

Annexure-2

Schedule of requirements

The Vendor/Firm is expected to quote for the following items. Each item must be from the same OEM.

To,
Jt. General Manager (IT),
RailTel Corporation of India Limited,
Plate-A, 6th Floor, Office Block Tower-2,
East Kidwai Nagar, New Delhi - 110023

Ref : EOI No. RCIL/EOI/CO/ITB/2023-24/IT services to RCIL customer/15 dated 20.02.2024

H.1 Active Components

**Table I. List of Active Components
For Technical Bid:**

Sr. No	Item Description	Detailed Specification Must be filled by the Vendor which comprises of Minimum General specifications	Make / Brand	Quantity (Items Must be specified by the Vendor after structuring it in layout structure / Network Structure) (decide as per site survey)	Attach the specification sheet of products with Page No. (proper indexing) and Justify the requirement.
1	48x1G/10G/25G+8x40G/100G Core Switch layer-3 manageable switch with dual power supply (CS 1 & CS2)			2	
2	24 Port and 8x1G/10G SFP+ Distribution Switch layer-2 and layer-3 manageable switch with stacking capability				
3	Access Switch layer-2 manageable switch with stacking capability (with Different capacity of 24/12/8 port 1G with 4/2 1G/10G SFP ports (1G/10G)				

4	Indoor Wi-Fi Access Point Wi-Fi CERTIFIED 6™. Must support POE+ on 802.3at/bt				
5	Outdoor Wi-Fi Access Point Wi-Fi CERTIFIED 6™. Must support POE+ on 802.3at/bt				
6	Wireless Controller			1	
7	NMS			1	
8	UPS				
9	Any other Item required as per site survey				

For Financial Bid:

Sr. No	Item Description	Detailed Specification Must be filled by the Vendor which comprises of Minimum General specifications	Make/ Brand With Model No.	Rate per Unit	Quantity (Items Must be specified by the Vendor after structuring it in layout structure / Network Structure)	Total Amount	Total Amount with GST	Justify the requirement
1	48x1G/10G/25G+8x40G/100G Core Switch layer-3 manageable switch with dual power supply (CS 1 & CS2)				2			
2	24 Port and 8x1G/10G SFP+ Distribution Switch layer-2 and layer-3 manageable switch with stacking capability							
3	Access Switch layer-2 manageable switch with stacking capability (with Different capacity of 24/12/8 port 1G with 4/2 1G/10G SFP ports (1G/10G)							

4	Indoor Wi-Fi Access Point Wi-Fi CERTIFIED 6™. Must support POE+ on 802.3at/bt							
5	Outdoor Wi-Fi Access Point Wi-Fi CERTIFIED 6™. Must support POE+ on 802.3at/bt							
6	Wireless Controller				1			
7	NMS				1			
8	UPS							
9	Any other Item required as per site survey							

The technical specifications of these items must be specified in the format as above in accordance with detailed specification mentioned as per point 11 in the RFP document.

The **Technical proposal** should list the make and model of each item, including the various types of L2/L3 switches that satisfy the requirements as separate line items, and their quantities. Technical documentation about each distinct item must be included along with the technical proposal.

H.2 Passive Components

Table 2. List of Passive Components

For Technical Bid:

Sr. No.	Item Description	Detailed Specification must be filled by the Vendor which comprises of Minimum General specifications	Make /Brand	Qty. (decide as per site survey)	Attach the specification sheet of products with Page No. (proper indexing) and Justify the requirement.
1	48-Core armored outdoor Optical Fibre Cable in meters SM			5000 Mtrs (approx)	
2	12-Core) armored outdoor Optical Fibre Cable in				

	meters SM				
3	6-Core armored outdoor Optical Fibre Cable in meters SM			1500 mtrs (Approx)	
4	CAT 6A UTP cable in meters				
5	CAT 6 UTP cable in meters				
6	Unloaded 24 port 1U CAT 6A UTP Jack Panel				
7	Unloaded CAT 6 UTP Jack Panel				
8	CAT 6A Information Outlet compatible with jack panel mentioned above				
9	CAT 6 Information Outlet compatible with jack panel mentioned above				
10	CAT 6A RJ45 connector				
11	CAT 6 Information Outlet, Face plate and Back box				
12	48 Fibre core LIU with LC connector, mountable in 19" network rack				
13	12 Fibre core LIU with LC connector, mountable in 19" network rack				
14	6 Fibre core LIU with LC connector, mountable in 19" network rack				
15	Cable manager mountable in 19" Network Rack				
16	CAT 6A UTP Patch Cord 2 meter				
17	CAT 6 UTP Patch Cord 2 meter				
18	CAT 6 UTP Patch Cord 5 meter				
19	CAT 6 UTP Patch Cord 1 meter				
20	Single Mode pigtail				

	with LC connector				
21	LC-LC single mode duplex patch cord 2 meter				
22	42 U Network rack with integrated cooling and Power Backup with 6 kVA UPS compatible with the network switch supplied.				
23	19-inch, 1000 mm depth, 32U Floor Standing Network rack with 8 socket power-strip with FAN & required accessories				
24	19-inch, 650 mm depth, 12U Floor Standing Network rack with 8 socket power-strip with FAN & required accessories				
25	UV treated PVC casing and capping 40 x 40 mm in meters with necessary accessories				
26	Metal raceways (6" Perforated and hot deep galvanised)				
27	UV treated PVC conduit of diameter of 32mm in meters with necessary accessories				
28	1.5-inch HDPE pipe with of PE-63 or higher in meters			5000 mtrs approx.	
29	5/15 AMPS round pin power socket with switch and back box				
30	3-core, 1.5 sq. mm wire, shielded copper electrical cable in meters				
31	Configuration and Installation/mounting on ceiling/wall				

	or angle bracket of Access points with radium reflective labelling				
32	Configuration and Installation of Network Switches in network rack with radium reflective labelling				
33	Any other Items required as per site survey				

For Financial Bid :

Sr. No.	Item Description	Detailed Specification must be filled by the Vendor which comprises of Minimum General specifications	Make /Brand With Model No.	Rate per Unit	Qty.	Total Amount	Total Amount with GST	Justify requirement.
1	48-Core armored outdoor Optical Fibre Cable in meters SM				5000 Mtrs (approx)			
2	12-Core) armored outdoor Optical Fibre Cable in meters SM							
3	6-Core armored outdoor Optical Fibre Cable in meters SM				1500 mtrs (Approx)			
4	CAT 6A UTP cable in meters							
5	CAT 6 UTP cable in meters							
6	Unloaded 24 port 1U CAT 6A UTP Jack Panel							
7	Unloaded CAT 6 UTP Jack Panel							
8	CAT 6A Information Outlet compatible with jack panel							

	mentioned above							
9	CAT 6 Information Outlet compatible with jack panel mentioned above							
10	CAT 6A RJ45 connector							
11	CAT 6 Information Outlet, Face plate and Back box							
12	48 Fibre core LIU with LC connector, mountable in 19" network rack							
13	12 Fibre core LIU with LC connector, mountable in 19" network rack							
14	6 Fibre core LIU with LC connector, mountable in 19" network rack							
15	Cable manager mountable in 19" Network Rack							
16	CAT 6A UTP Patch Cord 2 meter							
17	CAT 6 UTP Patch Cord 2 meter							
18	CAT 6 UTP Patch Cord 5 meter							
19	CAT 6 UTP Patch Cord 1 meter							
20	Single Mode pigtail with LC connector							
21	LC-LC single mode duplex patch cord 2 meter							
22	42 U Network rack with integrated cooling and Power Backup with 6 kVA UPS compatible with the network switch supplied.							
23	19-inch, 1000 mm depth, 32U Floor Standing Network rack with 8 socket power-strip with FAN & required accessories							

24	19-inch, 650 mm depth, 12U Floor Standing Network rack with 8 socket power-strip with FAN & required accessories							
25	UV treated PVC casing and capping 40 x 40 mm in meters with necessary accessories							
26	Metal raceways (6" Perforated and hot deep galvanised)							
27	UV treated PVC conduit of diameter of 32mm in meters with necessary accessories							
28	1.5-inch HDPE pipe with of PE-63 or higher in meters				5000 mtrs approx.			
29	5/15 AMPS round pin power socket with switch and back box							
30	3-core, 1.5 sq. mm wire, shielded copper electrical cable in meters							
31	Configuration and Installation/mounting on ceiling/wall or angle bracket of Access points with radium reflective labelling							
32	Configuration and Installation of Network Switches in network rack with radium reflective labelling							
33	Any other Items required as per site survey							

H.3 Civil Work

Table 3 List of Civil Work

For Technical Bid:

Sr. No.	Work	Vendor Remarks/ compliance	Justify requirement.
1	Excavation of soil (depth 3/6 feet, width 1 feet) and resurfacing for burial of HDPE Pipe per running meter		5000 mtrs approx.
2	Excavation of soil and construction of 3x3x3 ft brick chamber with RCC lid for pulling outdoor OFC		20 Chambers approx.
3	Horizontal Directional Drilling (HDD) for crossing roads in meters		
4	Moiling for crossing roads in meters		
5	Installation of UTP cables through PVC casing and capping in meters		
6	Installation of OFC through PVC conduit indoors meters		
7	Installation of indoor electrical cables through PVC conduit in meters		
8	Installation of PVC conduit in meters		
9	RCC core cutting of 3-inch diameter for inter-floor wiring		
10	Installation of HDPE pipe underground (3/6 feet from solid surface) in meters		5000 mtrs approx.
11	Installation of outdoor OFC through HDPE pipe in meters		6500 mtrs approx.
12	Any other Item required as per site survey		

For Financial Bid:

Sr. No.	Work	Vendor Remarks/ Compliance	Job Charges	Total Amount with GST	Justify requirement.
1	Excavation of soil (depth 3/6 feet, width 1 feet) and resurfacing for burial of HDPE Pipe per running meter				5000 mtrs approx.
2	Excavation of soil and construction of 3x3x3 ft brick chamber with RCC lid for pulling outdoor OFC				20 Chambers approx.
3	Horizontal Directional Drilling (HDD) for crossing roads in meters				
4	Moiling for crossing roads in meters				
5	Installation of UTP cables through PVC casing and capping in meters				
6	Installation of OFC through PVC conduit indoors meters				
7	Installation of indoor electrical cables through PVC conduit in meters				

8	Installation of PVC conduit in meters				
9	RCC core cutting of 3-inch diameter for inter-floor wiring				
10	Installation of HDPE pipe underground (3/6 feet from solid surface) in meters				5000 mtrs approx.
11	Installation of outdoor OFC through HDPE pipe in meters				6500 mtrs approx.
12	Any other Item required as per site survey				

H.4 Installation and Services

Table 4 List of Installation and Services

For Technical Bid:

Sr. No.	Services	Vendor Compliance (Yes/No)	Any Remarks
1	Installation, termination and labelling of UTP cables on Jack Panel		
2	Termination and labelling of UTP cables on Information Outlet with Face plate and back box		
3	Installation and labelling of LIU		
4	Fusion splicing of pigtails with OFC inside LIU		
5	Installation of power socket		
6	Installation of all network rack with cable dressing and labelling on patch cord		
7	Documentation of the entire project, as mentioned in the document		
8	Testing and generating reports		
9	AMC charges for additional 3 years post 5 years warranty (Quote for 6 th , 7 th and 8 th year)		
10	Any other Item required as per site survey		

For Financial Bid:

Sr. No.	Services	Job Charges	Total Amount with GST
1	Installation, termination and labelling of UTP cables on Jack Panel		
2	Termination and labelling of UTP cables on Information Outlet with Face plate and back box		
3	Installation and labelling of LIU		
4	Fusion splicing of pigtails with OFC inside LIU		
5	Installation of power socket		

6	Installation of all network rack with cable dressing and labelling on patch cord		
7	Documentation of the entire project, as mentioned in the document		
8	Testing and generating reports		
9	AMC charges for additional 3 years post 5 years warranty (Quote for 6 th , 7 th and 8 th year)		
10	Any other Item required as per site survey		

H.5 Manpower

**Table 5 List of Manpower required
For Technical Bid:**

Sr. No.	Services	Vendor Compliance	Any Remarks
1	Deployment of one Technical person dedicated to support and maintain Wi-Fi network of whole University Campus of CDLU, Sirsa for five years		

For Financial Bid:

Sr. No.	Services	Job Charges per year +GST	Job Charges for 5 year +GST	Remarks
1	Deployment of one Technical person dedicated to support and maintain Wi-Fi network of whole University Campus of CDLU, Sirsa			

H.6 Overall Estimate

For Financial Bid only:

Sr. No.	Work	Total Amount	Total Amount with GST
1	(I1) Active Components		
2	(I2) Passive Components		
3	(I3) Civil Work		
4	(I4) Installation and Services		
5	(I5) Manpower		

TOTAL

Note:

1. It is permissible to adjust the number of items as necessary following the survey, but such changes should be substantiated by valid justifications.
2. The Technical Proposal should list the make and model of each item that satisfies the general requirements and standards as separate line items and their quantities. Technical documentation about each distinct item must be included.
3. **Vendor is requested to use the same format strictly as defined above for Technical Bid and Financial Bid separately. The technical specifications of these items must be specified in the format as above in accordance with detailed specification mentioned as per point 11 in the RFP document.**



7 Recommended Brands for the Following Items:

- I. **Switches :** Cisco/Juniper
- II. **Wireless Access Points (WAP's) :** Cisco/**HP**-ARUBA/Ruckus/Cambium/Grandstream in WAP
- III. **Passive like cables, I/O Port, Jack Panel etc... :** Panduit/Belden/Commscope/Nordon
- IV. **Racks :** Rittal/APC/Nordon
- V. **UPS :** APC/ Eaton/BPE
- VI. **Network Management System (NMS):** Same OEM as of Wi-Fi Controller or compatible
- VII. **Wi-Fi Controller:** Same OEM as of network equipment like Wireless Access Points etc. or compatible

Firms/Vendor/Agency has to ensure that all items are compatible to each other. All Active component like switches, NMS, Wireless APs, and Wireless controller should be compatible with each other. Warranty & Support on all items should be at least 5 years.

Note:

1. *The SOR Value shall be inclusive of all the installation, commissioning, testing and any other price that might be incurred by the Bidder for the performance of the contract.*
2. *The PO shall be placed based on number of user requirement from RailTel's Customer.*

Yours sincerely,

Authorized Signature [In full and initials]: _____

Name and Title of Signatory: _____

Name of Firm: _____

Address: _____

Location: _____

Date: _____