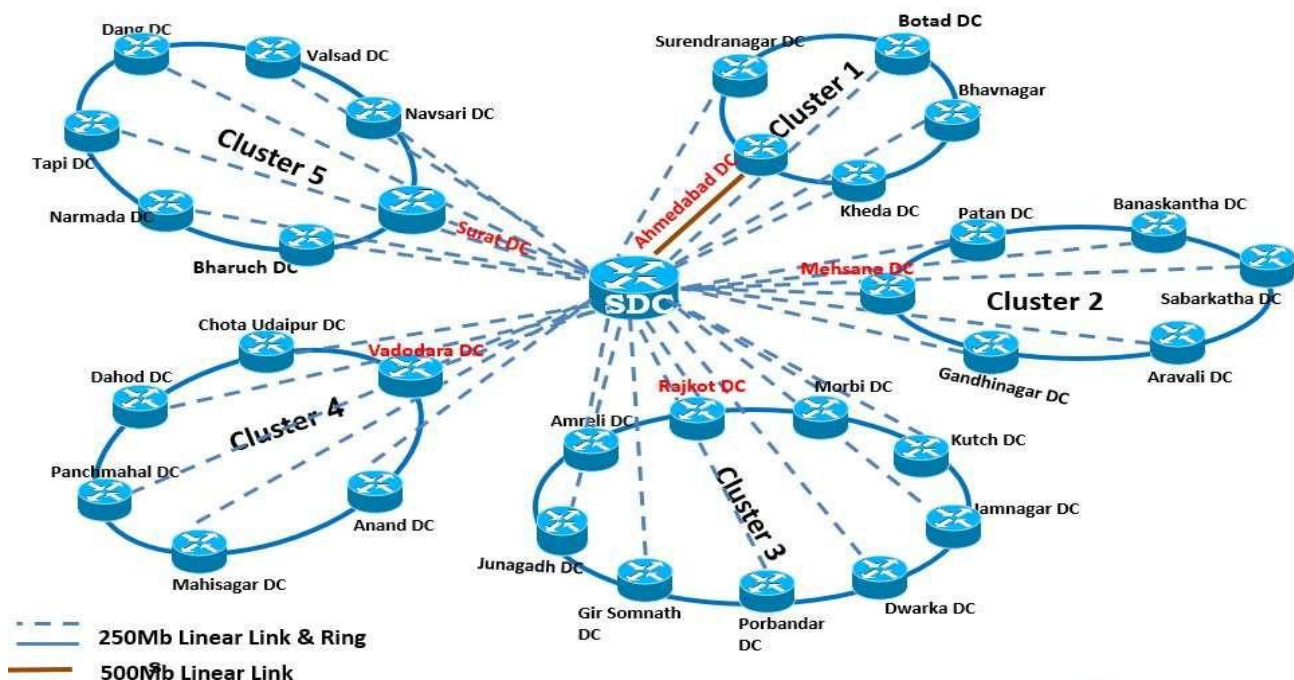
- GSWAN is one of the largest IP based Multi Service IT infrastructure connecting all Districts and Talukas to State capital Gandhinagar.
- The end-to-end IP based network was designed for catering G2G Data and Video services on the same backbone.
- More than 6000 Horizontal Office locations of Government and semi-government offices are connected with GSWAN.
- All District Centers (DC) are connected to State Capital (SC) through 1 Gbps/500 Mbps/250 Mbps Leased Circuits aggregating at the State Data Centre (SDC).
- All Taluka Centers (TC) are connected to respective DC through 100 Mbps/200 Mbps Leased Circuits.
- All DCs are interconnected through BSNL Leased Circuits for redundancy.
- ALL TCs are interconnected through BSNL Leased line circuit for redundancy.
- GSWAN at present has a user base of over 70,000.
- Core Internet Bandwidth of 30 Gbps through National Knowledge Network (NKN), 30 Gbps through BSNL redundant Internet Service Providers and BGP implemented between these 2 ISPs.

- More than 650+ Websites and Applications accessible to users hosted at State Data Center through GSWAN.
- More than 250 Video Conferencing End Points and 8 Multi Conferencing Units (MCU's) are operational on GSWAN.

1.3.2 Existing GSWAN Network Architecture

- The current GSWAN 2.0 has been implemented on MPLS (Multi-Protocol Label Switching) based network architecture.
- Multiprotocol Label Switching (MPLS) enable GSWAN has been upgraded as next- generation intelligent network that can deliver a wide variety of advanced, value-added services. User departments with differing access links can be aggregated on an MPLS edge without changing their current environments, as MPLS is independent of access technologies.
- Integration of MPLS application components, including Layer 3 Network, Layer 2 Network, Traffic Engineering, Quality of Service (QoS) and IPv6 will enable creation of a highly efficient, scalable, and secure GSWAN that will guarantee Service Level Uptime and Availability.
- The Current architecture is shown as under:

Gujarat State Wide Area Network - GSWAN



- The history of GSWAN leased line Bandwidth up-gradation is as under:

Sr. No.	GSWAN 1.0	GSWAN 2.0
1	34 Mbps(SHQ to DHQ)	1 Gbps /500 Mbps /250 Mbps(SHQ to DHQ)
2	10 Mbps(DHQ to BHQ)	200 / 100 Mbps(DHQ to BHQ)
3	34 Mbps(DHQ to DHQ)	500 / 250 Mbps(DHQ to DHQ)

Classification of Tier			
1	First tier	Secretariat Centre Center (SC)	- Secretariat Center (SC) at state capital, Gandhinagar, from where the highest office of Government functions in the state. - Various departments and hundreds of subordinate offices located at the state capital are connected to SC horizontally through SCAN (Secretariat Campus Area Network) including State Datacenter. - SCAN has about 9000 Ethernet extensions at Gandhinagar and all these are interconnected with GSWAN at SDC level for information exchange. - All DC GSWAN Hotline phone connections have been provided to various offices at Secretariat for direct voice communication to any GSWAN node in the state (at District or Taluka level).
2	Second Tier	District Centers (DC)	- Second Tier constitutes District Centers (DCs) located at district collector's office and multiple district level other offices connected with DC horizontally. - All DCs are connected on 1 Gbps/500 Mbps/250 Mbps leased lines with SC. - All DCs are connected on 1 Gbps/500 Mbps/250 Mbps leased lines with SC. - Gandhinagar DC is a part of SCAN infrastructure. - GoG evaluated several options to achieve cost effective, flexible and scalable connectivity for all horizontal offices and used Cat- 5 or above, OFC, JFC, wireless VSAT on case to case basis.
3	Third Tier	Taluka centers (TC)	- Third Tier constitutes Taluka Centers (TCs), located at Taluka Mamlatdar office and Taluka Development Office. - At TCs provision are kept for connecting Taluka level other offices horizontally. - All Talukas are connected to DC with 200Mbps/100 Mbps Leased Lines from BSNL. - In each of the stations, there is a state-of-the-art Router, which terminates the Leased Line. These routers route IP packets intelligently throughout the network, and provide the Quality of Service (or QoS) features to enable convergence of voice, video and data on to a single network infrastructure.
4	Forth Tier	Gram Panchayat (GP)	- Over and above, forth tier is under process to provide intranet and internet to GP leveraging GFGNL connectivity. - Further it is also plan to provide horizontal connectivity from GP to various village level government offices like primary School, PHC, Forest, Police, Anganwadi, etc.

1.3.3 GSWAN Wi-Fi

Government of Gujarat has implemented GSWAN Wi-Fi infrastructure to provide Wi-Fi connectivity to various Government offices in Gandhinagar and selected locations at the District and Taluka in the State.

1.3.4 GSWAN SCAN

Using latest and state-of-the art technology, the Government of Gujarat (GoG) has established Gujarat Sachivalaya Campus Area Network (GSCAN) to improve the administrative efficiency in the Sachivalaya Campus and other main offices campus in Gandhinagar. The GSCAN has been implemented as the backbone network for data, video and voice communications throughout the New Sachivalaya, SS-1, SS-2, Old Sachivalaya, various RU (Remote Unit) locations, other main office Campus locations for the Government operations in Gandhinagar. GSCAN has modernized the communication set up for Intra- Government and Government-Citizen Services. GSCAN has a suitable topology, uses state-of-art technologies and has flexibility to expand/upgrade to cover all parts of the Sachivalaya. All Government communication and IT infrastructure would be linked to GSCAN.

Current GSCAN has been implemented to provide Data / Voice / Video services to various designated offices at Sachivalaya and other locations in Gandhinagar. The key applications envisaged on the network are Internet, Video Conferencing, Voice and Data Communication and Intranet Operation.

Section – 2: ELIGIBILITY CRITERIA

- 2.1 The bidder should be IT System Integrator, who must have supplied and successfully installed items similar to the type specified in the schedule of requirements to any of the reputed organizations / institutes in the country.
- 2.2 The Bidder should have at least 5 years of experience in setting up LAN /WAN solutions and should have installed LAN/WAN projects. Copies of Purchase orders and Certificates of Successful Completion from Customer should be submitted. Experience details should be given in Form E1, ANNEXURE - II
1. In one project having setting up of LAN /WAN solutions value of contract minimum INR 20 Cr.
Or
 2. In two projects, each project having setting up of LAN /WAN solutions value of contract minimum INR 12 Cr.
Or
 3. In three projects, each project having setting up of LAN /WAN solutions value of contract INR 10 Cr.
- 2.3 The Bidder should provide Authorization certificate from the OEM for proposed product, for the authenticity, authorized representation and after sales support during FAT. (Form-E2).
- 2.4 The bidder must have submit compliance bid specification & Additional Specification Parameter mentioned in bid document on OEM letter with Sign stamp at time of bid submission
- 2.5 The Bidder should have 20 skilled engineers / Manpower with minimum 2 Years of experience across the Gujarat state. Bidders needs to provide the detail of on-roll/off role Manpower i.e. educational qualifications, experience and P.F. no./ ESIC no. along with the projects they have handled should be provided with the bid. (Form-E3)
- 2.6 The bidder should have local presence and should have office in Gujarat. The bidder should have service support infrastructure in the state to provide warranty and post warranty services. The details for such service support infrastructure must be enclosed. Please attach the copy of any one of the following: Property tax bill/Electricity Bill/Telephone Bill/GST Registration/Lease agreement etc. (Form-E4 and Form-E5). In case bidder does not have office in Gujarat, bidder should give undertaking to open office in Gujarat within 45 Working days from the date of award of work order.
- 2.7 Copies of original documents defining the constitution on legal status, place of registration and principle place of business of the company or firm etc. Copy of company incorporation / registration certificate of the firm shall be attached as a proof Bidder must submit copies of his central and local VAT and Service tax/GST registration certificates, PAN number.
- 2.8 The bidder must have total turnover of Rs. 90 Crore from the business of IT/ITeS- networking Business only during the last three financial years as on 31st March 2026. Bidder should attach copies of audited accounts as a proof of turnover for the past three years. (Form - E6).

2.9 The OEM must have total annual turnover as mentioned below:

Sr. No.	Product name	Average annual turnover (last 3-years to be consider) in Rs.
1	Active Products	20 Cr
2	Passive Products	10 Cr
3	RF radios	2.5 Cr

2.10 OEM Past performance:

Past Performance (OEM)	The OEM or its reseller should have at least 5 Years' experience in setting up LAN /WAN solutions and should have executed minimum cumulative order for 2000 Node projects. Copies of Purchase orders should be submitted. RF OEM or its reseller should have at least 5 Years' experience in setting up RF Link solutions and should have executed minimum cumulative order for 250 Link projects. Copies of Purchase orders should be submitted.
---------------------------------------	--

2.11 The Manufacturer of the product (OEM) of items like Ethernet Switches, Copper and Fiber Cable, UTP cable must have minimum presence of 5 years in India as on bid issuance date.

Note:

- i All the details and the supportive documents for the above-mentioned items should be submitted. Please note that all the eligibility criteria's, turnover, experience will be considered as per the RFP document.
- ii Consortium is not allowed for bidding in this bid.
- iii The Bidder must attach valid documents in support to their Technical and Financial capabilities/strength, as mentioned above. Without proper supporting documents, the Bid proposals are liable to be rejected.
- iv All the proposed equipment should not be declared End-of-Support by the OEMs for next 5 years from the date of bid submission.
- v The proposed equipment's must be stable and production-proven, with no known critical or open Bugs at the hardware level or software level.
- vi The Successful Bidder shall ensure mitigation of audit points, compliance issues, and VA/PT findings at no cost to DST/GIL within mutually agreed timelines, whenever advisories, bugs, or vulnerabilities are released by competent authorities. If a required patch/fix/OS is not yet released or declared stable by the OEM, it remains the Bidder's responsibility to ensure compliance as soon as possible. New IOS release, Software updates , Patches ,Software Maintenance Upgrade etc will be provided at no cost during warranty period.

Section – 3: SCOPE OF WORK

Introduction:

Department of Science and Technology is nodal agency of Government of Gujarat for implementation of LAN/WAN network throughout the state. As of now Government of Gujarat has already connected more than ~5k offices through its own network i.e. Gujarat Sachivalaya Campus Area Network (GSCAN-Sachivalaya LAN) and Gujarat State Wide Area Network (GSWAN- Spread across the state).

GSCAN and GSWAN: Is the core backbone of state-wide IT infrastructure. It currently serves the state government departments/board/corporations to fulfill their need of connectivity (Both Internet and Intranet) across the state. Over the years of experience GSCAN and GSWAN has proved to be a reliable state-wide carrier for data, voice and internet access for the different departments spread across varied geographical boundaries across the state of Gujarat. GSWAN connects all Districts, 248 Talukas ultimately interconnecting last mile offices for secure digital communication. GSCAN and GSWAN rides on various modes of connectivity like owned OFC, Leased OFC from ISP, Wireless links connecting to nearest PoPs. Recently, DST, GoG had completed 3rd phase of upgradation of GSWAN and increases minimum bandwidth at each PoP to 20mbps from 2mbps focusing more on creating fiber backbone and more and more no of PoPs to serve the last mile.

GSWAN is the core network of the state of Gujarat through which voice, data & video related applications are being used by all government departments & its field offices in a big way. Also, during the last decade, dependency on network connectivity & its availability has become so high due to deployment of various government intranet applications as well as citizen centric applications. It is envisaged that selected agency shall not merely focus on carrying out O&M of network to achieve the uptime as per SLA but also to progressively improve the satisfaction of network users by achieving reduction of complaints, by improving processes and implementation. Agency is expected to improve the reduction of network downtime due to fiber cut, power outage, RF radio related issues & other issues by close co-ordination with all stakeholders like connectivity service providers, various other implementing agencies, GSWAN users at district, taluka & other government offices, power utility agencies, Road & Buildings dept. offices, etc. Selected agency is expected to arrange monthly meetings such as war room discussions with all important stakeholders for improving upon the close co-ordination & issue resolution thereby improving efficiency & efficacy of the overall network. With an objective to improve user satisfaction & reduce number of complaints / call, over and above the routine O&M scope of the network, various measures are introduced in this RFP like -user education & awareness for availing and better utilization of GSWAN services & to log complaints; Incentives for improvisation of services as well as skills upgradation & training of deployed manpower.

This is an EPC/turnkey kind of procurement wherein successful empaneled agency will be responsible for end-to-end LAN/WAN/OFC cabling work including various activities such as carrying out LAN/WAN, OFC-related work for both the categories i.e. new connection/link or repairing of existing links of GSCAN/GSWAN, etc. Broad scope of the work includes undertaking various activities like supplies of various materials, installation, testing, commissioning and O&M during the warranty period.

Bidder has to make Back to Back agreement with respective OEMs for the same. As this is an RFP of Rate Contract empaneling agency for the duration of three years, GIL/DST/GoG does not guarantee order of any fixed quantity at the time of issuance of work order. Any type of escalation of the discovered rates during the work order/ LOI

tenure is not permitted, further successful empaneled agency denying serving the work order/ LOI due to rate escalation may liable for the work order/ LOI Cancellation, forfeiture of Bank Guarantee and Black listing.

3.1 OFC CABLING WORKS

As mentioned above bidder will be responsible for end-to-end with material Cabling work including all like cable, passive items, I/O box, patch cord, Labour work, warranty and maintenance services as per the industry best practices and complying to the RFP requirement throughout the state to provide SCAN/ GSWAN connectivity at various GoG offices using OFC / CAT-6A cable. Bidder will be responsible to undertake and complete the works within the defined time frame related to supply, installation, testing and commissioning of services as indicated in the bid anywhere across the Gujarat state.

CAT6A and Optical Fiber Cable quoted/supplied by the Bidder as per the scope of work of this RFP must be manufactured/made in India only. The works are to be completed on turnkey basis and the supplied equipment are required to be maintained for 05 years from the date of FAT till the contract period. The Bidder shall be responsible for implementation of the work as defined. Bidder is required to carry out following tasks but not limited to:

- 1) Supply, Installation, testing and commissioning of the LAN/WAN/OFC work: The Bidder is required to carry out cabling work as per the requirements of Tenderer. Bidder will have to carry the user details such as User name, IP address and Network Layout in respective file / respective offices for installation and commissioning of equipments. Bidder is required to send a mail to gswansupport@gujarat.gov.in and other email addresses as specified by Tenderer, from respective user account for the confirmation of Data.
- 2) Turnkey Project Basis:- The Bidder shall act as single Bidder to organize and manage the entire project – including design, supply, installation and commissioning of all required hardware, software, networking, accessory items and local wiring for Electrical power supply etc. at locations proposed by Tenderer. The Bidder shall be in a position to test, demonstrate and certify the basic requirements in accordance with the contract.
- 3) Technical arrangements: The Bidder shall provide details of site and infrastructure requirements in a layout plan after making a site survey.
- 4) Earthing Arrangement: The Bidder shall provide wiring and pit specifications, Earth resistance etc. The Bidder shall arrange to construct separate earth-pits as required.
- 5) The works shall be executed on a turnkey basis, and all supplied equipment must be covered under a comprehensive onsite warranty for a period of five (5) years from the date of FAT. The Bidder shall be fully responsible for the implementation of the work as defined in the scope. Any new item supplied during the contract period must also carry a minimum five (5) year warranty. The successful bidder is required to provide comprehensive onsite warranty support for all equipment as specified in the RFP.
- 6) All goods or materials shall be supplied strictly in accordance with the specifications, Drawings, datasheets, other attachments and conditions stated in the RFP/ Agreement / SLA. All materials supplied by the Bidder shall be guaranteed to be of the best quality of their respective kinds and shall be free from faulty design, workmanship and materials.
- 7) Certification: The Bidder shall test and certify the availability and reliability of the link and give the connectivity matrix between various locations and get it certified by Tenderer.
- 8) Documents: The Bidder shall provide 1 set of documents and manuals (hard copy, soft copy

with each item of the unit supplied). Bidder will have to submit the Escalation matrix with details of responsible person names, E- mail's and mobile numbers in order to solve any technical and non-technical problems throughout the life cycle of the project and warranty period.

- 9) Reporting: Detailed report is required to be submitted for the work under progress and for functional performance of the connectivity, throughput. The same have to be certified by GIL/DST or its representative agency. Bidder shall submit the installation plan for each location to GIL/DST or its representative agency, who in turn shall approve the plan before execution. Bidder will have to fill up an installation and commissioning report and get it duly signed by concern officer with their seal and remarks if any.
- 10) Tenderer reserves the right to redefine the requirement of services within the scope of items specified in the bid as required from time to time.
- 11) The Under Ground (U/G) Cables are to be buried at depth such that the top of the cable is One meter (1000 mm) below the normal ground level. The items of work involved in U/G Cable laying are as under: -
 - A. Excavations of trench up to a depth such that the top of the cable is 1 meter below the normal ground level according to the construction specifications.
 - B. Laying and pulling of cables in trenches through pipes/ ducts.
 - C. Placing of half-round RCC Pipes / Stones slabs /Precast RCC Slabs /Layer of Bricks as per specifications.
 - D. OFC LIU should be Fully Loaded by default for all sort of OFC cabling work.
 - E. Route indicators (Metallic) for OFC cable are to be placed for every 100 mtrs.
 - F. Joint indicators for OFC cable are to be placed for every OFC joint.
 - G. Digging and burying of OFC cable 1Km. Length and the OFC cables are to be laid in buried HDPE pipes. Diameter of the HDPE pipe should be 25mm of Std. Make with ISI mark.
 - H. Back filling in compacting of the excavated trenches according to the construction's specifications and removal of excess earth from the site.
 - I. Construction of pillar foundations erection, painting and sign writing of pillars.
 - J. Erection, termination, painting and sign writing of DPs
 - K. Termination of Cables in MDF and Pillars.
 - L. Jointing and End-to-End testing of Cables– Correspondence and Electrical tests. Supply, fixing, painting and sign writing of root and joint indicators.
 - M. Documentation: Submission of detailed diagram/drawing of work carried out.
 - N. Modernized Method of cable laying should be incorporated, where, minimum damage to the infrastructure is required i.e. cable laying machine is used for such purposes.
 - O. Bidder is required to maintain work log and activity sheets on a software which facilitates reporting of their performance through SLA monitoring, the access to these reports to be made available to Tenderer/its designated agency.
 - P. Bidder is required to submit the underground cable diagram with longitude and latitude from start point to end point including each turning point with cable length. (In form of hardcopy as well as soft copy in CD)
 - Q. Bidder must comply and confirm the above-mentioned points in their proposals

3.2 LAN/WAN/Structured Cabling Works

All work shall conform to the Building Code, and all local codes and ordinances as applicable. Any exceptions to the above must have written authorization from Tenderer. As mentioned above entire work has to be completed in turnkey/EPC manner. Further, below mentioned are the minimum tasks which **Bidder will have to carry out during the work:**

- a). To carry out the feasibility study for the deployment of required LAN.
- b). Bidder shall act as single Bidder to organize and manage the entire project including design, supply, installation and commissioning. The Bidder shall be in a position to test, demonstrate and certify the LAN connectivity in accordance with the contract.
- c). The Bidder shall carry out site survey and prepare tentative BoM for the work to be carried out at that particular site. This BoM will have to be submitted to Tenderer for approval along with a layout diagram indicating the location of equipment to be installed.
- d). The Bidder will be responsible to undertake and complete the works related to supply installation and commissioning services across the Gujarat state.
- e). In case of repairing or upgradation of existing links bidder will be responsible for removal of existing old/faulty cables or material without any additional cost to the purchaser.
- f). The bidder shall carry out supply, installation, testing, and commissioning of concealed and conduit cabling infrastructure as per site requirements. The scope shall include laying of conduits with necessary accessories such as bends, junction boxes, couplers, saddles, clamps, and support structures. Conduits shall be properly routed through wall, ceiling, floor, or trench as applicable, ensuring neatness and compliance with safety standards.
- g). The work shall include chasing, cutting, drilling, refilling, surface restoration, cable pulling support, tagging, and termination assistance. All conduits shall be securely fixed, properly aligned, and protected against physical damage and moisture ingress. The bidder shall ensure testing, continuity verification, and submission of as-built documentation upon completion of work.
- h). The Bidder shall be using 4" GI Pipe as standard while installation of cabling work.
- i). The Bidder shall be responsible to share the status report of existing infrastructure (i.e. Cable, network equipment, patch cord, OFC etc.), during resolving complaints.
- j). The Bidder shall provide one copy of the Network Diagram, warranty documents, manuals and FAT/UAT reports etc. to concern local GOG/GSWAN authorities and another copy to Tenderer for further process of completion of orders.
- k). The Bidder will be responsible to provide the services at all the locations at the agreed price. Bidder is required to Supply and Install LAN components and commission LAN as per the requirements. The structured cabling works are to be completed on turnkey basis including installation of all required casing, conduits, flexi pipes, I/O boxes, Face Plates, removal of existing Lan infra if any, etc. To ensure quality of work done, no cable should be left bare or visibly exposed.
- l). The Bidder shall be responsible for implementation of the work as defined. Delivered Solution must be tested and commissioned as per defined procedures before handing over the project to Tenderer. Any hardware equipment's or software's required for those

testing and commissioning procedures is the sole and full responsibilities of the bidder.

- m). All goods or materials shall be supplied strictly in accordance with the specifications, drawings, datasheets, other attachments and conditions stated in the RFP/Work order/LOI. All materials supplied by the Bidder shall be guaranteed to be of the best quality of their respective kinds and shall be free from faulty design, workmanship and materials.
- n). The Bidder shall provide details of site and infrastructure requirements (Power, earthing etc.) in a layout plan after making a site survey.
- o). Detailed report is required to be submitted for the work under progress and for functional performance of LAN, the connectivity, throughput. The same have to be certified by Tenderer/ PROJECT COORDINATOR. Bidder shall submit the installation plan for each location to PROJECT COORDINATOR, who in turn shall approve the plan before execution. Bidder will have to fill up an installation and commissioning report and get the same duly signed by concern officer with their seal and remarks if any.
- p). On acceptance of work, a work completion report must be prepared by the bidder and signed by both parties i.e. TENDERER or its designated agency and bidder. During the warranty period, for each visit whether periodical or on call, whether preventive or corrective maintenance, the bidder contact person must inform to resident GSWAN team. A technical/service report of the work carried out must be signed by resident GSWAN engineer and bidder's representative.
- q). The bidder should ensure that while installation or attending the complaints of LAN, day-to-day functioning of official work and existing network setup/connectivity/internet connectivity should not get disrupted.
- r). The bidder will be responsible to undertake and complete the works related to supply installation and commissioning services as indicated in the bid anywhere in state promptly and within the time duration prescribed by Tenderer/user department.

The bidder will be responsible to provide the services at all the site locations which also include Taluka places at the agreed price. Bidder is required to Supply/ Install / Commission Transceivers, OFC components, I/Os and Patch Cords, as per the specifications mentioned in the Bid document. The Bidder shall be responsible for implementation of the work as defined.

3.2.1. Standard Cabling Best Practices:

- A. For Cabling, the Cable used shall be Standard Branded CAT6A, 100ohm, 4 pair unshielded twisted pair (UTP) For e.g. If 25 nodes are required at a floor with future expansion planning of 20 more nodes, then in such situation minimum hardware is required to be install is one Switch (48 Port) and one Patch panel for floor level distribution.
 - All Floor uplink shall be provided on fiber only and if distance between two-point is less than 90 Mtr. CAT6A cable may be used for Up-link.
- B. All node should be connected to switch through I.O. Port and Patch panel only.
- C. Cable Tagging shall be at both side and at both end (i.e. node side and rack side and inside and outside of I.O port and Patch panel)

- D. Care must be taken to not to stretch or abrade cables during installation, i.e. the pulling tension for cables must not be exceeded.
- E. Cables that pass through the infrastructure of the building shall be suitably protected against damage. Through walls and floors this shall involve an appropriate type of sleeve; through any form of metalwork or stiff plastic then a rubber grommet shall be used.
- F. To ensure cable management and also strain relief, cables shall be properly dressed using Velcro cable ties. However, cables ties should never be over tightened.
- G. On vertical runs, the cables shall be dressed and tied from the bottom up, thus putting minimum strain on the cables.
- H. Cables shall not run behind radiators.
- I. In order that the system may be easily re-routed, or damaged sections quickly replaced, free access to the cable, where possible, is important
- J. Draw cords shall be left in ducting, piping etc. for future use
- K. Because of the nature of offices, dust sheets be used at all times.
- L. Special care shall be taken to avoid contact with dangerous materials e.g. asbestos
- M. Sharp bends in the cable will damage the insulating material thus causing unacceptable losses in the transmission medium. Therefore, the internal radius of every bend in a cable shall be such as not to cause damage to the cable, nor impair the characteristics of the cable.
- N. Patch panels shall be installed within the Communications 24 nodes from the top, continuing downwards.
- O. Patch panels shall be use of PCB Patch Panels.
- P. The cable shall be clearly labeled at both ends, as outlined in the documentation and/or drawing.
- Q. High power electrical plant may produce switching transients and radio frequency emissions that may induce interference on the UTP cable. Therefore, in addition to the rules imposed by the IEEE Regulations, data cables shall not run parallel to power cables, especially where these cables may carry heavy switching loads. If, however, this is unavoidable it is advisable to keep cables as far as possible. (Like Transformer-100CM, Electric Meter- 100Cm Fluorescent Light-30Cm).
- R. Cable shall not be routed over pipes, conduits, other cabling, ceiling tiles, etc., but shall rest directly on the supporting surface so as to minimize the potential for sharp bends, kinks etc. Every cable used shall be supported in such a way that it is not 25 exposed to undue mechanical strain and so there is no appreciable mechanical strain on the terminations.
- S. For cables which are not continuously supported, the maximum distance between supports shall not exceed 50cm (horizontal or vertical).
- T. All newly installed Device must be capable of supporting CAT6a cabling.
- U. Floor Plans, both hard copy and Soft Copy, suitably marked up to show location and I.O. of each and every data point, and detailing any deviation from the original plan.
- W. Full Structured Cabling Test Results, via email or compact disc.

3.3 SITC of Radio frequency Connectivity in GSWAN

- a) The TENDERER is planning to install high speed Radios in GSWAN to connect the remote

locations in Point-to-Point configuration. The distance between two locations which is required to be connected in GSWAN will vary from 1km to 30kms. The work is to be completed on a turnkey basis and the RF links are to be maintain for a period of 5years from the date of FAT.

- b) The offered solution should provide Point-to-Point connectivity over wireless Radio.
- c) The Scope of work under this RFP consists of following task:
 - i The bidder will be responsible for end-to-end installation, commissioning of the RF link up to the termination point on network equipment at the node
 - ii The RF link includes supply and installation of radios at both (base and remote) location along with all the necessary components like Antennas, Mounting structure (pole/Mast), clamps, cables(active/Passive), lightening arrester, earthing, aviation lamp, etc.
 - iii The distance between the GSWAN node and the remote location may vary from 1km to 30kms.
 - iv The RF links connected in the GSWAN should be able to deliver minimum throughput of 50 mbps from day one.
 - v Proposed wireless solution should conform to applicable WPC regulations for use of license-free spectrums in terms of EIRP. A declaration to this effect must be submitted which must be supplemented by periodic compliance reports during the project period.
 - vi The Radio's should be provided with at least 2(two) Ethernet 10/100 Base- Tx port to provide port level redundancy, for connecting to the network device provided by the Tenderer at the end locations. The port level redundancy means, if there is any fault on the Ethernet port of the radio, the second port can be used to make the link live with minimum configuration level changes only.
 - vii The bidder is to provide the single make and model of the radio to provide the point-to-point connectivity.
 - viii The bidder shall carry out the survey/feasibility study wherever required, to identify and resolve all the RF/data path related issues for the proposed connectivity.
 - ix The bidder will be responsible for site readiness and transportation of material, erection and anchoring of support structure, earthing, lightening arrester, STP/RF cable, aviation lamp, surge protection and other accessories.
 - x It will be responsibility of the bidder to arrange and obtain all the necessary permissions at the base and remote location for the required erection of the support structure and installation.
 - xi The bidder will be provided with the required access, power at each location for installation and commissioning of the devices. However, it will be responsibility of the bidder to extend the electrical power at each site as per actual requirement.
 - xii The bidder is required to maintain the service levels, failing which operational penalties will be levied.
 - xiii The bidder will have to use the IP schema provided by Tenderer.
 - xiv The bidder will be responsible to ensure that the wireless radios should be integrated and discoverable in the existing NMS tool of the TENDERER.
 - xv The bidder shall be bound to the Service Level Agreement under the work order/ LOI and is supposed to provide the support service during the of Operation and Maintenance period.

3.3.1 Operations and Maintenance (CAMC) of RF Devices

- i. The Successful Bidder shall be responsible for comprehensive operation, maintenance, repair, replacement and upkeep of all RF links, radios, antennas, mounting structures, poles, towers, power supply units, PoE injectors, cables, connectors, surge protection devices and associated accessories from the date of commissioning till completion of the contract period.
- ii. The Successful Bidder shall ensure continuous availability and optimum performance of all RF links. Any degradation in performance, throughput, latency, signal strength or availability shall be promptly investigated and rectified.
- iii. The Successful Bidder shall ensure that all software, firmware, security patches, bug fixes and version upgrades released by the OEM during the CAMC period are installed and maintained without any additional cost to the Tenderer.
- iv. Reactive Maintenance: The Successful Bidder shall attend and resolve all fault tickets logged through the Tenderer's Helpdesk/Complaint Management System within the timelines specified under the SLA. The bidder shall maintain adequate technical manpower, tools, testing equipment and spare inventory for compliance with SLA requirements.
- v. Preventive Maintenance: The Successful Bidder shall carry out preventive maintenance of each RF link at least once every six (6) months and submit a detailed preventive maintenance report for each link to the Tenderer. The preventive maintenance activities shall include, but not be limited to, the following:
 - a. Inspection, testing, repair and replacement, wherever required, of antennas, radios, connectors, feeders, jumpers, PoE injectors, STP/Cat-6A cables, grounding and lightning protection systems.
 - b. Verification and tightening of mounting brackets, clamps, poles, towers and all mechanical fixtures.
 - c. Cleaning and dust removal of radios, antennas, enclosures and associated equipment.
 - d. Measurement and recording of RSSI, SNR, signal strength, link quality, throughput, latency and other performance parameters.
 - e. Verification of antenna alignment and re-alignment wherever required to maintain optimum signal levels.
 - f. Verification of power supply systems, earthing and surge protection arrangements.
 - g. Inspection of cable routing, weatherproofing, waterproof sealing and physical security of equipment.
 - h. Verification of firmware versions and implementation of pending updates, if any.
 - i. Submission of preventive maintenance reports containing site photographs, observations, defects identified, corrective actions taken and recommendations.

- j. Inspection of poles, towers, mounting structures, brackets, clamps, foundations and associated supporting infrastructure for corrosion, rusting, structural weakness, physical damage, misalignment or any other condition affecting safety or performance.
- vi. The Successful Bidder shall maintain adequate spare stock of critical RF equipment and accessories to ensure timely restoration of services and compliance with SLA requirements.
- vii. Any defective equipment, component, pole, tower, mounting structure or associated infrastructure identified during the CAMC period shall be repaired or replaced by the Successful Bidder, at no additional cost to the Tenderer.
- viii. The Successful Bidder shall repair, strengthen or replace any damaged, rusted, corroded, structurally weak or unsafe pole, tower, mounting structure, bracket, clamp or supporting infrastructure to ensure safe and reliable operation of the RF link throughout the contract period.
- ix. The scope of CAMC shall include comprehensive maintenance and replacement, wherever required, of RF equipment as well as all associated passive infrastructure including poles, towers, mounting structures, brackets, clamps, foundations, earthing systems, lightning protection systems, equipment enclosures and related accessories necessary for uninterrupted operation of the RF links.
- x. The Successful Bidder shall maintain detailed maintenance records, fault history, uptime reports and preventive maintenance reports and submit the same on a monthly basis to the Tenderer.

3.3.2 Handover and Maintenance of Existing RF Infrastructure

- i. The existing RF infrastructure, including but not limited to RF radios, antennas, mounting brackets, poles, masts, towers, feeders, cables, PoE injectors, power supply units, surge protection devices, earthing systems, equipment enclosures and associated accessories installed under previous contracts, shall be handed over to the Successful Bidder for operation and maintenance during the contract period as when required by tenderer.
- ii. Upon commencement of the contract, all existing RF infrastructure handed over by the Tenderer shall be deemed to be included under the CAMC scope. The Successful Bidder shall be responsible for the operation, maintenance, repair, replacement and upkeep of all such infrastructure throughout the contract period.
- iii. The Successful Bidder shall inspect and maintain all existing poles, masts, towers, mounting structures, foundations, brackets, clamps and associated passive infrastructure to ensure safe, reliable and uninterrupted operation of the RF links.
- iv. Any pole, mast, tower, mounting structure or associated infrastructure found to be damaged, unsafe, rusted, corroded, structurally weak, tilted, deteriorated or otherwise unfit for reliable operation

shall be repaired, strengthened or replaced by the Successful Bidder with equivalent or higher specifications at no additional cost to the Tenderer.

v. Any existing mast, pole, tower, mounting structure or associated infrastructure that is not required for operation of the RF link, has become redundant, or is required to be decommissioned shall be dismantled and removed by the Successful Bidder based on the requirement of the Tenderer.

vi. All dismantled materials, scrap, debris and unusable components arising from such dismantling activities shall be removed from the site and disposed of by the Successful Bidder in accordance with applicable laws, rules and environmental regulations. No separate payment shall be made for dismantling, transportation, disposal or scrapping activities.

vii. The Successful Bidder shall be solely responsible for ensuring the structural stability, safety, serviceability and operational readiness of all existing and newly installed RF infrastructure during the contract period.

viii. The cost of maintenance, repair, strengthening, replacement, dismantling, transportation, disposal and scrapping of RF infrastructure shall be deemed included in the contract price, and no additional payment shall be payable by the Tenderer. However bidder shall scrap the material only at the intimation of department.

3.4 Time Lines for execution of work

Successful bidder has to complete the Installation/ Commissioning/ Acceptance of the ordered work within the time period (s) specified in the below table. However, in case of any delay solely on the part of successful bidder Tenderer reserve the right to levy the appropriate penalties as per the below table:

Time Lines for execution of LAN/RF/OFC Cabling work (GSWAN)

S/n	Work type	Time Limit for Execution	Penalty for Delay	Maximum Penalty
1	New Connection: (from WO issuance)		5% of order value of delayed/pending work per week or part thereof Note: For calculation of penalty order	25%
	a. Up to 10 locations/Cities	15 days		
	b. More than 10 locations/cities	30 days		
	c. RF connectivity	07 days		

			value of delayed/ pending locations will be considered.	
2	L3 Switch	60 Day (SITC & FAT)	5% of order value of delayed/pending work per week or part thereof Note: For calculation of penalty order value of delayed/ pending locations will be considered.	25%
3	Repair and Maintenance (from WO issuance)			
	a. Involving Under Ground Cable	4 Days	Rs. 5000/- for every 4 Days	Rs. 25000/-
	b. Involving LAN Cabling in Building	3 Days	Rs. 1000/- for every 3 Days	Rs. 5000/-
	c. Involving Fault with electronic Devices	2 Days	Rs. 1000/- for every 2 Days	Rs. 3000/-
	d. Involving fault with connector/ patch cord/RJ 45 port/ Termination boxes/ DP Electricity fault, Non-electronic device fault)	2 Days	Rs. 500/- for every 2 Days	Rs. 1000/-
*Days means working days				

Note:

- a) Material supplied, installed and commission as per this rate contract should be covered under the warranty for a period of 5 years from the date of FAT. **Tenderer should be able to check warranty status & warranty period on Online portal of OEM after completion of FAT.**
- b) In case of any fault arises during the warranty period (as mentioned above), as per the specification of the RFP the successful bidder is requires to provide the replacement of faulty material at free of cost including damage due to Power fluctuation/burnt and Water Ingress except any force majeure event.

c) In case of Non-Compliance of RFP Specification:

- i. Any time during the warranty period it is found that the materials supplied/Installed/commissioned are not as per the specification of the RFP/work order Tenderer reserves the right to ask the successful bidder to replace all such material at free of cost.
- ii. Successful bidder requires to attend and rectify the non-compliance within seven (7) days of receipt of such notice/information from the Tenderer. If, successful bidder fails to attend and rectify the same, then successful bidder shall reimburse DST/GIL all costs and expenses incurred for such defect rectification.

- d) All LAN/WAN/structure cables and/or Optical Fiber Cables quoted, supplied, and installed by the Bidder under the scope of this RFP shall be manufactured in India only. The entire scope of work shall be executed on a turnkey basis. Further, all supplied equipment shall be maintained for 05 years from the date of FAT till the contract period. Any damage caused due to third-party activities shall be addressed separately through an appropriate work order for the purpose of claiming the cost of restoration.**

Section-4: Instructions to Bidders

ARTICLE - 1: BIDDING DOCUMENTS

The Bidder(s) can download the bid document and further amendment if any freely available on <https://www.gil.gujarat.gov.in> and submit the bid on (n)Procure <http://gil.nprocure.in> on or before due date & time of the tender. Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submits a Bid not substantially responsive to the bidding documents in every respect may result in the rejection of the Bid. Under no circumstances physical bid will be accepted.

ARTICLE - 2: CLARIFICATION ON BIDDING DOCUMENTS:

Bidders can seek written clarifications up to **1 day before pre-bid meeting** to General Manager (Networking), Gujarat Informatics Ltd., 2nd Floor, Block No. 2, C and D Wing, Karmayogi Bhavan Gandhinagar 382010. GIL will clarify and issue amendments if any to all the bidders in the pre-bid meeting. No further clarification what so ever will be entertained after the pre-bid meeting date. For pre-bid queries, bidders may communicate with email of srmgr1-gswan@gujarat.gov.in, dgmTech-gil@gujarat.gov.in, gm-tech@gujarat.gov.in

ARTICLE - 3: AMENDMENT OF BIDDING DOCUMENTS

- 3.1 At any time prior to the deadline for submission of bids, The TENDERER / GIL, for any reason, whether at its own initiative or in response to the clarifications requested by prospective bidders may modify the bidding documents by amendment.

- 3.2 All prospective bidders are requested to browse our website & any amendments / corrigendum / modification will be notified on our website and such modification will be binding on them. Bidders are also requested to browse the website of GIL/GoG i.e. www.gil.gujarat.gov.in & (n) Procure for further amendments if any.
- 3.3 In order to allow prospective bidders a reasonable time to take the amendment into account in preparing their bids, GIL / TENDERER, at its discretion, may extend the deadline for the submission of bids.

ARTICLE - 4: LANGUAGE OF BID

The Bid prepared by the Bidder, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and GIL / THE OFFICE shall be in English. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation of the relevant pages in English. For purposes of interpretation of the bid, the translation shall govern.

ARTICLE - 5: SECTIONS COMPRISING THE BIDS

5.1 The quotation should be scan-able and distinct without any option stated in.

5.2 The bid submitted shall have the following documents:

a) EMD Section:

The EMD (refundable) to be furnished to GIL office on or before stipulated time of bid in a sealed cover super scribed with the bid document number. The details are required to be filled in this section.

b) Eligibility & Technical Section:

- i. Clause by clause Compliance statement for Bid document including annexure to be uploaded.
- ii. All deviations and / or non-compliance clauses shall be listed separately & uploaded.
- iii. Letter of Authority for signing the bid.
- iv. All Annexure/Table, duly filled-in with necessary proofs, as required and stated in the bid document.
- v. Make & Model of quoted item in the bid with brochures\ website literature.
- vi. All Eligibility forms & technical specification & dealership\distributorship authorized certificate & supporting document related Eligibility & Technical Stage.

c) Price Bid Section in the prescribed format only.

ARTICLE - 6: BID FORMS

6.1. Wherever a specific form is prescribed in the Bid document, the Bidder shall use the form to provide relevant information. If the form does not provide space for any required information, space at the end of the form or additional sheets shall be uploaded to convey the said information. Failing to upload the information in the prescribed format, the bid is liable for rejection.

6.2. For all other cases, the Bidder shall design a form to hold the required information.

6.3. TENDERER shall not be bound by any printed conditions or provisions in the Bidder's Bid Forms.

ARTICLE - 7: FRAUDULENT & CORRUPT PRACTICE

- 7.1. Fraudulent practice means a misrepresentation of facts in order to influence a procurement process or the execution of the work order/ LOI and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial noncompetitive levels and to deprive the TENDERER/GIL of the benefits of free and open competition.
- 7.2. "Corrupt Practice" means the offering, giving, receiving or soliciting of anything of value, pressurizing to influence the action of a public official in the process of the work order/ LOI execution.
- 7.3. DST/GIL will reject a proposal for award and may forfeit the E.M.D. and/or Performance Guarantee if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for, or in executing, contract(s).

ARTICLE - 8: LACK OF INFORMATION TO BIDDER

The Bidder shall be deemed to have carefully examined the work order/ LOI documents to his entire satisfaction. Any lack of information shall not in any way relieve the Bidder of his responsibility to fulfill his obligation under the the work order/ LOI.

ARTICLE - 9: CONTRACT OBLIGATIONS

If the Bidder fails to furnish the Performance Bank guarantee within fifteen (15) working days from the date of Lol/Work Order, TENDERER reserves the right to cancel the work order/LOI & forfeit the EMD.

ARTICLE - 10: BID PRICE

- 10.1. The priced bid should indicate the prices in the format/price schedule only.
- 10.2. Offered price should be inclusive of Packing\Forwarding, Insurance, FOR destination (anywhere in the Gujarat state) except GST. GST needs to be shown separately. GST will be paid extra on actual basis.
- 10.3. Discount if offered, should not be mentioned separately. It should be included in offered price.
- 10.4. Any effort by a bidder or bidder's agent\consultant or representative howsoever described to influence the TENDERER in any way concerning scrutiny\consideration\evaluation\comparison of the bid or decision concerning award of the work order/ LOI shall entail rejection of the bid.
- 10.5. Unit rates should be quoted separately for each item. Quantities can be increased or decreased by purchaser and bidder has to supply deviated quantities at the rates prescribed and approved by the purchaser in the tender document.

ARTICLE - 11: BID CURRENCY

The prices should be quoted in Indian Rupees. Payment for the supply of equipment's as specified in the Work order/LOI/RFP shall be made in Indian Rupees only.

ARTICLE - 12: BID SECURITY/EARNEST MONEY DEPOSIT (EMD)

- 12.1. Unsuccessful bidder's E.M.D. will be returned as promptly as possible within 30 days after the expiration of the period of bid validity OR upon the successful Bidder accept the work order/ LOI.
- 12.2. The successful Bidder's EMD will be discharged upon the acceptance of the work order/LOI and furnishing the Performance Bank Guarantee.
- 12.3. EMD amount is interest free and will be refundable to the unsuccessful bidders without any accrued interest on it.
- 12.4. The EMD may be forfeited, on account of one or more of the following reasons:
 - a. The Bidder withdraws their Bid during the period of Bid validity.
 - b. Bidder does not respond to requests for clarification of their Bid.
 - c. Bidder fails to co-operate in the Bid evaluation process.
 - d. The bidder is found to be involved in fraudulent and corrupt practices, and
 - e. In case of a successful Bidder, the said Bidder fails:
 - (i) Non acceptance of the work order/LOI and RFP, (ii) To furnish Performance Bank Guarantee

ARTICLE - 13: PERIOD OF VALIDITY OF BIDS

- 13.1. Bids shall remain valid for 5 years after the date of Bid opening prescribed by DST/GIL. A Bid valid for a shorter period shall be rejected as non-responsive.
- 13.2. In exceptional circumstances, DST/GIL may solicit Bidder's consent to an extension of the period of validity. The request and the responses there to shall be made in writing. The Bid security shall also be suitably extended. A Bidder granting the request is not required nor permitted to modify the Bid.

ARTICLE - 14: SEALING AND MARKING OF BID

- 14.1. The bid security to be furnished to GIL office on or before due date and time. The details are required to be filled in this section. The envelope shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared "late".
- 14.2. If the envelope is not sealed and marked as required, the DST/GIL will assume no responsibility for the bid's misplacement or premature opening.

ARTICLE - 15: BID DUE DATE

- 15.1 Bid must be uploaded by vendor not later than the due date specified in the RFP.
- 15.2 The TENDERER/GIL, as its discretion, may extend the bid due date, in which case all rights and obligations of the TENDERER/GIL and the bidders, previously subject to the bid due date, shall

thereafter be subject to the new bid due date as extended.

ARTICLE - 16: LATE BID

- 16.1. Bids received after the due date and the specified time (including the extended period if any) for any reason whatsoever, shall not be entertained and shall be REJECTED.
- 16.2. The bids submitted by telex/telegram/ fax/e-mail etc. shall not be considered. No correspondence will be entertained on this matter.

ARTICLE - 17: MODIFICATION AND WITHDRAWAL OF BID

- 17.1 The Bidder may modify or withdraw its Bid before the due date & time of bid submission.
- 17.2 No Bid may be modified subsequent to the deadline for submission of bids.
- 17.3 No Bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of Bid validity specified by the Bidder on the bid letter form. Withdrawal of a Bid during this interval may result in the bidder's forfeiture of its EMD.

ARTICLE - 18: OPENING OF BIDS BY GIL

- 18.1. Bids will be opened in the presence of Bidder's representatives, who choose to attend. The Bidder's representatives who are present shall sign a register evidencing their attendance.
- 18.2. The Bidder's names, Bid modifications or withdrawals, discounts and the presence or absence of relevant EMD and such other details as the GIL / THE OFFICE officer at his/her discretion, may consider appropriate, will be announced at the opening.
- 18.3. Immediately after the closing time, the TENDERER/ GIL contact person shall open the Un-priced Bids and list them for further evaluation.

ARTICLE - 19: CONTACTING GIL / THE OFFICE

- 19.1. Bidder shall not approach GIL / THE OFFICE officers outside of office hours and / or outside GIL / THE OFFICE premises, from the time of the Bid opening to the time the work order/ LOI is awarded.
- 19.2. Any effort by a bidder to influence GIL / THE OFFICE officers in the decisions on Bid evaluation, bid comparison or the work order/ LOI award may result in rejection of the Bidder's offer. If the Bidder wishes to bring additional information to the notice of the GOG, it should do so in writing.

ARTICLE - 20: REJECTION OF BIDS

The TENDERER/GIL reserves the right to reject any Bid, and to annul the bidding process and reject all bids at any time prior to award of the work order/ LOI, without thereby incurring any liability to the affected Bidder(s) or any obligation to inform the affected Bidder(s) of the grounds for such decision. Conditional bid will not be accepted.

ARTICLE - 21: BID EVALUATION

The TENDERER will form a Committee which will evaluate the proposals submitted by the bidders for a detailed scrutiny. During evaluation of proposals, the TENDERER, may, at its discretion, ask the bidders for clarification of their Proposals.

a) **Pre-Qualification evaluation:**

- Bidders who have submitted the valid EMD shall be considered for further evaluation. If bidders fail to submit the bid security as per this RFP document, the Bid shall be out rightly rejected.
- Thereafter, Un-priced Bid documentation of qualified bidder shall be opened and evaluated.
- Evaluation of Eligibility Criteria: As per the eligibility criteria defined in this bid document, committee will evaluate the bidder and OEM eligibility section, and if required may ask for clarification before finalization.

b) **Technical Bid evaluation:** Committee will evaluate the detailed technical bid document submitted by each bidder having technical solution offered, Compliance to the functional and Technical Specifications of the Product / Solution Offered, required supporting documents etc. Further, if required TENDERER/GIL may ask the Bidder(s) for additional information/clarifications, to verify the claims made in Un-priced Bid documentation. In case of conditional bid or major deviations from the RFP requirements, the TENDERER may at its discretion reject the respective bid and will not be considered for further evaluation process.

c) **Financial Bid Evaluation:** The Financial Bids of qualified bidders only would be opened and evaluated to determine the L1 (lowest cost to the TENDERER) bidder from the sum total of prices for all line items without tax and then called for further negotiations if required. (negotiation will be done manually)

ARTICLE - 22: AWARD OF the work order/ LOI

- 22.1. Award Criteria: The Criteria for selection will be the lowest cost (without taxes) to the TENDERER for the qualified bid. The TENDERER may negotiate the prices with L1 Bidder, under each item/head offered by Bidder.
- 22.2. THE OFFICE's right to vary requirements at time of award: GIL/ THE OFFICE reserves the right at the time of award to increase or decrease quantity for the requirements originally specified in the document without any change in Bid rate or other terms and conditions.
- 22.3. In case, if lowest bidder does not accept the award of the work order/ LOI or found to be involved in corrupt and/or fraudulent practices, the next lowest bidder will be awarded the work order in case he matches the L1 prize.
- 22.4. The tendered quantities are estimated based on the survey carried out as well as receipt of the requirement from the TENDERER. The quantities may vary at the time of finalization, depending upon the change in the requirements/grants available with the purchaser(s), which shall be binding to the bidder.

ARTICLE - 23: NOTIFICATION OF AWARD the work order/ LOI

- 23.1. Prior to expiration of the period of Bid validity, DST/GIL will notify the successful Bidder and issue Lol.
- 23.2. Successful bidder has to submit Performance guarantee within 15 days from the date of receipt of award as per “Article-32 of this section”.
- 23.3. Upon the successful Bidder's furnishing of Performance Bank Guarantee. The Bid Security of all unsuccessful Bidders will be refunded. (as Article 12.2)

ARTICLE - 24: FORCE MAJEURE

- 24.1. Force Majeure shall mean any event or circumstances or combination of events or circumstances that materially and adversely affects, prevents or delays any Party in performance of its obligation in accordance with the terms of the work order/ LOI/ RFP, but only if and to the extent that such events and circumstances are not within the affected party's reasonable control, directly or indirectly, and effects of which could have prevented through Good Industry Practice or, in the case if construction activities through reasonable skill and care, including through the expenditure of reasonable sums of money. Any events or circumstances meeting the description of the Force Majeure which have same effect upon the performance of any contractor shall constitute Force Majeure with respect to the bidder. The Parties shall ensure compliance of the terms of the work order/ LOI/ RFP unless affected by the Force Majeure Events. The bidder shall not be liable for forfeiture of its implementation / Performance guarantee, levy of Penalties, or termination for default if and to the extent that it's delay in performance or other failure to perform its obligations under the the work order/ LOI/ RFP is the result of Force Majeure.

24.2. Force Majeure Events

The Force Majeure circumstances and events shall include the following events to the extent that such events or their consequences (it being understood that if a causing event is within the reasonable control of the affected party, the direct consequences shall also be deemed to be within such party's reasonable control) satisfy the definition as stated above. Without limitation to the generality of the foregoing, Force Majeure Event shall include following events and circumstances and their effects to the extent that they, or their effects, satisfy the above requirements:

- 24.3. **Natural events (“Natural Events”) to the extent they satisfy the foregoing requirements including:**
 - (a) Any material effect on the natural elements, including lightning, fire, earthquake, cyclone, flood, storm, tornado, or typhoon;
 - (b) Explosion or chemical contamination (other than resulting from an act of war);
 - (c) Epidemic such as plague;
 - (d) Any event or circumstance of a nature analogous to any of the foregoing.
- 24.4. **Other Events (“Political Events”) to the extent that they satisfy the foregoing requirements including:**

Political Events which occur inside or Outside the State of Gujarat or involve directly the State Government and the Central Government (“Direct Political Event”), including:

- i Act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, civil commotion, act of terrorism or sabotage;
- ii Strikes, work to rules, go-slows which are either widespread, nation-wide, or state-wide and are of political nature;
- iii Any event or circumstance of a nature analogous to any of the foregoing.

24.5. FORCE MAJEURE EXCLUSIONS

Force Majeure shall not include the following event(s) and/or circumstances, except to the extent that they are consequences of an event of Force Majeure:

- (a) Unavailability, late delivery
- (b) Delay in the performance of any contractor, sub-contractors or their agents;
- (c) Power fluctuations
- (d) Damage due to moisture

24.6. PROCEDURE FOR CALLING FORCE MAJEURE

The Affected Party shall notify to the other Party in writing of the occurrence of the Force Majeure as soon as reasonably practicable, and in any event within 5 (five) days after the Affected Party came to know or ought reasonably to have known, of its occurrence and that the Force Majeure would be likely to have a material impact on the performance of its obligations under the the work order/ LOI/ RFP.

ARTICLE – 27: USE OF the work order/ LOI DOCUMENTS AND INFORMATION

- 27.1** The bidder shall not without prior written consent from DST/GIL disclose the work order/ LOI or any provision thereof or any specification, plans, drawings, pattern, samples or information furnished by or on behalf of DST/GIL in connection therewith to any person other than the person employed by the bidder in the performance of the the work order/ LOI. Disclosure to any such employee shall be made in confidence and shall extend only as far as may be necessary for such performance.
- 27.2** The bidder shall not without prior written consent of DST/GIL make use of any document or information made available for the project except for purposes of performing the the work order/ LOI.
- 27.3** All project related documents issued by GoG other than the work order/ LOI Itself shall remain the property of DST/GIL and Originals and all copies shall be returned to DST/GIL on completion of the bidder's performance under the Agreement, if so required by the DST/GIL.

ARTICLE – 28: ASSIGNMENT and SUB CONTRACTS

28.1. Assignment by bidder

The bidder shall not assign, in whole or in part, its rights and obligations to perform under the work order/ LOI to a third party, except with the prior written consent from DST/GIL.

28.2. Sub contracts

The bidder shall notify the DST/GIL in writing of all subcontracts awarded under the work order/ LOI. Such notification shall not relieve the bidder from any liability or obligation under the work order/ LOI. The bidder shall fully indemnify GoG for any claims/damages whatsoever arising out of the Sub contracts.

ARTICLE – 29: RESOLUTION OF DISPUTES

- 29.1. If any dispute arises between the Parties hereto during the subsistence or thereafter, in connection with the validity, interpretation, implementation or alleged material breach of any provision of the work order/ LOI or regarding a question, including the questions as to whether the termination of the work order/ LOI by one Party hereto has been legitimate, both Parties hereto shall endeavor to settle such dispute amicably.
- 29.2. The attempt to bring about an amicable settlement is considered to have failed as soon as one of the Parties hereto, after reasonable attempts [which attempt shall continue for not less than 30 (thirty) days], give 15 days' notice thereof to the other Party in writing.
- 29.3. In the case of such failure the dispute shall be referred to three arbitrators, two of whom will be appointed by each Party and the third appointed by the two arbitrators. The place of the arbitration shall be Ahmedabad, Gujarat.
- 29.4. The Arbitration proceeding shall be governed by the Arbitration and Conciliation Act of 1996 as amended. The proceedings of arbitration shall be in English language. The arbitrator's award shall be substantiated in writing. The arbitration tribunal shall also decide on the costs of the arbitration procedure.
- 29.5. The Parties hereto shall submit to the arbitrator's award and the award shall be enforceable in any competent court of law.

ARTICLE – 30: TAXES & DUTIES

The successful bidder is liable for GST on actuals as may be applicable from time to time.

ARTICLE – 31: BOOKS & RECORDS

Bidder shall maintain adequate books and records in connection with the work order/ LOI and shall make them available for inspection and audit by GoG/DST/GIL during the terms of the work order/ LOI until expiry of the performance guarantee.

ARTICLE – 32: PERFORMANCE GUARANTEE

- 32.1. Initially the bidder will have to submit performance bank guarantee of 1 Crore within 15 days from the date of issue of work order/Letter of Intent. The performance guarantee will be in the form of bank guarantee towards faithful performance of the contract obligation, and performance of the equipment during Warranty period of 5 years. In case of poor and unsatisfactory field services, DST/GIL/GoG/user department shall invoke the PBG. If, during the contract tenure above PBG of Rs. 1 Crore become lower than the 5% of the ordered issued in this RC than bidder will have to submit additional PBG in consultation with GIL/DST/TPA to maintain the 5% PBG limit. The performance guarantee will be in the form of bank guarantee towards faithful performance of the contract obligation, and performance of the equipments during Warranty period of 5 years. In case of poor and unsatisfactory field services, GIL/DST/GoG/user department shall invoke the PBG.
- 32.2. The Performance Guarantee shall be valid for a period of 180 days beyond Warrantee period and shall be denominated in Indian Rupees and shall be in the form of an unconditional Bank Guarantee issued by All Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative and Rural Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the G.R. no. FD/MSM/e-file/4/2023/0057/DMO dated 21.04.2023 along with its earlier referenced GRs issued by Finance Department or further instruction issued by Finance department time to time in the format provided by GoG to be submitted within 15 days from the date of issue of work order/Letter of Intent. The Performance Guarantee shall be discharged by GoG and returned to the bidder within 30 days from the date of expiry of the Performance Bank Guarantee.

ARTICLE –33: PAYMENTS TERMS

Sr. No.	Line item	Description	Payment
1	Horizontal connectivity work	Upon Successful certification of FAT (Delivery, installation, Commissioning, Integration, Discovery in NMS, etc.) by DST/GIL or its representative agency (O&M operator of GSWAN, TPA)	Release 100% of the payment, subject to deductions for any applicable penalties
2	RF Connectivity- New connectivity	Upon Successful certification of FAT (Delivery, installation, Commissioning, Integration, Discovery in NMS, etc.) by DST/GIL or its representative agency (O&M operator of GSWAN, TPA)	Release 100% of the payment, subject to deductions for any applicable penalties
3	RF Connectivity- Shifting: If in case, there is shifting of office from one building to another, the bidder will be responsible for	Upon Successful certification of FAT (Delivery, installation, Commissioning, Integration, Discovery in NMS, etc.) by DST/GIL or its representative agency (O&M operator of GSWAN, TPA)	
		A). Shifting of Radio link at one side along with support structure and accessories:	25000/- per Link (subject to deductions for any applicable penalties)

	unmounting of the Radio and necessary support structure from the existing location to new location.	B). Shifting of Radio link at both the sides along with support structure and accessories:	35000/- per Link (subject to deductions for any applicable penalties)
		C). Shifting of Radio links without relocating of support structure	10000/- per Link (subject to deductions for any applicable penalties)
For RF connectivity, in case of use of an existing tower/pole, the amount will be deducted from capital expenditure according to the following and Ownership of such pole/tower will remain with Govt. of Gujarat. Cost to be deducted in case of use of existing pole: Rs. 4000. Cost to be deducted in case of use of existing tower: Rs. 10000.			

33.1. PAYMENTS PROCEDURES

Acceptance Test will be conducted in as follows:

- a) Tenderer reserves the right to inspect equipment and OFC/JFC/RF, CAT-6A cables etc. The cost of all such tests shall be borne by the successful bidder. Any inspected goods fail for confirm to specification will be rejected, and successful bidder shall have to replace the rejected goods as per the contract specification without any financial implication to the Tenderer. Further Tenderer may issue a show cause notice in such matter with warning of backlisting if it found. Sample approval should be obtained before installation for such material.
- b) The first step will involve successful installation of all sites. The provisional acceptance of these sites will be defined as Partial Acceptance.
- c) Final Acceptance Test (FAT): After successful installation of the System in accordance with the requirements as mentioned in Schedule of Requirement, Final Acceptance Test will be conducted. After successful testing, Acceptance Test Certificate will be issued by Tenderer/its designated agency to the successful bidder. FAT Checklist is as per Form E8.
- d) The date on which Acceptance certificate is issued shall be deemed to be the date of successful commissioning of the System.
- e) Any delay by the successful bidder in the Acceptance Testing shall render the successful bidder liable to the imposition of appropriate Penalties.
- f) All goods and services that are not specifically asked for certification should have quality standard applicable in India such as ISI.
- g) Bidder is required to update the details of Hardware installed in the Asset Master before completion of FAT.
- h) The final acceptance test (FAT) report should confirm with cabling standard under the ISO certification.
- i) Warranty period needs to be updated on the online portal of OEM & all relevant records on completion of FAT.

ARTICLE – 34: SERVICE TERMS

- 34.1. The entire scope of the work depends on the technical skill and experience in management of the same level or kind of infrastructure.
- 34.2. It is mandatory for successful bidder to deploy qualified professional to install, commission and maintain the equipment, as defined under scope of work.
- 34.3. The successful bidder has to submit regular schedule of man power availability and get it approved by GIL/DST/GoG.
- 34.4. The successful bidder has to deploy necessary problem escalation process and system to take care users at priority.
- 34.5. The successful bidder is free to deploy or to develop applications to facilitate the operation. GIL/DST/GoG will welcome the deployment such application in respect to improve Quality of Services.
- 34.6. For extending better services to the government, the successful bidder will be allowed to deploy and use own tested and proven solution, with prior permission form the GIL/DST/GoG.
- 34.7. The successful bidder needs to manage and maintain various records related to the services extended to the Government.
- 34.8. The Government network is being operated and maintained by various agencies. In such circumstances the successful bidder may need to coordinate and approach various agencies, if required.
- 34.9. The successful bidder needs to maintain the required security of network, database, e- mails etc. related to the government operations.
- 34.10. The successful bidder is responsible to maintain documentation on the progress of the work and will have to update the same on regular basis. Bidder will have to submit the progress reports regularly, as per the guide line issued by GIL /DST/ GoG.
- 34.11. The understanding of the comprehensive maintenance under warranty period is as follows.
 - i. In case of failure, the successful bidder needs to replace or repair the faulty part/ component / device to restore the services at the earliest.
 - ii. The cost of the repairing or replacement of faulty part/component/device has to be entirely born by the successful bidder.
 - iii. All expenses related to part/component/device, including hiring of specialized technical expertise, in case required, has to be born by the successful bidder as part of comprehensive maintenance.
 - iv. The successful bidder also needs to make alternate arrangement in case of major failure happens in the network, due to which services may be affecting for longer period.

- v. After repairing or replacement of the part/component/device, the successful bidder needs to put the same into operation.

ARTICLE – 35: PENALTY CLAUSE

Operational Penalties: (HC Connectivity works {LAN/OFC/RF}):

The successful bidder shall repair/ replace all faulty material (Switches, RF radios, etc) covered under the warranty within the shortest possible time thus ensuring minimum downtime as mentioned in point no 35.1, failing which applicable penalty will be imposed. The following penalties for Operational Deficiencies shall apply:

35.1. The successful bidder shall be responsible for maintaining the desired performance and availability of the system/services. Successful bidder should ensure the prompt service support during warranty period. If complaint is made before 4 pm of the working day, resolution time shall be counted from the same day and for complain made after 4 pm, resolution time shall be counted from next working day. Timeline for resolution is, as follows.

- i Within 8 working hours for all offices located at State Headquarter(Gandhinagar),GSCAN and Districts Head quarters
- ii Within 24 working hours for offices located at Taluka and at all other remaining locations.
- iii For calculation of above penalty, if any, normal working hours of Government of Gujarat is from 10:30 am to 6:10 pm on working day.

If the successful bidder fails to resolve the call as specified above, the following penalty will be imposed on each delayed day.

The penalty may be calculated on a quarterly basis and deducted from any ongoing payments due to the successful bidder under this rate contract. Alternatively, the penalty may be recovered from the Performance Bank Guarantee submitted by the successful bidder.

Penalty/Day, for each day, if problem is not resolved within 8 Hours	Penalty/Day, for each day, if problem is not resolved after 24 Hours
Rs. 1000/- Per day	Rs. 2000/- Per day

Note:

1. If the delay continues beyond 10 weeks, Tenderer may terminate the work order/ LOI and forfeit the PBG.
2. If complain is made before 4 pm of the working day, the same should be attended on the same day and for complain made after 4 pm, resolution time shall be counted from very next working day.

3. For calculation of above penalty, if any, normal working hours of Government of Gujarat is from 10:30am to 6:10pm on any working day.
4. In case, there is delay attributable to granting access to the equipment to be restored on the part of GoG or on part of end user, such delays shall be reduced from the time taken for call completion after due consideration by the TPA/Tenderer.

ARTICLE – 36: APPROVALS / CLEARANCES

- 36.1 Necessary approvals/ clearances concerned authorities, for establishing the proposed project are to be obtained by the successful bidder.
- 36.2 Necessary approvals/ clearances from concerned authorities, as required, for fire protection, government duties / taxes / Octroi, are to be obtained by the successful bidder.
- 36.3 Necessary approvals/ clearances, from concerned authorities (like City Nagar, Nigam, Public Works Department (PWD), Department of Irrigation, State Electricity Board etc. for “Right of way”), as required, are to be obtained by the successful bidder for laying their own cables to meet system requirements and Bidder will have to incur the actual expenses for getting the RoW permission. (Except for reinstatement expenses) upon submission of original receipts.

ARTICLE – 37 PROJECT IMPLEMENTATIONS

- 37.1 The successful bidder will implement the project strictly as per the plan approved by DST/GIL. The Bidder shall carry out cabling work at such locations as may be selected by DST/GIL within a specified period as specified in Instruction letter / LOI / Order and complete their provisional Acceptance Test to the satisfaction of DST/GIL within 10 days from the date specified. This period may be extended depending upon the fulfillment of Conditions Precedent.
- 37.2 GIL, Government of Gujarat will be Engineer-In-Charge of the Project and all inspection, installation; commissioning and acceptance of work will be undertaken by its designated agency.
- 37.3 Successful bidder has to submit Invoice along with initial estimate, Bill of Material, Work Order Copy, PBG, Work Completion report, Test Mail, IT Asset Report (Need to cover all BOM Material), NMS Discovery Report etc. All Invoices, Vouchers, Bills for supplied goods and services by the bidder under the scope of the work will be verified measured and accepted by the Engineer-In-Charge/ its designated agency for release of payment.
- 37.4 As part of implementation the successful bidder shall provide details of equipment that will be incorporated in the proposed system, material and manpower as required. The location for storing spare parts and quantity there on should also be clearly indicated.
- 37.5 The successful bidder shall provide the necessary technical support, Standard Operating Procedure (SOP) and other information to DST/GIL and its user organizations in implementing the proposed system applications. DST/GIL at any time during the currency of the work order/ LOI should have access to the proposed sites.
- 37.6 The successful bidder shall arrange to obtain all statutory permission with no cost to the Government of Gujarat. The successful bidder may have to work during Holidays and Sundays,

the successful bidder will have to obtain required permission to carry out the work on holidays/Sundays from the concerned. It will be the responsibility of the successful bidder to co-ordinate with all other agencies of Government of Gujarat in order to obtain NOC required to execute the job.

- 37.7 The successful bidder shall not disturb or damage the existing network of communication. If in case any damage to the network is done, the same shall be corrected with no extra cost. The successful bidder shall also be responsible for paying penalty, as imposed by the service owner to which the damage is incurred.
- 37.8 In case of the material/solution supplied and installed is rejected owing to its non- conformity to the specification or due to the poor quality of workmanship, the same shall be replaced promptly.
- 37.9 successful bidder shall treat all matters connected with the contract strictly confidential and shall undertake not to disclose, in any way, information, documents, technical data, experience and know how, without prior written permission from DST/GIL.
- 37.10 Any damage caused to the property of Government of Gujarat while executing the job shall be solely successful bidder's responsibility. In case any damage to the property is caused, the same will be recovered from the successful bidder. No any extra cost shall be paid to the successful bidder for such reasons.
- 37.11 The successful bidder shall have to furnish the documentation of the work undertaken in consultation with Engineer-in-charge/DST/GoG rep. 3 sets of such documentation should be provided before the issue of completion certificate.
- 37.12 It is a turnkey project. The successful bidder shall be fully responsible for implementing the Project in totality and should include the items and their prices, if not included in Schedule of Requirement to complete the project on turnkey basis. Any claim whatsoever in this regard will not be entertained later on.
- 37.13 In the event of the delay in delivery of contracted services or services is not satisfactory the purchaser may procure goods from elsewhere as prescribed in bid and successful bidder shall be liable without limitations for the difference between the cost of such substitution and the price set forth in the contract for the goods involved i.e. at the risk and cost of the successful bidder.
- 37.14 DST/GIL/GoG reserves the right to visit any working site of the successful bidder without prior intimation.
- 37.15 The successful bidder shall be solely responsible for obtaining necessary insurance as per the statutory requirement under government laws for manpower and machinery on the site. GIL/GoG will not be responsible for any kind of loss or damage to the successful bidder during the contract period.
- 37.16 All work shall be performed and executed by the Supplier in strict conformity with the engineer-in-charge / representative from GoG and any relative instruction issued to the Supplier by the Engineer-in-charge time to time.

ARTICLE – 38: ACCEPTANCE TEST

Acceptance Test will be conducted in as follows:

- 38.1 DST/GIL/Government of Gujarat reserves the right to inspect equipments and OFC, CAT-6A

cables etc. The cost of all such tests shall be borne by the successful bidder. Any inspected goods fail for confirm to specification will be rejected, and successful bidder shall have to replace the rejected goods as per the contract specification without any financial implication to the GoG/GIL. Further DST/GIL/GoG may issue a show cause notice in such matter with warning of backlisting if it found. Sample approval should be obtained before installation for such material.

- 38.2 The first step will involve successful installation of all sites. The provisional acceptance of these sites will be defined as Partial Acceptance.
- 38.3 Final Acceptance Test (FAT): After successful installation of the System in accordance with the requirements as mentioned in Schedule of Requirement, Final Acceptance Test will be conducted. After successful testing, Acceptance Test Certificate will be issued by DST/GIL/its designated agency to the successful bidder. FAT Checklist is as per Form E8.
- 38.4 The date on which Acceptance certificate is issued shall be deemed to be the date of successful commissioning of the System.
- 38.5 Any delay by the successful bidder in the Acceptance Testing shall render the successful bidder liable to the imposition of appropriate Penalties.
- 38.6 All goods and services that are not specifically asked for certification should have quality standard applicable in India such as ISI.
- 38.7 Bidder is required to update the details of Hardware installed in the EMS/NMS/Or any other provided tool before completion of FAT.
- 38.8 The final acceptance test (FAT) report should confirm with cabling standard under the ISO certification.

ARTICLE – 39: INSTALLATION REQUIREMENTS

- 39.1 The successful bidder needs to pull necessary cables up to required place, using approved PVC Casing/Piping/Channel/RF/CAT6 Cable.
- 39.2 The necessary Civil and Electrical work has to be carried out by the successful bidder. The GoG will not reimburse any cost towards the same. The successful bidder need to take necessary permission if require from concern authority.

ARTICLE – 40: SOFTWARE LICENCES (IF APPLICABLE)

The bidder shall be responsible for providing Software (System Software, Application Software, Device Drivers, IOS, etc) required, if any, to meet any additional requirements during the currency of the work order/ LOI without any additional cost to GoG. All license software must be in the name of DST, Govt. of Gujarat. The ownership of any involved customize software will be of the DST, Govt. of Gujarat.

ARTICLE – 41: INSTALLATION OF ADDITIONAL HARDWARE (IF APPLICABLE)

During the currency of the work order/ LOI, for any additional requirement of equipment including interface equipment, the specifications will be provided by the Bidder. DST/GIL/The Third Party Agency will verify suitability of the specifications submitted by Bidder and recommend to DST/GIL for

acceptance. The Bidder will be obligated to undertake integration, operation and maintenance for all additional equipments if required.

ARTICLE – 42: THIRD PARTY AGENCY

DST/GIL may appoint a Third Party Agency, who would monitor the project during implementation, commissioning and operation. The Third Party Agency will also conduct the Partial and Final Acceptance Test as per the technical requirement of the work order/ LOI and will issue the Certificate of Completion of each proposed site. Third Party Agency will verify the services provided by the Bidder under the work order/ LOI. The successful bidder will co-operate with such Third Party Agency.

ARTICLE – 43: SUPPORT FROM EXTERNAL AGENCY (IF APPLICABLE)

In case, if bidder wish to have support from any external agency, it's very necessary to inform GIL/GoG in written prior to allow them to work on GIL/GoG infrastructure. The information should contain all respective information about the company from whom support has been extended, the person/group of people and the segment in which services has been taken. On completion of the task, another report should be submitted mentioning action taken by this person/group of people from external agency, with duration. The bidder is sole responsible for the action taken by such agency on their behalf. No Data/ Information should be sent out of the premise without obtaining prior written confirmation from the GIL/GoG.

ARTICLE- 44: Manageability (Online Portal)

DST/GIL has an online portal for its entire Helpdesk Management system (i.e. www.gswanhelpdesk.gujarat.gov.in) wherein request for new connectivity of GSWAN, user complaints will be raised by the users on this portal only. Successful bidder will be provided with separate login of the portal wherein he has to do following activities:

- Work status updation
- Complaints resolutions pertaining to the connectivity

Section – 5: SPECIFICATIONS

5.1. CABLE LAYING WORKS

5.1.1. General:

The Underground OFC are extensively used in outdoor network of GSWAN/SCAN networks. The quality of construction of U/G cable Net Work decides the quality and reliability of GSWAN/SCAN services, delivered to the users to a large extent. Therefore, the construction practices of the U/G cables should be of very high quality, strictly in accordance with constructions specifications.

Bidder should supply/install all required accessories whether it is mentioned explicitly or not to adhere to the scope of work of this RFP. All active network components should be IPv6 compatible and should be with IPv6 ready from Day1.

5.1.2. Construction Specifications:

5.1.2.1 Classification of Soil: For the purpose of trenching, the soil shall be categorized as under:

i. Soft Soil

This will include all types of soils- soft soil/hard soil / morrum i.e any strata, such as sand, gravel, loam, clay, black cotton morrum, single, river or nalla bed boulders, soiling of roads, paths, densely pebbles/stones etc., lime concrete, mud concrete and their mixtures which for excavation yields to the application of picks, shovels, sacrifiers, ripper and other manual digging implements including chiseling.

ii. Footpaths / Along Road Side:

- a) Trenching on Foot Path or along Road on carpeted surface may be necessary in certain stretches where roads have been metaled edge to edge and there is no un-metaled corridor or footpath available for trenching and laying the cables.
- b) Tarmac (Asphalt) Foot Path/ Road: means Foot path / Road with tarmac surface with or without compacted strata below the tarmac surface, irrespective of thickness of Tarmac/Metal.
- c) Kharanja: means Footpath / Road covered with various types of bricks with or without compacted strata below the surface, irrespective of thickness of bricks.
- d) Tiled Foot Path/ Roads: means Footpath / Road covered with various types of tiles/stone slabs with or without compacted strata below the tiled surface, irrespective of thickness of tiles / stone slabs.
- e) Cement Concrete Foot Path Road: means the surface on Footpath / Road covered with CC (Cement Concrete) with or without compacted strata below the surface, irrespective of thickness of cement concrete.

5.1.2.2 Road Crossings:

- a) "Tarmac or Asphalt Road" means the road surface, which is metaled by asphalt/tarmac normally having compacted strata below the metaled surface, irrespective of thickness of asphalt/tarmac.
- b) Kharanja Road: means road covered with various types of bricks with or without compacted strata below the tiled road surface, irrespective of thickness of bricks.
- c) Tiled/CC Road: means road made of tiles of any type/stone slabs/bricks or CC road normally having compacted strata below the tiled/CC surface, irrespective of thickness of tiles/CC.
- d) RCC Road: means the surface made of cement concrete duly reinforced with steel bars normally having compacted strata below RCC, irrespective of thickness of RCC.
- e) WBM road: means water bound mecadam surface made of stone, metal and gravel and rolled with road roller. At road crossings, the trenches shall be so dug that top of RCC pipe shall be at one-meter depth from ground level.

5.1.2.3 Excavation of Trenches

Before excavation of trenches the route should be marked for trenching. Care should be taken to see that the route of the trench to excavate is reasonably straight avoiding the existing underground service.

The Bidder should take trial pits to locate the underground services before commencement of actual trenching. These trial pits shall be 30 cms. wide, 120 cms. deep and 120 cms. long at right angles to the proposed trench at an interval of 20 to 50 Mtrs along the proposed cable route. If a slab is encountered, the same may be removed and trial pits may be made.

In city areas, the trench will normally follow the footpath or the road except where it may have to come to the edge of carriage way or cutting across roads with the specific permission from the concerned authorities maintaining the road (such permission shall be obtained by the Bidder). Outside the city limits, the trench will normally follow the boundary of the roadside land. However, where the roadside land is full of burrow pits or when the cables have to cross culverts / bridges or streams, the trench may come closer to the road edge or in some cases, over the embankment or shoulder of the road (Permission for such deviations for cutting the embankment as well as shoulder of the roads shall be obtained by the Bidder).

The alignment of the trench will be decided by Engineer-In-Charge or by TPA. Once the alignment is marked, no deviation from the alignment is permissible except with the approval of Engineer-In-Charge or TPA. While marking the alignment only the center line will be marked and the Bidder shall set out all other works to ensure that, the excavated trench is as straight as possible. The Bidder shall provide all necessary

assistance and labour, at his own cost for marking the alignment. Bidder shall remove all bushes, undergrowth, stumps, rocks and other obstacles to facilitate marking the center line without any extra charges. It is to be ensured that minimum number of bushes and shrubs shall be removed to clear the way and the Bidder shall give all consideration to the preservation of the trees.

The line-up of the trench must be such that cables shall be laid in a straight line except at locations where it has to necessarily take a bend because of change in the alignment or gradient of the trench.

5.1.3. Methods of Excavation:

In city limits as well as in built up areas, the Bidder shall resort to use of manual labour only to ensure that no damage is caused to any underground or surface installations belonging to other public utility services and / or private parties. However, along the Highways and across country routes, there shall be no objection to the Bidder resorting to mechanical means of excavation, provided that no underground Installations exist in the path of excavation, if any, are damaged. There shall be no objection to resort to horizontal boring to bore a hole of required size and to push through G.I. Pipe through horizontal bore at road crossing or rail crossing or small hillocks etc.

Necessary barricades, night lamps, warning boards and required watchman shall be provided by the Bidder to prevent any accident to pedestrians or vehicles. When trenches are excavated in slopes, uneven ground, inclined portion, and the lower edge shall be treated as normal level of the ground for the purpose of measurement of depth of the trench. In certain locations, such as uneven ground, hilly areas and all other places, due to any reason whatsoever it can be ordered to excavate beyond standard depth of 100 Cms. above the cable to keep the bed of the trench as smooth as possible.

If excavation is not possible to the minimum depth of 100 Cms. above the cable, as detailed above, full facts shall be brought to the notice of the Engineer-In- Charge / TPA in writing giving details of location and reason for not being able to excavate that particular portion. Approval may be granted in writing under genuine circumstances. The Bidder shall be responsible for all necessary arrangements to remove or pump out water from trench. The Bidder should survey the soil conditions encountered in the section and make his own assessment about dewatering arrangements that may be necessary. Wherever the soil is hard due to dry weather conditions, if watering is to be done for wetting the soil to make it loose, the same will be done by the Bidder.

5.1.3.1 Trenching near culverts / Bridges:

At bridges and culverts the cable shall be laid in GI pipe of suitable size with the permission of concerned authorities maintaining the roads/bridges. Such permission

shall be obtained by the Bidder. While carrying out the work on bridges and culverts, adequate arrangement for cautioning the traffic by way of caution boards during day time and danger lights at night shall be provided. The GI pipe should be clamped to the outside of the parapet wall of the culvert or bridge with the help of clamps, nails, nuts, bolts and screws of suitable size to ensure that the pipe is securely fixed. The GI clamps should be of minimum 25 mm width and 3 mm thickness and should be fixed at an interval of 50 cms. If necessary, the pipe should be taken to the parapet walls at the ends where the wall diverges away from the roads. The work should be carried out in consultation with the authorities concerned maintaining the roads and bridges.

In case of small bridges and culverts, where there is a likelihood of their subsequent expansion and remodeling, the cable should be laid with some curve on both sides of the culvert or the bridge to make some extra length available for readjustment of the cable at the time of reconstruction of culvert or the bridge.

5.1.3.2 Excavation in Surfaced Strata:

i. Excavation on Footpath

The excavation of trenches in all types of footpaths including dismantling of asphalt/all type of tiles/CC and WBM shall be done up to a depth such that the top of the cable is

1.0 M below the normal ground level. The excavation on the footpaths will be done manually. The Bidder shall have to provide shoring wherever necessary, in case the depth of trench is more than one meter. It is expected that the other services may be present below the footpath, therefore, extra care need to be exercised while excavation of trenches.

ii. Excavation of Trenches along the roads (which are carpeted end to end)

The excavation of trenches along the roads which are carpeted from end to end including dismantling of asphalt, concrete and WBM shall be done up to a depth such that the top of the cable is 1.0 M below the normal ground level. The excavation along the roads shall be done manually. The Bidder shall have to provide shoring wherever necessary, in case the depth of trench is more than one meter. It is expected that the other services may be present below the roads, therefore, extra care need to be exercised while excavation of trenches.

iii. Excavation at Road Crossings:

The excavation of trenches in all types of roads including dismantling of asphalt / all type of tiles / CC and WBM shall be done up to a depth such that the top of the RCC pipe is 1.0 meter below the normal ground level. After excavation of trench, RCC Pipes of 100mm/ 150mm/225mm /300mm dia. shall be laid at the road crossings. The roads, which are broad, may be opened for half their width, allowing the other half

for use of vehicular traffic. The second half of the width should be opened after laying pipes and reinstating the first half of the trench. Pipes laid in the second half should be coupled firmly with those laid in the first half. Care must be taken to couple the pipes fully. The pipes should be laid with a slight slope from the center to the sides of the road to prevent collection of water. 8 mm PP Rope shall be drawn through the laid pipes to facilitate cleaning and cable pulling at a later date before closing the trench.

As the work on road crossings entails lot of inconvenience to vehicular traffic and pedestrians, it is desirable to bury extra pipes for future expansion at the initial stage itself. The spare pipes must be sealed properly at both the ends of the road to obviate the possibility of pipe getting choked due to settlement of sedimentation etc. The Bidder shall have to provide shoring, wherever necessary, in case the depth of trench is more than one meter. Necessary barricades, night lamps, warning boards and required watchman shall be provided by the Bidder to prevent any accident to pedestrians or vehicles.

5.1.4. Trenches of Less Depth:

The depth of trench is very important for future life of cables. Therefore, it is very much necessary for Bidder to ensure that the standard depth is maintained in normal circumstances. However, due to obstructions, if the standard depth cannot be achieved, lower depths up to certain limits are acceptable by the authorities with extra protection as per specifications. The relaxation shall be obtained from the Engineering in charge/TPA, giving reasons for not achieving standard depth.

5.1.5. Laying of Cables:

After excavation of trenches, approximately 5 CM. thick bed of soft soil/ or sand (in case the excavated material contains sharp pieces of rock/stones) is laid before directly laying the cable. Adequate care shall be exercised while laying the cables so that the cables are not put to undue tension/pressure as this may adversely affect the electrical characteristics of cables with passage of time. Sharp bends shall be avoided. Bends, if any, the radius of curvature should be more than at least six times the diameter of the cable. After the completion of laying, sand/ sieved earth, free of stones etc., shall be placed over the cable to a height of 7.5 CM. duly levelled and rammed lightly to form a bedding for warning bricks or Half round RCC pipes/ stone slab/ Pre cast RCC slab for mechanical protection.

The cables may be required to be pulled through RCC/ GI Pipes at road crossings, Extra care should be taken to avoid damage to the cable while pulling through pipes which may occur due to kinks. The Bidder should have the required tools and

equipments for the purpose to complete the job in a professional manner. The Bidder shall ensure that trenching and cable laying activities are continuous, without leaving patches or portions incomplete in between. When there are number of cables of the same size in the same trench it becomes difficult to identify the particular cable at time of maintenance. Therefore, identification collars bearing L.I. Number of the cable shall be tagged to all the cables. The identification collars shall be provided at an interval of not more than 2 meters.

5.1.5.1 Laying of OFC through Horizontal Directional Drilling (H.D.D.)

Excavation of trench and laying of HDPE Pipes through H.D.D. technique. The Optical Fiber Cable shall be laid through PLB HDPE pipes. Back filling and dressing of the excavated trenches. Blowing/puling of Optical Fiber Cable with proper tools and accessories.

5.1.6. Placing of Half Round RCC Pipes / Layer of Bricks

After laying of cables, it is covered by a consolidated layer of 8 CM. of soft earth (or sand in special cases where excavated material contains sharp stones/objects) which should be free from stones or other sharp objects, carefully pressed and lightly tamped. On this layer of soft earth, a layer of half round RCC pipes (100/150 mm dia) / Bricks is placed as a warning layer and also as a mechanical protection. The choice for protection layer out of half round RCC Pipes or bricks may be decided based on availability and comparative cost.

5.1.7. Back Filling and Compacting of the Excavated Trenches:

After laying the cables and providing warning/protection layer as per specifications, the remaining portion of the trench shall be filled in and well tamped in steps. The trench should be back filled in layers not exceeding 20 cms. each at a time and rammed. The Bidder shall remove the excess earth from the site and leave only a crown of earth rising approximately 5 cms. in the centre. This allows for natural subsidence. When digging on footpaths, along roads and crossings, care should be taken to see that the road is made motorable as soon as the work is completed. The permanent reinstatement of roads and pavement shall be done by the local authorities.

5.1.8. Cable route and Joint Indicators:

Cable route and joint indicators are to be provided to indicate the cable route and location joints. The route and joint indicators are to be used for cables laid in rural areas as availability of land marks over wide expanse of lands is scanty. The route indicators are to be placed at every 100 mts. and at every place where the cable changes direction. Joint indicators are to be provided at all joints. For the sake of uniformity and from viewpoint of identification of cable at later date for maintenance, the route / joint indicators shall be provided in the alignment of the trench. The route/Joint indicators shall be painted with

Primer before painting with oil paint. The route indicators shall be painted with yellow paint and joint indicators shall be painted with red paint.

5.1.9. Documentation:

The documentation, consisting of route diagrams, depicting joint locations, termination details of cables on MDF, pillars and D.Ps., is of immense help at the time of maintenance or undertaking any re-arrangement work. The documentation shall be prepared primary cable wise for one or more than one primary cables with all its pillars shown and for all its pillars the distribution cables shown pillar wise, for each work order. Vender will have to undertake preparation of route diagram depicting alignment of cables on roadsides on a geographical map. Though it is desirable to prepare these diagrams on geographical maps to the scale but in case geographical maps are not available, the maps should be constructed to a reasonable accuracy by taking details from the local bodies of the area. On this diagram, besides showing alignment of the cable, the topographical details of the road, location of pillars and landmarks alongside should also be shown to locate the cable(s) easily as and when required.

5.2. FOR LAN WORKS

For OFC (Single Mode):

- Type of fiber: Single Mode (9/125 μm) or higher
- Cable Type: Armored Outdoor Fiber cable (with HDPE Jacket)
- Type of Armor: Corrugated Steel Tape Armor
- Standard: ISO/IEC-11801, ITU G.652D
- Quoted OFC should be RoHS, ETL/UL/TEC/CE, GoI/Meity/NABL certified/approved as on bid submission date and manufactured in India only. The bidder has to submit the Manufacturer test reports.
- OEM must have minimum presence of 5 years in India as on bid submission date
- The Manufacturer of the product (OEM) should have ISO 9001, ISO 14001, ISO 27001 & ISO 45001
- Performance Warranty: 20 years

For OFC (Multi Mode):

- Type of fiber: Multi Mode (50 or 62.5/125 μm) or higher.
- Cable Type: Armored Outdoor Fiber cable (with HDPE Jacket)
- Type of Armor: Corrugated Steel Tape Armour
- Standard: ISO/IEC-11801, ITU **G.651**
- Quoted OFC should be RoHS, ETL/UL/TEC/CE, GoI/Meity/NABL certified/approved as on bid submission date and manufactured in India only. The bidder has to submit the Manufacturer test reports.
- OEM must have minimum presence of 5 years in India as on bid submission date
- The Manufacturer of the product (OEM) should have ISO 9001, ISO 14001, ISO 27001

& ISO 45001 or latest

- Performance Warranty: 20 years

For the CAT-6A cables:

- Unshielded Twisted Pair (UTP), Category 6A, Conductor Size: 23 AWG, Conductor: Bare Copper, Standards: ANSI/TIA/EIA-568 C.2, ISO/IEC-11801, Jacket/ Sheath Type: LSZH (Low Smoke Zero Halogen)
- Quoted CAT6A cables should be RoHS, ETL/UL/TEC/CE, GoI/Meity/NABL certified/approved as on bid submission date and manufactured in India only. The bidder has to submit the Manufacturer test reports.
- OEM must have minimum presence of 5 years in India as on bid submission date
- The Manufacturer of the product (OEM) should have ISO 9001, ISO 14001, ISO 27001 & ISO 45001 or latest
- Performance Warranty: 20 years

For the Passive Networking Components:

- OEM must have minimum presence of 5 years for items like Patch Panels, Information Outlets in India as on bid submission date
- The Manufacturer of the items like Patch Panels, Information Outlets (OEM) should have ISO 9001, ISO 14001, ISO 27001 & ISO 45001 or latest

For the Active Networking Components:

- OEM must have minimum presence of 5 years in India as on bid submission date
- The Manufacturer of the product (OEM) should have ISO 9001, ISO 14001, ISO 27001 & ISO 45001 or latest

For HDPE pipe: ISI approved HDPE pipe. The pipes shall be supplied with ISI mark on each pipe. (The pipe offered shall bear ISI marking with License number. The copy of the valid ISI license issued by Bureau of Indian Standard to the manufacturer for the offered pipe shall be attached.)

For Casing Capping: ISI approved Casing Capping (The copy of the valid ISI license issued by Bureau of Indian Standard to the manufacturer for the offered Casing Capping shall be attached).

For Raceway; ISI approved Raceway (The copy of the valid ISI license issued by Bureau of Indian Standard to the manufacturer for the offered Casing Capping shall be attached).

For Flexible PVC Pipe: ISI approved Flexible PVC pipe. The pipes shall be supplied with ISI mark on each pipe. (The pipe offered shall bear ISI marking with License number. The copy of the valid ISI license issued by Bureau of Indian Standard to the manufacturer for the offered pipe shall be attached).

For Rigid PVC Pipe: ISI approved Rigid PVC pipe. The pipes shall be supplied with ISI mark on each pipe. (The pipe offered shall bear ISI marking with License number. The copy of the valid ISI license issued by Bureau of Indian Standard to the manufacturer for the offered pipe shall be attached.

For Rack: Certifications like ISO 9001, ISO 14001, ISO 27001 & ISO 45001 (All rack should be supplied with 6 socket AC power distribution unit, 4 Fan for cooling and 1U cable manager)

CAT-6A Patch Cord (1, 2 & 3 Meter)

Category 6A, UTP Patch Cord, Conductor: 24 AWG or better, Conductor: standard copper wire, Standard Compliance: ANSI/TIA/EIA-568 C.2

CAT-6A Patch Panel (12 & 24 Port)

Panel Frame: Steel with Black Painting, Easy Port Labeling Identification Provision

I/o Box for CAT6A Cable

Category 6A keystone jacks suitable for 22-26 AWG, Standards: ANSI/TIA/EIA-568 C.2, ISO/IEC-11801

Fiber Patch Cord

Product: Optical Patch Cord, Standard: ANSI/TIA-568-C.3, ISO/IEC 11801

During the installation activities, records and route layout diagram must be kept of all items installed, including reference to cable pathways used, final location, identity of cables and equipment. The presentation of all of these records will provide the "As-Installed" basis for all future reference to the installation. The Optical Fiber and UTP cabling shall be installed in accordance with manufacturer's installation instructions. The installer will ensure that the manufacturer's specifications for the Optical Fiber cable and the UTP cables meet the transmission characteristics required by Cabling Standards. All installed cables, termination boxes, distribution panels and wall outlets shall be marked and numbered in accordance with Administration Standard for the Telecommunications Infrastructure. The documentation required at the completion of the installation phases shall contain all of the following information, together with any other information the installer has acquired during the installation.

- "As-Installed" documentation, showing total cabling and connections installed using floor space plans and cable record sheets. This documentation must show all cables and outlets incorporating the full numbering and marking convention supplied.
- All test results and certification information, identified by cable, connection and numbering convention, necessary for all Optical Fiber and copper cables.

5.3. LAST MILE EQUIPMENTS

5.3.1. L2 Switch: Gigabit Ethernet Manageable Switch

A. 8 Port Manageable Gigabit Ethernet Switch without SFP module (unloaded)

Min. Technical Specification	Minimum 8 No's 100/1000 Base-Tx PoE+ ports (full Duplex) with 2x 1G SFP Uplink Ports. Switch PoE Power rating should be 125w or more. The device shall support IEEE 802.3at (PoE+) and be backward compatible with IEEE 802.3af (PoE).
	All ports should have features of auto- negotiate, flow control (802.3x), port- based network access control (802.1x), port security, MAC filtering , Storm Control etc
	Minimum Switching capacity of 8 Gbps or more
	MAC address table of minimum of 8k per switch
	Should be IPv4 and IPv6 ready from day one
	Should have IEEE 802.1d STP, 802.1w RSTP / 802.1s MSTP, IEEE 802.1Q VLAN
	Features of DHCP, NTP/SNTP or equivalent, SNMPv1, v2 and v3, TELNET/ SSH, TFTP, Web/SSL
	IGMP versions 1 and 2 snooping: supports 1K multicast groups
	Should have console port for administration and management, CLI/ web based GUI
	Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP), Up to 6 groups, Up to 8 ports per group
	All necessary interfaces, connectors, patch cords (if any) and licenses must be delivered along with the switch from day one.
	The Switch should be Rack mountable and the switch should be supplied with Indian standard AC power cord.
	Relay of DHCP traffic to DHCP server in different VLAN. Works with DHCP Option 82 ping, trace route, RADIUS/LDAP/ TACACS+, syslog, DNS client

B. 16 Port Gigabit Ethernet Manageable Switch without SFP module (unloaded):

Min. Technical Specification	Minimum 16 No's of 100/1000 Base-Tx PoE + ports (full Duplex) and 2x 1G SFP Uplink Ports. Switch PoE Power rating should be 280w or more. The device shall support IEEE 802.3at (PoE+) and be backward compatible with IEEE 802.3af (PoE).
	All ports should have features of auto- negotiate, flow control (802.3x), port- based network access control (802.1x), port security, MAC filtering , Storm Control etc.
	Minimum Switching capacity of 30 Gbps or more
	MAC address table of minimum of 8k per switch
	Should be IPv4 and IPv6 ready from day one
	Should have IEEE 802.1d STP, 802.1w RSTP / 802.1s MSTP, IEEE 802.1Q VLAN
	Features of DHCP, NTP/SNTP or equivalent, SNMPv1, v2 and v3, TELNET/ SSH, TFTP, Web/SSL
	IGMP versions 1 and 2 snooping: supports 1K multicast groups
	Should have console port for administration and management, CLI/ web based GUI

	Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP), Up to 6 groups, Up to 8 ports per group
	All necessary interfaces, connectors, patch cords (if any) and licenses must be delivered along with the switch from day one.
	The Switch should be Rack mountable and the switch should be supplied with Indian standard AC power cord.
	Relay of DHCP traffic to DHCP server in different VLAN. Works with DHCP Option 82 ping, traceroute, RADIUS/LDAP/ TACACS+, syslog, DNS client
	The Switch should support Multicast VLAN.
	Switch should support Operation Temperature 0 °C to 50 °C and Dual Internal Power Supply.
	The switch should have following certifications for EMI & Safety i.e. UL / CE / FCC or Equivalent Indian Certificate.
	Should support Head of Line blocking prevention for lower latency and better performance and automatically throttles the impact of packet flooding into the switch's CPU.
	The switch shall support robust security through port based and host based access control. It must be compatible with industry standard authentication protocols such as IEEE 802.1X (EAP), TLS, TTLS, and PEAP to ensure secure user and device authentication.

C. 24 Port Gigabit Ethernet Manageable Switch without SFP module (unloaded):

Min. Technical Specification	Minimum 24 No's of 100/1000 Base-Tx PoE + ports (full Duplex) and 2x 1G Uplink Ports. Switch PoE Power rating should be 375w or more. The device shall support IEEE 802.3at (PoE+) and be backward compatible with IEEE 802.3af (PoE).
	All ports should have features of auto- negotiate, flow control (802.3x), port-based network access control (802.1x), port security, MAC filtering, Storm Control etc.
	Minimum Switching capacity of 50 Gbps or more
	MAC address table of minimum of 8k per switch
	Should be IPv4 and IPv6 ready from day one
	Should have IEEE 802.1d STP, 802.1w RSTP/802.1s MSTP, IEEE 802.1Q VLAN,
	Features of DHCP, NTP/SNTP or equivalent, SNMPv1, v2 and v3, TELNET/ SSH, TFTP, Web/SSL
	IGMP versions 1 and 2 snooping: supports 1K multicast groups
	Should have console port for administration and management, CLI/web-based GUI
	Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP), Up to 6 groups, Up to 8 ports per group
	All necessary interfaces, connectors, patch cords (if any) and licenses must be delivered along with the switch from day one.
	The Switch should be Rack mountable and the switch should be supplied with Indian standard AC power cord.
	Relay of DHCP traffic to DHCP server in different VLAN. Works with DHCP Option 82 ping, trace route, RADIUS/LDAP/ TACACS+, syslog, DNS client
	The Switch should support Multicast VLAN.
	Switch should support Operation Temperature 0 °C to 50 °C and Dual Internal Power Supply.

	The switch should have following certifications for EMI & Safety i.e. UL / CE / FCC or Equivalent Indian Certificate.
	Should support Head of Line blocking prevention for lower latency and better performance and automatically throttles the impact of packet flooding into the switch's CPU.
	The switch shall support robust security through port based and host based access control. It must be compatible with industry standard authentication protocols such as IEEE 802.1X (EAP), TLS, TTLS, and PEAP to ensure secure user and device authentication.

D. 48 Port Gigabit Ethernet Manageable Switch without SFP module (unloaded):

Min. Technical Specification	Minimum 48 No's of 100/1000 Base-Tx PoE+ ports (full Duplex) and 2x 1G/10G SFP+ Dual-Rate Uplink Ports. Switch PoE Power rating should be 740w or more. . The device shall support IEEE 802.3at (PoE+) and be backward compatible with IEEE 802.3af (PoE).
	All ports should have features of auto- negotiate, flow control (802.3x), port-based network access control (802.1x), port security, MAC filtering ,Storm Control etc.
	Minimum Switching capacity of 100 Gbps or more
	MAC address table of minimum of 8k per switch
	Should be IPv4 and IPv6 ready from day one
	Should have IEEE 802.1d STP, 802.1w RSTP /802.1s MSTP, IEEE 802.1Q VLAN
	Features of DHCP, NTP/SNTP or equivalent, SNMPv1, v2 and v3, TELNET/ SSH, TFTP, Web/SSL
	IGMP versions 1 and 2 snooping: supports 1K multicast groups
	Should have console port for administration and management, CLI/ web-based GUI
	Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP), Up to 6 groups, Up to 8ports per group
	All necessary interfaces, connectors, patch cords (if any) and licenses must be delivered along with the switch from day one.
	The Switch should be Rack mountable and the switch should be supplied with Indian standard AC power cord.
	Relay of DHCP traffic to DHCP server in different VLAN. Works with DHCP Option 82 ping,traceroute, RADIUS/LDAP/ TACACS+, syslog, DNS client
	The Switch should support Multicast VLAN.
	Switch should support Operation Temperature 0 °C to 50 °C and Dual Internal Power Supply.
	The switch should have following certifications for EMI & Safety i.e. UL / CE / FCC or Equivalent Indian Certificate.
	Should support Head of Line blocking prevention for lower latency and better performance and automatically throttles the impact of packet flooding into the switch's CPU.
	The switch shall support robust security through port based and host based access control. It must be compatible with industry standard authentication protocols such as IEEE 802.1X (EAP), TLS, TTLS, and PEAP to ensure secure user and device authentication.

5.3.2. Fiber L3 Switch with SFP/ SFP+/QSFP+/QSFP 28 modules (loaded): (Transceiver as per specification in Section 5)

Sr. No	Minimum Technical Specifications
1	The proposed Switch shall support standards like : • 802.3z 1000BASE-X • 802.3ae 10 Gigabit Ethernet • 802.3ba 40 Gigabit Ethernet • 802.3ba 100 Gigabit Ethernet
2	The proposed Switch Shall support minimum 24 Ports of 1G/ 10 G SFP+ dual rate Ports and minimum 2 Ports of 40G / 100 G of QSFP ports. It should support QSFP+ - 40 G & QSFP28 – 100 G transreceiver module.
3	The Switch shall support 40 G QSFP for future scalability
4	The Switch shall support throughput of minimum 850Gbps full duplex and should be line rate
5	The Switch Shall provide System Memory of minimum 8 Gigabytes
6	The Switch shall provide minimum 2 Hot Swappable Fans and AC Power Supply for 1+1 redundant Operations
7	The Switch Shall support option to boot from different images.
8	The Switch shall provide storage for images and configurations.
9	The Switch Shall support Redundancy protocols like VRRP /VRRPV6 (Virtual Switch Redundancy protocol) or HSRP (Hot Standby Routing Protocol)
10	The Switch shall support VRF aware VRRP BFD
11	The Switch should support temperature from 0.to 45 deg C under normal operating conditions and Thermal shock NEBS compliance test
12	The Switch Shall support IPv6, IPv4 features
13	The Switch Shall support L3 Routing protocols like OSPF, OSPFv3, BGP, MP-BGP, IS-IS, RIPv2
14	The Switch shall Support upto 4-Way Equal Cost Multipath Routing (ECMP)
15	Switch Shall support minimum 32K mac address scale or higher
16	Switch should support minimum 39K IP4 LPM routes
17	Switch should support minimum 16K IP6 LPM routes
18	Switch shall support minimum 8K or higher ACL entries
19	Switch shall support minimum 8K or higher multicast routes
20	The Switch shall support VRF
21	The Switch shall support Bi-Directional Forwarding Detection (BFD)
22	The Switch should support Quality of Service (QoS) features
23	The Switch Shall support Real time state streaming Telemetry
24	The Switch should support Quality of Service (QoS) features like : 802.1P based classification, DSCP based classification and remarking Strict Priority Queuing
25	The Switch shall also support minimum 8 Queues per port
26	The Switch shall support VXLAN EVPN integrated routed and switching

27	The switch should be provided with licenses to activate mentioned capabilities on day 1 , if Vendor /OEM has subscription based license then license cost for these features should be provided for 84 months
28	The Switch shall support IGMPv2 AND igmpV3 snooping
29	The Switch shall support IGMPv2 and IGMP v3 Querier
30	The Switch shall support IGMP snooping proxy
31	The Switch shall support IGMP host proxy
32	The Switch shall support PIM-SSM
33	The Switch shall support MSDP
34	The Switch shall support IP Multicast Multipath (ECMP)
35	The Switch shall support Bidirectional PIM
36	The Switch Shall support Ingress / Egress ACLs with L2, L3, L4 Fields
37	The Switch shall support minimum 8k or higher ACL entries
38	The Switch shall support Control Plane Protection
39	The Switch shall support DHCP Relay / Snooping
40	The Switch shall support Radius and TACACS + authentication
41	Tested and certified for EAL 4 / NDPP (Network Device Protection Profile) or above under Common Criteria Program for security related functions or under Indian Common Criteria Certification Scheme (IC3S) by STQC, DEIT, Govt. of India.
42	The Switch OS Shall support Zero touch provisioning
43	The Switch should support at least 4 Port Mirroring Sessions. Device should support local and encapsulated remote port mirroring with support for ACL filtering for targeted capture analysis/reporting and simplified troubleshooting. simplified troubleshooting.
44	The Switch should support L2/L3/L4 Filtering
45	The Switch should support features like CLI Scheduler
46	The Switch shall support Event Managers, Even Monitor, Linux Tools and docker containers
47	The Switch shall support RFC 3176 Sflow
48	Switch shall support latency analyzer and micro burst detection capabilities to detect congestion on interfaces
49	The Switch Shall have support for CLI, Telnet, SSHv2 and SNMPv3 S
50	The Switch shall have Configuration rollback features
51	The Switch shall support Real Time Telemetry
52	The Switch shall support Management over IPv6
53	The Total solution should come with all required feature licenses from first day of installation
54	Device Hardware, OS, optics, TAC support and NBD hardware replacement support should be quoted from a single OEM. OEM should have 24x7 TAC support.
55	device should support Digital Optical Monitoring (DOM)
56	Device should support Environment Monitoring
57	All licences should be provided with the devices for the mentioned features. The licences should be perpetual in nature or should be provided for 7yr on day-1 in case of subscription based licencing. Hardware warranty 60 months.

58	Device should support following safety and EMC Compliances: ; EAL/EAL2+/NDcPP/NIAP Common Criteria Evaluation certificate (or) UL/CSA/IEC/EN 60950-1/FCC/CE
59	The Switch should support Link Aggregation Control Protocol (IEEE 802.3ad/802.1AX)
60	It should support clustering of two physical switches into a single logical unit. In this scenario, LACP should be able to operate across both chassis, enabling link aggregation of interfaces physically connected to separate switches.

Note:

1. The quoted L2/L3 Ethernet Switches shall be from an OEM having ISO 9001, ISO 14001, ISO 27001 & ISO 45001 certified manufacturing facilities.
2. The OEM shall comply with ISO/IEC 27001 for information security.
3. The offered switches must comply with TEC/MTCTE certification requirements and other applicable Indian regulatory norms, including RoHS.
4. The switches shall support and comply with relevant IEEE standards, including but not limited to 802.3,802.1Q, 802.1p,802.1X,802.3ad,802.1AX, PoE standards (802.3af/at) for L2 switch.
5. The L2/L3 switches shall support reliable operation in outdoor environmental conditions.
6. Bidders are required to submit a compliance matrix for the L2/L3 switches, clearly indicating compliance (Complied / Not Complied) against each technical parameter.

5.3.3. Wireless Radio for Horizontal offices:

Sr. No	Specification
Wireless Radio	
1	Should support communication requirement including voice, video, data applications

2	Should operate in 5.8GHz frequency band (ISM band)
3	Should support point-to-point mode
4	Should provide minimum throughput of 50Mbps
5	Should be able to connect locations at a distance of up to 30kms
6	Should support different type of antenna (Uni-directional, Omni-directional, Sectorial, etc.)
7	Should have 10/100 Base-Tx Ethernet interface to connect to WAN/LAN port
8	Should support 802.3u encoding
9	Should be manageable through Console, SNMP (v1, v2, v2c), Http/ssl.
10	Should support IPv6 from day 1
11	Should be discoverable in the existing NMS tool
12	The outdoor unit should be IP65 compliant
13	Operating Ambient Temperature: 0 to 55 °C The bidder has to take into consideration the internal temperature adjustment of the bracket/Enclosure and other outdoor conditions at the location
14	Should have inbuilt surge protection mechanism
15	Should support traffic encryption
16	Should be WPC compliant / TEC approved at the time of bidding

5.3.4. Transceiver/Media Converter

- (a) 1G SFP Transceiver Module Single Mode type for L2 switch: Small Form Factor Pluggable module — 1000Base-LX module to support 1G speed over Single mode Fiber up to a distance of 10 kms. The quoted SFP modules shall be fully compatible with the L2 switches quoted under this Rate Contract. The offered modules must ensure seamless interoperability, stability, and reliability, and must be proven for successful operation in production environments in conjunction with the quoted L2 switches.
- (b) 1G SFP Transceiver Module Multi Mode type for L2 switch: Small Form Factor Pluggable module — 1000BASE-SX module to support 1G speed over Multi mode Fiber up to a distance of 500 mts. The quoted SFP modules shall be fully compatible with the L2 switches quoted under this Rate Contract. The offered modules must ensure seamless interoperability, stability, and reliability, and must be proven for successful operation in production environments in conjunction with the quoted L2 switches.
- (c) 1G SFP Transceiver Module Single Mode type for L3 switch: Small Form Factor Pluggable module — 1000Base-LX module to support 1G speed over Single mode Fiber up to a distance of 10 kms. The quoted SFP modules shall be fully compatible with the L3 switches quoted under this Rate Contract. The offered modules must ensure seamless interoperability, stability, and reliability, and must be proven for successful operation in production environments in conjunction with the quoted L3 switches.

- (d) 1G SFP Transceiver Module Multi Mode type for L3 switch: Small Form Factor Pluggable module — 1000BASE-SX module to support 1G speed over Multi mode Fiber up to a distance of 500 mts. The quoted SFP modules shall be fully compatible with the L3 switches quoted under this Rate Contract. The offered modules must ensure seamless interoperability, stability, and reliability, and must be proven for successful operation in production environments in conjunction with the quoted L3 switches.
- (e) 10G SFP+ Transceiver Module Single Mode type for L3 switch: 10G Small Form Factor Pluggable Plus module — 10GBASE-LR module to support 10G speeds over Single mode Fiber up to a distance of 10 kms. The quoted 10G SFP + modules shall be fully compatible with the L3 switches quoted under this Rate Contract. The offered modules must ensure seamless interoperability, stability, and reliability, and must be proven for successful operation in production environments in conjunction with the quoted L3 switches.
- (f) 10G SFP+ Transceiver Module Multiple Mode type for L3 switch: 10G Small Form Factor Pluggable Plus module — 10GBASE-SR module to support 10G speeds over Multi mode Fiber up to a distance of 400 mtr. The quoted 10G SFP + modules shall be fully compatible with the L3 switches quoted under this Rate Contract. The offered modules must ensure seamless interoperability, stability, and reliability, and must be proven for successful operation in production environments in conjunction with the quoted L3 switches.
- (g) 10G SFP+ Transceiver Module Single Mode type for L2 switch: 10G Small Form Factor Pluggable Plus module — 10GBASE-LR module to support 10G speeds over Single mode Fiber up to a distance of 10 kms. The quoted 10G SFP + modules shall be fully compatible with the L2 switches quoted under this Rate Contract. The offered modules must ensure seamless interoperability, stability, and reliability, and must be proven for successful operation in production environments in conjunction with the quoted L2 switches.
- (h) 10G SFP+ Transceiver Module Multiple Mode type for L2 switch: 10G Small Form Factor Pluggable Plus module — 10GBASE-SR module to support 10G speeds over Multi mode Fiber up to a distance of 400 mtr. The quoted 10G SFP + modules shall be fully compatible with the L2 switches quoted under this Rate Contract. The offered modules must ensure seamless interoperability, stability, and reliability, and must be proven for successful operation in production environments in conjunction with the quoted L2 switches.
- (i) QSFP+ 40G Transceiver Module Single Mode type for L3 switch: 40G Quad Small Form Factor Pluggable Plus module — 40GBASE-LR4 module to support 40G speeds over Single mode Fiber up to a distance of 10 kms. The quoted 40G QSFP + modules shall be fully compatible with the L3 switches quoted under this Rate Contract. The offered modules must ensure seamless interoperability, stability, and reliability, and must be proven for successful operation in production environments in conjunction with the quoted L3 switches.

- (j) QSFP28 100G Transceiver Module Single Mode type for L3 switch: 100G Quad Small Form Factor Pluggable 28 module — 100GBASE-LR4 module to support 100G speeds over Single mode Fiber up to a distance of 10 kms. The quoted 100G QSFP28 modules shall be fully compatible with the L3 switches quoted under this Rate Contract. The offered modules must ensure seamless interoperability, stability, and reliability, and must be proven for successful operation in production environments in conjunction with the quoted L3 switches.
- (k) Media Converter: For Multi-Mode Fiber (1000 Mbps) for 1 Port
- One RJ-45 1000 BASE-TX port ST or SC 1000 BASE-FX fiber port
 - Data Transfer rate – 1000 Mbps Full Duplex
 - Fiber Cable: 50 or 62.5/125 micron
 - Cable Length: up to 550 MTR
 - UTP Cable Type: Category 6
 - Indicators: Power Indication, FX/RX Link Indication, UTP/RX Link Indication, Full/Half Duplex Indication
 - Compatibility: Standards IEEE 802.3 10Base-T, 802.3u 1000 Base-TX and 1000 Base-FX Protocol CSMA / CD Connection Specification: One RJ-45, ST or SC Option, as required
- (l) Media Converter: For Single-mode Fiber (1000Mbps) for 1 port
- One RJ-45 1000 BASE-TX port ST or SC 1000 BASE-FX fiber port
 - Data Transfer rate – 1000 Mbps Full Duplex
 - Fiber Cable: 9/125 micron
 - Cable Length: 2 Km or above
 - UTP Cable Type: Category 6
 - Indicators: Power Indication, FX/RX Link Indication, UTP/RX Link Indication, Full/Half Duplex Indication
 - Compatibility: Standards IEEE 802.3 10Base-T, 802.3u 1000 Base-TX and 1000 Base-FX Protocol CSMA/ CD
 - Connection Specification: One RJ-45, ST or SC Option, as required

5.3.5. Voltage Stabilizer:

S/N	Parameter	Minimum Specification
1	Device capacity	400VA
2	Voltage Correction	Automatic, IC Controlled
3	Input Voltage Range	130 V to 280 V
4	Frequency Range	50 Hz +/- 5 %
5	Output Voltage Range	200 V to 230 V, +/- 5 %

6	Efficiency	> 95%
7	Protection/Cut off	Over Voltage and over Current Protection, Thermal and Electronic Overload
8	Device Construction	Compact and modular construction for easy handling and servicing
9	Power Outlets	4 Nos. 5 Amp Indian Standard Power Outlets
10	Operating Temperature	0-55 ° C. The bidder has to take into consideration of the internal temperature adjustment of the junction box
11	Status Display/ Indicator	Should display status of device like on/off, Low-high voltage indicator

5.3.6. Surge Protector:

S/N	Parameter	Minimum Specification
1	Clamping Voltage	240 V
2	Response time	<10 ns
3	Energy Dissipation	Min 500 joules
4	Max voltage Spike protection	Up to 400 Volts
5	Max current Spike Protection	5000 Amps
6	Cable	Heavy duty Cable of standard Length
7	Power Outlet	Min. 4 Nos. 5 Amp Indian Standard Power Outlets
8	Operating Temperature	0-55 ° C. The bidder has to take into consideration of the internal temperature adjustment of the junction box

5.3.7. Ethernet Surge Arrestor

Sr. No.	Parameter	Minimum Specification
1	Application	Protection of Ethernet data lines and PoE power lines for PoE-powered devices
2	Supported PoE Standards	IEEE 802.3af / IEEE 802.3at
3	Ethernet Interface	10/100/1000 Mbps (Gigabit Ethernet)
4	PoE Operating Voltage	Minimum 60 V DC or higher (polarity independent)
5	Protection Mode	Line-to-ground protection for all Ethernet pairs
6	Clamping Voltage	≤ 90 V (line-to-ground)
7	Response Time	< 1 nanosecond
8	Insertion Loss	≤ 0.3 dB
9	Maximum Data Throughput	Non-blocking, transparent to PoE and data traffic

10	Grounding	Dedicated grounding / earthing terminal provided
11	Installation Type	Inline or DIN-rail mountable
12	Environmental Protection	Indoor installation and/or Outdoor installation with minimum IP65 rating (as applicable)
13	Operating Temperature	–40°C to +75°C
14	Application Scope	Suitable for IP phones, Wi-Fi 6 access points, IP cameras, and other PoE devices
15	Quantity Requirement	One surge arrestor per Ethernet cable run for each outdoor or exposed PoE device
16	Accessories	Supplied with all required mounting hardware and grounding accessories
17	Standards Compliance	Compliance with relevant IEC / IEEE / international surge protection standards
18	OEM Requirement	Product shall be from a reputed OEM; new and unused

Section – 6 TECHNICAL BID FORMAT:

Note:

The bidder has to upload/attach/submit a file as per below format along with relevant brochures mentioning the item quoted, its make and model and Deviation/ Remarks (if any) as per specifications mentioned in Section 5.

S/N	Item Description	Unit	Make and Model	Matched/ Not Matched	Deviation/ Remarks If any	Brochures/ Supporting Document Attached (Yes/No)
1						
2						
3						
4						
5						

Important Note: Immediate temporary Replacement of faulty equipment/s need to be provided to end-users during the period of repair without any additional cost to Govt. of Gujarat. Bidder is required to maintain sufficient spare inventory for the above purpose.

Section – 7: FINANCIAL BID FORMAT

S/N	Item Description	Total Price (without Tax)
A	OFC Cabling (Including Civil work and Accessories line) (items 1 to 26 mentioned in Annexure- III)	
B	LAST MILE EQUIPMENTS (line items 27 to 44 mentioned in Annexure- III)	
C	REPAIRING WORK along (line items 45 to 52 mentioned in Annexure- III)	
D	STRUCTURED CABLING and ACCESSORIES (line items 53 to 68 mentioned in Annexure- III)	
E	RF Connectivity (installation and commissioning (line items 69 to 73 mentioned in Annexure- III)	
Total (for all the line item)(with taxes)		

***(Amount in Rs. and without tax)**

Special Terms and Conditions

1. Approval / Clearance:

- 1.1 Necessary approvals/ clearances from concerned authorities, for establishing the proposed project are to be obtained by the bidder.
- 1.2 Necessary approvals/ clearances, from concerned authorities (like City Nagar, Nigam, Public Works Department (PWD), Department of Irrigation, State Electricity Board, Fire Department etc. for “Right of way”), as required, are to be obtained by the bidder for laying their own cables to meet system requirements and Bidder will have to incur the

actual expenses for getting the RoW permission.

2. Contract Period: This contract is valid for an initial period of three years. Upon completion, DST/GIL may consider extending the contract for an additional two years based on the bidder's performance. A total upward price revision of 5% shall be allowed for the extension period.
3. Work Order: Quantity mentioned in the financial Bid is notional value. DST/GIL will issue Work Order (Off-line) based on the actual requirement during the contract period.
4. All the bidders shall submit their offer as per the price bid and financial evaluation will be carried out accordingly to identify the L1 bidder.
5. Selection of L1 bidder: The Criteria for selection will be the lowest cost to the TENDERER
i.e. Sum total of all the line items without taxes for the qualified bid. TENDERER/GIL may negotiate the prices with L1 Bidder, under each item/head offered by Bidder. The negotiated percentage will be considered against each line item and bidder has to submit accordingly price list of all line item.
6. L1 bidder must have to submit price against each line item as mentioned under Annexure III before RA and after negotiation with L1 bidder.
7. Any Bidder i.e. N-1 (N=Total No of qualified bidder) who agrees to match this L1 negotiated rates will be empaneled for the contract duration. The work will be awarded on round robin basis according to the allocated work completion pendency.
8. **The existing GSWAN O&M agency shall not be eligible to participant under this RFP/BID.**

Section – 8 Format/Forms

Annexure A

On letterhead of Bidder

Sub: Undertaking as per Office Memorandum No.: F. No.6/18/2019-PPD dated 23.07.2020 published by Ministry of Finance, Dept. of Expenditure, Public Procurement division

Ref: Bid Number: _____

I have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India. I certify that we as a bidder and quoted product from following OEMs are not from such a country or, if from such a country, these quoted products OEM has been registered with competent authority. I hereby certify that these quoted product & its OEM fulfills all requirements in this regard and is eligible to be considered for procurement for Bid number _____.

No.	Item Category	Quoted Make & Model

In case I'm supplying material from a country which shares a land border with India, I will provide evidence for valid registration by the competent authority, otherwise GIL/End user Dept. reserves the right to take legal action on us.

(Signature)

Authorized Signatory of M/s <<Name of Company>>

Annexure B
On letterhead of OEM

Sub: Undertaking as per Office Memorandum No.: F. No.6/18/2019-PPD dated 23.07.2020 published by Ministry of Finance, Dept. of Expenditure, Public Procurement division

Ref: Bid Number: _____

Dear Sir,

I have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India. I certify that our quoted product and our company are not from such a country, or if from such a country, our quoted product and our company have been registered with competent authority. I hereby certify that these quoted product and our company fulfills all requirements in this regard and is eligible to be considered for procurement for Bid number_____.

No.	Item Category	Quoted Make & Model

In case I'm supplying material from a country which shares a land border with India, I will provide evidence for valid registration by the competent authority; otherwise GIL/End user Dept. reserves the right to take legal action on us.

(Signature)

Authorized Signatory of M/s <<Name of Company>>

ANNEXURE - I

Bid Processing Fees and Earnest Money Deposit Details

Sr.	Item	Amount (In)	Name of the Bank and	Demand Draft
1	Earnest Money Deposit (E.M.D.)			

ANNEXURE - II

Form No. E1 Experience in supply, installation commissioning and maintenance of the similar Systems

Name of the Bidder:							
Sr. No.	Name of Organization	Address of the installation	Start date of the project	Completion Date of the Project	Scope of the work. Also specify the system installed	Specify No. of Active and Passive Components	Value of the project in Rupees
1							
2							
3							
4							
5							

Note: Please attach purchase order/ contract agreement and completion certificate for each of project details mentioned

Form no. E2 Authorization Letters

Sr.No.	Item	Make and Model	Name of OEM	Authorization letter attached? (Yes/No)
1				
2				
3				

Form no. E3 Manpower Details

Sr. No.	Name	Date of Joining	P.F. No./ ESIC No.	Education Qualification	Experience Details with
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Note: attach the necessary supporting proof/document for above details.

Form no. E4 Office in GUJARAT

Sr. No.	Address	Contact Person	Contact nos.	Type of supporting
1				
2				

Note: You may mention more than one office (if applicable)

Form no. E5 OEM Service Centers Detail

Sr. No.	Address	Contact Person	Contact nos.	Type of supporting
1				
2				
3				

Note: You have to mention minimum 3 authorized service centers as per eligibility criterion. You may add more service centers (if applicable)

Form No. E6 Bidder Turnover

Financial Year	Annual Turn Over	Related Annual turnover (as per eligibility Criteria)	Audited Accounts submitted? (Yes/No)
2022-2023			
2023-2024			
2024-2025			
Note: Please fill this form and attach the audited Annual Accounts for the last three financial years. (bidder have to submit CA certificate for the same)			

Form no. E7 ISO 9001, ISO 14001, ISO 27001 & ISO 45001 certification for Manufacturing

Sr. No.	Item	Make and Model	Name of OEM	ISO certification valid up to	ISO certification attached? (Yes/No)
1					
2					
3					
4					
5					
6					
7					

Form no. E8 Check list for FAT (Final Acceptance Test)

Sr. No.	Item	Remarks
1	Device Should be configured as per GOG instruction.	
2	Numbering / tagging	
3	Site Drawing	
4	Network Layout	
5	Site Survey Report	
6	Bill of Materials details	
7	Customer Site completion report.	
8	Cable Route path	

Format: For MAF / OEM Authorization.

No. _____ dated _____

To

Ref: Tender No. _____

Subject: _____

Dear Sir,

We, _____ who are
established and reputed Manufacturers of _____
_____ having factories at _____

_____ (address of factory) do hereby authorize
M/s. _____

_____ (Name & Address of agent) to submit a bid, and sign the contract with you against
above mentioned tender No: _____.

We authorized the _____ (name of the bidder) for the following modules/products:

Sr. No.	Product Name	Make & Model
1		
2		
3		

We hereby confirm that the offered Product in the referenced RFP will be provided unconditionally with a back to back warranty, maintenance, support services and parts availability etc. for proposed product etc. available for the period of five years from FAT through M/s _____ (SI/Bidder).

Yours faithfully,

(Name)

(Name of manufacturers)

Form1-: Format of Earnest Money Deposit in the form of Bank Guarantee

Ref: Bank Guarantee No.
Date:

To,
GM (Networking)
Gujarat Informatics Limited Block
-2, 2nd Floor, Karmyogi
Bhavan, Sector – 10A, Gandhinagar - 382010
Gujarat, India

Whereas ----- (here in after called "the Bidder") has submitted its bid dated ----- in response to the RFP no:

----- for Rate Contract for cabling work and Local Area Network (including internal office LAN) on TurnKey basis and Supply, Installation and Commissioning of Last Miles Equipments for Government Offices in the State of Gujarat on behalf of Department of Science and Technology, Government of Gujarat KNOW ALL MEN by these presents that WE -----

----- having our registered office at ----- (hereinafter called "the Bank") are bound unto the -----, Gujarat Informatics Limited in the sum of ----- for which payment well and truly to be made to Gujarat Informatics Limited, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this -----day of-----2024.

THE CONDITIONS of this obligation are:

1. The E.M.D. may be forfeited:
 - a. if a Bidder withdraws its bid during the period of bid validity
 - b. Does not accept the correction of errors made in the tender document;
 - c. In case of a successful Bidder, if the Bidder fails:
 - (i) To sign the Contract as mentioned above within the time limit stipulated by purchaser or
 - (ii) To furnish performance bank guarantee as mentioned above or
 - (iii) If the bidder is found to be involved in fraudulent practices.
 - (iv) If the bidder fails to submit the copy of purchase order and acceptance thereof.

We undertake to pay to the GIL/Purchaser up to the above amount upon receipt of its first written demand, without GIL/ Purchaser having to substantiate its demand, provided that in its demand GIL/ Purchaser will specify that the amount claimed by it is due to it owing to the occurrence of any of the abovementioned conditions, specifying the occurred condition or conditions.

This guarantee will remain valid up to 9 months from the last date of bid submission. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the OWNER/PURCHASER and further agrees that if this guarantee is extended for a period as mutually agreed between bidder and owner/purchaser, the guarantee shall be valid for a period so extended provided that a written request for such extension is received before the expiry of validity of guarantee.

The Bank shall not be released of its obligations under these presents by any exercise by the OWNER/PURCHASER of its liability with reference to the matters aforesaid or any of them or by reason or any other acts of omission or commission on the part of the OWNER/PURCHASER or any other indulgence shown by the OWNER/PURCHASER or by any other matter or things.

The Bank also agree that the OWNER/PURCHASER at its option shall be entitled to enforce this Guarantee against the Bank as a Principal Debtor, in the first instance without proceeding against the SELLER and not withstanding any security or other guarantee that the OWNER/PURCHASER may have in relation to the SELLER's liabilities.

Dated at _____ on this _____ day of _____ 2024.

Signed and delivered by

For and on Behalf of

Name of the Bank and Branch and
its official Address

Approved Bank: All Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative and Rural Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the G.R. no. FD/MSM/e-file/4/2023/0057/DMO dated 21.04.2023 along with its earlier referenced GRs issued by Finance Department time to time or further instruction issued by Finance department time to time.

Form-2: Performa of Compliance letter/Authenticity of Information Provided

(On Non judicial Stamp paper of Rs. 300 duly attested by the First-class Magistrate/Notary Public)

Date:

To,

General Manager (Networking)

Gujarat Informatics Ltd.

Block No. 2, 2nd Floor, Karmayogi Bhavan,

Sector 10A, Gandhinagar – 382 010

Sub: Compliance with the Tender Terms & Conditions, Specifications and Eligibility Criteria.

Ref: Tender No XXXXX

Dear Sir,

With reference to above referred tender, I, undersigned <<Name of Signatory>>, in the capacity of <<Designation of Signatory>>, is authorized to give the undertaking on behalf of <<Name of the bidder>>.

We wish to inform you that we have read and understood the technical specification and total requirement of the above-mentioned bid submitted by us on **DD.MM.YYYY**.

We hereby confirm that all our quoted items meet or exceed the requirement and are absolutely compliant with specifications mentioned in the bid document.

We also explicitly understand that all quoted items meet technical specification of the bid & that such technical specification overrides the brochures/standard literature if the same contradicts or is absent in brochures.

In case of breach of any tender terms and conditions or deviation from bid specification other than already specified as mentioned above, the decision of GIL Tender Committee for disqualification will be accepted by us.

The Information provided in our submitted bid is correct. In case any information provided by us are found to be false or incorrect, you have right to reject our bid at any stage including forfeiture of our EMD/ PBG/cancel the award of contract. In this event, GIL reserves the right to take legal action on us.

Thanking you,

Dated this _____ day of _____ 2025

Signature: _____

(In the Capacity of) : _____

Duly authorized to sign bid for and on behalf of

Note: This form should be signed by authorized signatory of bidder

Form-3: Performa of Contract-cum-Equipment Performance Bank Guarantee
(To be stamped in accordance with Stamp Act)

Ref:

Bank Guarantee No.

Date:

To

Name & Address of the Purchaser/Indenter

Dear Sir,

In consideration of <<**Name & Address of the Purchaser/Indenter, Government of Gujarat, Gandhinagar**>> (hereinafter referred to as the OWNER/PURCHASER which expression shall unless repugnant to the context or meaning thereof include successors, administrators and assigns) having awarded to M/s. having Principal Office at (herein after referred to as the “SELLER” which expression shall unless repugnant to the context or meaning thereof include their respective successors, administrators, executors and assigns) the supply of _____ by issue of Purchase Order No..... Dated issued by Gujarat Informatics Ltd. ,Gandhinagar for and on behalf of the OWNER/PURCHASER and the same having been accepted by the SELLER resulting into CONTRACT for supplies of materials/equipments as mentioned in the said purchase order and the SELLER having agreed to provide a Contract Performance and Warranty Guarantee for faithful performance of the aforementioned contract and warranty quality to the OWNER/PURCHASER, _____ having Head Office at (hereinafter referred to as the ‘Bank’ which expressly shall, unless repugnant to the context or meaning thereof include successors, administrators, executors and assigns) do hereby guarantee to undertake to pay the sum of Rs. _____ (Rupees _____) to the OWNER/PURCHASER on demand at any time up to _____ without a reference to the SELLER. Any such demand made by the OWNER/PURCHASER on the Bank shall be conclusive and binding notwithstanding any difference between Tribunals, Arbitrator or any other authority.

The Bank undertakes not to revoke this guarantee during its currency without previous consent of the OWNER/PURCHASER and further agrees that the guarantee herein contained shall continue to be enforceable till the OWNER/PURCHASER discharges this guarantee. OWNER/PURCHASER shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee from time to time to extend the time for performance by the SELLER of the aforementioned CONTRACT. The

OWNER/ PURCHASER shall have the fullest liberty, without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the SELLER, and to exercise the same at any time in any manner, and either to enforce to forebear to enforce any covenants contained or implied, in the aforementioned CONTRACT between the OWNER/PURCHASER and the SELLER or any other course of or remedy or security available to the OWNER/PURCHASER.

The Bank shall not be released of its obligations under these presents by any exercise by the OWNER/PURCHASER of its liability with reference to the matters aforesaid or any of them or by reason or any other acts of omission or commission on the part of the OWNER/PURCHASER or any other indulgence shown by the OWNER/PURCHASER or by any other matter or things.

The Bank also agree that the OWNER/PURCHASER at its option shall be entitled to enforce this Guarantee against the Bank as a Principal Debtor, in the first instance without proceeding against the SELLER and notwithstanding any security or other guarantee that the OWNER/PURCHASER may have in relation to the SELLER's liabilities.

Notwithstanding anything contained herein above our liability under this Guarantee is restricted to Rs. _____ (Rupees _____) and it shall remain in force up to and including _____ and shall be extended from time to time for such period as may be desired by the SELLER on whose behalf this guarantee has been given.

Dated at _____ on this _____ day of _____ 2025.

Signed and delivered by

For & on Behalf of

Name of the Bank & Branch &
Its official Address

List of approved Banks

Approved Bank: All Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative & Rural Banks (operating in India having branch at Ahmedabad/

Gandhinagar) as per the G.R. no. EMD/4/2022/0002/DMO dated 20.05.2022 issued by Finance Department or further instruction issued by Finance department time to time

#Financial breakup

Annexure- III - financial breakup of each line items							
S/ N	Item Description	Make & Model	UoM	Quantity	Unit Price	Total Price (without Tax)	Rate of GST in %
A	B	C	D	E	F	G=(E*F)	H
I	OFC Cabling (Including Civil work and Accessories)						
#	<u>Supply of single mode armored OFC cable (UA - Loose Tube Multi tube) (Unit price should Inclusive of all the required line items like Fiber Cost, Labour charges, digging/laying, HDP pipe, RCC half- round pipe, Route-marker/Indicator (Iron Made with Reflective Painting with Min. height of 1ft) and any other item, if any as per the Specification in this RFP)</u>						
1	6 Core		Mtr.	1			
2	12 Core		Mtr.	1			
3	24 Core		Mtr.	1			
4	48 Core		Mtr.	1			
5	6 F SM OFC TERMINATION (Single END) Including Rack mount/Wall mount LIU-/ PIGTAILS-LC Type / 2 MTR Duplex Patch Cord FC/ST/SC to SC/LC/ST/FC (3 Nos.)/With proper tagging and Identification of OFC		No	1			
6	12 F SM OFC TERMINATION (Single END) Including Rack mount/Wall mount LIU - / PIGTAILS-LC Type / 2 MTR Duplex Patch Cord FC/ST/SC to SC/LC/ST/FC (6 Nos.) / With proper tagging and Identification of OFC		No	1			
7	24 F SM OFC TERMINATION (Single END) Including Rack mount/Wall mount LIU - / PIGTAILS-LC Type / 2 MTR Duplex Patch Cord		No.	1			

	FC/ST/SC to SC/LC/ST/FC (12 Nos.) / With proper tagging and Identification of OFC						
8	48 F SM OFC TERMINATION (Single END) Including rack mount/wall mount LIU - / PIGTAILS-LC Type / 2 MTR Duplex Patch Cord FC/ST/SC to SC/LC/ST/FC (24 Nos) / With proper tagging and Identification of OFC	No.	1				
#	<u>Supply of multi-mode armored OFC Cable (UA - Loose Tube Multi tube) (Unit price should Inclusive of all the required line items like Fiber Cost, Labour charges, digging/laying, HDP pipe, RCC half- round pipe, Route-marker/Indicator (Iron Made with Reflective Painting with Min. height of 1ft) and any other item, if any as per the Section-5 (Specification) of this RFP)</u>						
9	6 Core	Mtr.	1				
10	12 Core	Mtr.	1				
11	24 Core	Mtr.	1				
12	48 Core	Mtr	1				
13	6 F MM OFC TERMINATION (Single END) Including rack mount/wall mount LIU - / PIGTAILS-LC Type / 2 MTR Duplex Patch Cord FC/ST/SC to SC/LC/ST/FC (3 Nos.) / With proper tagging and Identification of OFC	Nos	1				
14	12 F MM OFC TERMINATION (Single END) mount/wall mount LIU - / PIGTAILS-LC Type / 2 MTR Duplex Patch Cord FC/ST/SC to SC/LC/ST/FC (6 Nos.) / With proper tagging and Identification of Including rack OFC	Nos	1				
15	24 F MM OFC TERMINATION (Single END) Including rack mount/wall mount LIU - / PIGTAILS-LC Type / 2 MTR Duplex Patch Cord FC/ST/SC to SC/LC/ST/FC (12 Nos.) / With proper tagging and Identification of OFC	Nos.	1				
16	48 F MM OFC TERMINATION (Single END) Including rack mount/wall mount LIU - / PIGTAILS-LC Type / 2 MTR Duplex Patch Cord FC/ST/SC to SC/LC/ST/FC (24 Nos.) / With proper tagging and Identification of OFC	Nos.	1				
17	Fiber to Fiber splicing, jointing and testing	Nos.	1				

18	Horizontal Boring for Road Crossing for laying OFC as per Guide lines mentioned in section 5. (Digging at 1.65 Mtrs.)		Mtr.	1			
19	Laying of Optical fiber cable in HDPE pipe duly fixed on Wall including testing.		Mtr	1			
20	Supply and Termination of Single Mode Pigtails (LC/SC Type) Inclusive of all (Material, Labour etc..)		Nos	1			
21	Supply and Termination of Multi-Mode Pigtails (LC/SC Type) Inclusive of all (Material, Labour etc..)		Nos	1			
22	Fiber to Fiber splicing and testing including all accessories, manpower etc		Nos.	1			
23	Supply and Installation of Fiber Patch Cord FC/ST/SC to SC/LC/ST/FC Patch cord for Multimode Fiber Duplex		Per 3 Mtr.	1			
24	Supply and Installation of Fiber Patch Cord FC/ST/SC to SC/LC/ST/FC Patch cord for Single Mode Fiber Duplex		Per 3 Mtr.	1			
25	Supply and Installation of Fiber Patch Cord FC/ST/SC to SC/LC/ST/FC Patch cord for Multimode Fiber Duplex		Per 5 Mtr.	1			
26	Supply and Installation of Fiber Patch Cord FC/ST/SC to SC/LC/ST/FC Patch cord for Single Mode Fiber Duplex		Per 5 Mtr.	1			
II	LAST MILE EQUIPMENTS						
i	Transceiver/media converter (as per the specification mentioned in section -5)						
27	1G SFP Modules for L2 switch– Single mode Fiber up to a distance of 10kms		Nos	1			
29	1G SFP Modules for L2 switch – Multimode Fiber up to a distance of 500 mtr		Nos	1			
30	1G SFP Modules for L3 switch– Single mode Fiber up to a distance of 10kms		Nos	1			
31	10G SFP+ Modules for L3 switch – Single mode Fiber up to a distance of 10kms		Nos	1			
32	1G SFP Modules for L3 switch – Multimode Fiber up to a distance of 500 mtr		Nos	1			

33	10G SFP+ Modules for L3 switch – Multimode Fiber up to a distance of 400 mtr		Nos	1			
34	QSFP+ 40G Single Mode transceiver for L3 Switch- Quad Small form factor module plus, should support distance upto 10 kms.		Nos	1			
35	QSFP28 100G Single mode transceiver for L3 Switch - Quad Small form factor module 28, should support distance upto 10 Kms.		Nos	1			
36	RJ-45 port (1000 Base TX) 1000 Mbps Media Converter 1000 BaseFx fiber port for multi mode Fiber, as per the specification mentioned in section -5		Nos	1			
37	RJ-45 port (1000 Base TX) 1000 BaseFX fiber port for single mode Fiber Media converter, as per the specification mentioned in section - 5		Nos	1			
38	10G SFP+ Modules for L2 switch – Single mode Fiber up to a distance of 10kms		Nos	1			
39	10G SFP+ Modules for L2 switch – Multimode Fiber up to a distance of 400 mtr		Nos	1			
II	Network Switches						
40	8 Port Manageable Gigabit Ethernet Switch (as per Specifications mentioned in section 5)		Nos	1			
41	16 Port 10/100/1000 Mbps POE Ethernet Switch (as per Specifications mentioned in section 5)		Nos	1			
42	24 Port 10/100/1000 Mbps POE Ethernet Switch (as per Specifications mentioned in section 5)		Nos	1			
43	48 Port 10/100/1000 Mbps POE Ethernet Switch (as per Specifications mentioned in section 5)		Nos	1			
44	24 Port Fiber L3 switch (As per Specifications mentioned in section 5)		Nos	1			
III	REPAIRING WORK						
45	Replacement of faulty power adaptor for Transceivers		Unit	1			
46	Removal of old cabling works including buy-back of material retrieved		Mtr	1			
47	I/o Box for CAT-6A Cable		Nos	1			
48	Cashing Patti-32MM		Mtr	1			

49	Cashing Patti-50MM		Mtr	1			
50	Restructure of Cabling Including Removal and refixation /installation		Mtr	1			
51	OFC terminating blocks rack mounted/ wall mounted LIU (Supply, Installation and termination)		Nos.	1			
52	CAT 6A LAN Cable inclusive of supply, laying etc.		Mtr	1			
IV	STRUCTURED CABLING and ACCESSORIES						
i	Structured CAT 6 LAN cabling work (including Supply, installation and Termination of CAT6Acables, PVC flexible Pipes and accessories, RJ45 termination at work station along with I/O boxes, Face Plates, Casing and Capping, conduits and concealed as per site requirement, RJ-45/RJ-11 Connector and configuring node in network)						
53	Single user end point		Per User End point	1			
54	Single user end point with concealed cabling (as mentioned in scope of work)		Per User End point	1			
li	Patch Panel (Supply, Installation and Termination) CAT-6A						
55	24 Port		Nos	1			
56	12 Port		Nos	1			
lii	RACKS (Supply, Installation and Termination) (Certifications like ISO 14001: 2004 and ISO 9001: 2008 (All rack should be supplied with 6 socket AC power distribution unit, 4 Fan for cooling and 1U cable manager)						
57	19" 6U Wall Mount / floor mountable MS Rack (Supply, Installation and Termination with 600mm or more depth)		Nos	1			
58	19" 12U Wall Mount / floor mountable MS Rack (Supply, Installation and Termination with 600mm or more depth)		Nos	1			
59	19" 19U floor standing MS Rack (Supply, Installation and Termination with 600mm or more depth)		Nos	1			

iv	Supply of CAT-6A cable Patch Cord with RJ-45 at both end						
			Nos	1			
60	1 Mtr each		Nos	1			
61	2 Mtr each		Nos	1			
62	3 Mtr each		Nos	1			
V	GENERAL ACCESSORIES						
63	Power Strip with 6 plug Sockets, switches, Light Indicators, fuse protection and Spike Suppressor (Reputed Make)		Nos	1			
64	GI Pipe-4" dia		Mtr	1			
65	RJ-45 connector		Nos	1			
66	Voltage Stabilizer		Nos	1			
67	Surge Protector		Nos	1			
68	Ethernet Surge Arrestor (Supply, installation, testing, and commissioning of Gigabit PoE Surge Arrestor supporting IEEE 802.3af/at, including grounding and all accessories, complete.)		Nos	1			
V	RF Connectivity (installation and commissioning)						
69	RF link up to 2 Km (Connectivity from A end to B end with necessary equipment radios, cable, tower, etc)		Nos	1			
70	RF link up to 2 to 5 Km (Connectivity from A end to B end with necessary equipment radios, cable, tower, etc)		Nos	1			
71	RF link up to 5 to 10 Km (Connectivity from A end to B end with necessary equipment radios, cable, tower, etc)		Nos	1			
72	RF link up to 10 to 30 Km (Connectivity from A end to B end with necessary equipment radios, cable, tower, etc)		Nos	1			
73	Operation and Maintenance (CAMC) for RF Connectivity for 3 Years from date of FAT acceptance		Nos	1			
Total (for all the line item)							

xxxxxxxx—END---xxxxxxxx