No. RCIL-CO0NTP(PLAN)/9/2024-O/o ADDL.GM/NTP/CNOC/RCIL dated 27.11.2024

Corrigendum-IV

Sub: Selection of OEM/ Vendor for entering into Rate Contract for the "Supply of Router, Fiber Switches and SFPs as Store Imprest.

Ref: Tender no. RailTel/Tender/OT/CO/Project/2024-25/ Store Imprest/015 dated 25.09.2024

In reference to the above referred tender, following amendments in the tender document are issued:

SN	Clause No	Pg. No.	Existing Clause	Proposed Clause
1	CHAPTER-3: 3.2	15	Material is required to be delivered by the supplier at the location/consignee within 60 days from the date of issue of each Sub-PO issued against Advance Purchase order	Material is required to be delivered by the supplier at the location/consignee within 120 days from the date of issue of each Sub-PO issued against Advance Purchase order
2	CHAPTER-4: 2.4 SOR-8:10G-OTN Device (11)	62	System shall be built in such a manner that it should work with existing DWDM network based on above parameters and supplied SDN Controller should provide latest APIs, which shall further facilitate multivendor interoperability. System shall support configuration management, open APIs, and standards-based SNMP/YANG models. These management features should be available at no cost to RailTel.	System shall be built in such a manner that it should work with existing DWDM network based on above parameters and supplied SDN-Controller/EMS/NMS should provide latest APIs, which shall further facilitate multivendor interoperability using latest APIs . System shall support configuration management, open APIs, and standards-based SNMP/YANG models. These management features should be available at no cost to RailTel.

3	CHAPTER-4: 2.4 SOR-8:10G-OTN Device (12)	63	The proposed system shall be managed by a single unified system/Controller with DC & DR (active and standby) for all the active components. Bidder shall also propose Open Controller (Multi-vendor) based Management System for managing system with DC & DR (active and standby). All licenses required for Northbound and Southbound interface (API) should be equipped with offered solution at no additional cost to RailTel. Bidder/OEM can also leverage existing Management system deployed in RailTel, if the OEM shall provide Undertaking for long term support for 8 years for all existing components irrespective of End of Life of the existing hardware/License/Software. Hardware/License/Software required for such up gradation shall be included in the price bid.	The proposed system shall be managed by a single unified system/Controller with DC & DR (active and standby) for all the active components (including IP-MPLS,DWDM and Switches). All licenses required for Northbound and Southbound interface (API) should be equipped with offered solution at no additional cost to RailTel. Bidder/OEM can also leverage existing Management system deployed in RailTel, if the OEM shall provide Undertaking for long term support for 8 years for all existing components irrespective of End of Life of the existing hardware/License/Software. Hardware/License/Software required for such up gradation shall be included in the price bid.
4	CHAPTER-4: 2.4 SOR-8:10G-OTN Device (16)	63	Proposed system should be rack mountable to fit into a standard 19-inch rack and 2 RU space. In case of Rack Space required is more in that case bidder should provide & install Smart	Proposed system should be rack mountable to fit into a standard 19-inch rack and 3 RU space. In case of Rack Space required is more in that case bidder should provide & install Smart Telecom Rack (42 RU) with inner air

			Telecom Rack (42 RU) with inner air conditioning (Min 1 KW & external outdoor unit and SNMP monitoring of Temperature). In this case DCDB, MCBs, power cables (approx. 15 mtr per site) required for extending power from Power distribution point shall be provided by the bidder.	conditioning (Min 1 KW & external outdoor unit and SNMP monitoring of Temperature). In this case DCDB, MCBs, power cables (approx. 15 mtr per site) required for extending power from Power distribution point shall be provided by the bidder.
5	CHAPTER-4: 2.5 SOR-9:100G-OTN Device (11)	64	System shall be built in such a manner that it should work with existing DWDM network based on above parameters and supplied SDN Controller should provide latest APIs, which shall further facilitate multivendor interoperability. System shall support configuration management, open APIs, and standards-based SNMP/YANG models. These management features should be available at no cost to RailTel.	System shall be built in such a manner that it should work with existing DWDM network based on above parameters and supplied SDN-Controller/EMS/NMS should provide latest APIs, which shall further facilitate multivendor interoperability using latest APIs . System shall support configuration management, open APIs, and standards-based SNMP/YANG models. These management features should be available at no cost to RailTel.

6	CHAPTER-4: 2.5 SOR-9:100G-OTN Device (12)	65	The proposed system shall be managed by a single unified system/Controller with DC & DR (active and standby) for all the active components. Bidder shall also propose Open Controller (Multi-vendor) based Management System for managing system with DC & DR (active and standby). All licenses required for Northbound and Southbound interface (API) should be equipped with offered solution at no additional cost to RailTel. Bidder/OEM can also leverage existing Management system deployed in RailTel, if the OEM shall provide Undertaking for long term support for 8 years for all existing components irrespective of End of Life of the existing hardware/License/Software. Hardware/License/Software required for such up gradation shall be included in the price bid.	The proposed system shall be managed by a single unified system/Controller with DC & DR (active and standby) for all the active components (including IP-MPLS,DWDM and Switches). All licenses required for Northbound and Southbound interface (API) should be equipped with offered solution at no additional cost to RailTel. Bidder/OEM can also leverage existing Management system deployed in RailTel, if the OEM shall provide Undertaking for long term support for 8 years for all existing components irrespective of End of Life of the existing hardware/License/Software. Hardware/License/Software required for such up gradation shall be included in the price bid.

7	CHAPTER-4: 2.5 SOR-9:100G-OTN Device (15)	65	Proposed system should be rack mountable to fit into a standard 19-inch rack and 2 RU space. In case of Rack Space required is more in that case bidder should provide & install Smart Telecom Rack (42 RU) with inner air conditioning (Min 1 KW & external outdoor unit and SNMP monitoring of Temperature). In this case DCDB, MCBs, power cables (approx. 15 mtr per site) required for extending power from Power distribution point shall be provided by the bidder.	Proposed system should be rack mountable to fit into a standard 19-inch rack and 3 RU space. In case of Rack Space required is more in that case bidder should provide & install Smart Telecom Rack (42 RU) with inner air conditioning (Min 1 KW & external outdoor unit and SNMP monitoring of Temperature). In this case DCDB, MCBs, power cables (approx. 15 mtr per site) required for extending power from Power distribution point shall be provided by the bidder.
8	CHAPTER-4: 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III: Features Required for Type-I, Type-II and Type-III Ethernet Fiber Switch (1)	51	The switch should support RJ-45 console port and industry standard CLI	The switch should support RJ-45/USB console port and industry standard CLI
9	CHAPTER-4: 2.2 SOR-2, 3 & 4: MPLS Router Type-I, II, III (4&5)	33	Minimum IPv4 RIB/FIB Minimum IPv6 RIB/FIB	**For Type-I** Minimum IPv4 RIB/FIB: 20K/10K Minimum IPv6 RIB/FIB: 5K/2K
10	CHAPTER-4: 2.2 SOR-2, 3 & 4: MPLS Router Type-I, II, III (4&5)	33	Minimum IPv4 RIB/FIB Minimum IPv6 RIB/FIB	**For Type-II** Minimum IPv4 RIB/FIB: 20K/10K Minimum IPv6 RIB/FIB: 5K/2K
11	CHAPTER-4: 2.2 SOR-2, 3 & 4: MPLS Router Type-I, II, III (4&5)	33	Minimum IPv4 RIB/FIB Minimum IPv6 RIB/FIB	**For Type-III** Minimum IPv4 RIB/FIB: 64K/32K Minimum IPv6 RIB/FIB: 16K/8K

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12	CHAPTER-4: 2.2 SOR-2, 3 & 4: MPLS Router Type-I, II, III (3)	33	Minimum MAC Table Size	**For Type-III** Minimum MAC Table Size:32K
13	CHAPTER-4: 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III: Features Required for Type-I, Type-II and Type-III Ethernet Fiber Switch (5)	52	It shall support spanningtree root guard and loop guard to prevent other edge switches becoming the root bridge.	It shall support spanningtree root guard & loop guard to prevent other edge switches becoming the root bridge **OR alternate solution.**
14	CHAPTER-4: 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III: Network Security Features: (2)	54	It shall support Spanning-Tree Root Guard (STRG) to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes.	It shall support Spanning-Tree Root Guard (STRG) to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes **OR alternate solution.**
15	CHAPTER-4: 2.5 SOR-9: 100G-OTN Device (9)	64	Line ports of 100/200G System shall support minimum back-to-back OSNR sensitivity of -16 db or better at 100G line rate on 40 Channel system	Line ports of 100/200G System shall support OSNR tolerance value of 17dB or lower at 100G line rate on 8 Channel system
16	CHAPTER-4: 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III: Other features : (16)	58	It shall support new tools such as Remote Defect Indication, Alarm Report, one-way or two-way Delay Measurement, Packet Loss measurement, and in-service diagnostics tools.	Clause Deleted
17	CHAPTER-4: 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III: Other features : (3)	56	It should support 63 IP interface, 8 loopback interfaces and Inter vlan routing	**For Type-1,** It should support 32 IP interface, 8 loopback interfaces and Inter vlan routing

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18	CHAPTER-4: 2.7 SOR-11, 12, 13, 14, 15, 16, 17 & 18: SFPs: Features Required for all type of SFPs (9)	70	Should provide the cost in Pair (BX U & D) for BIDI SFPs	Should provide the cost in nos (BX U & D) for BIDI SFPs
19	CHAPTER-4: 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III: Layer-2 Features : (1)	51	The LAN switch shall support IEEE 802.1Q VLAN up to 200 Active VLANs and 4094 VLAN ID.	The LAN switch shall support IEEE 802.1Q VLAN up to 200 Active VLANs and 500 VLAN ID.
20	CHAPTER-4: 2.1 SOR-1: CPE Router: 1(xi)	31	Should support stateful firewall functionality with New Sessions/Second (TCP) 10k & Concurrent Sessions (TCP) 2 Lac.	Should support stateful/Zone based firewall functionality .
21	CHAPTER-4 2.1 SOR-1: CPE Router: 1 (ii)	31	**Tender Clause:** Should supports the console, SSH and Telnet mode	Should supports the console and SSH
22	CHAPTER-4 2.1 SOR-1: CPE Router: 1 (viii)	31	**Tender Clause:** Should support IPv6 & IPv4 Network address Translation (NAT 66, NAT 46, NAT 64 & NAT 44) and TUNNEL (manual, automatic, GRE).	Should support IPv6 & IPv4 Network address Translation (NAT 46, NAT 64 & NAT 44) and TUNNEL (manual, automatic, GRE).
23	CHAPTER-4 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III Features Required for Type-I, Type-II and Type-III Ethernet Fiber Switch: 4	51	**Tender Clause:** The Switch shall have 1K IGMP and 500 MLD snooping groups.	The Switch shall have 1K IGMP and 500 MLD snooping / MLD groups.

24	CHAPTER-4 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III Features Required for Type-I, Type-II and Type-III Ethernet Fiber Switch Layer-2 Features:4	52	**Tender Clause:** It shall support 802.1d, 802.1p, 802.1Q, 802.1s, 802.1w, 802.1ab.	It shall support 802.1d, 802.1p, 802.1Q, 802.1ab.
25	CHAPTER-4 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III Features Required for Type-I, Type-II and Type-III Ethernet Fiber Switch Layer-2 Features: 6	52	**Tender Clause:** It shall support IGMP snooping.	It shall support IGMP / IGMP snooping.
26	CHAPTER-4 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III Features Required for Type-I, Type-II and Type-III Ethernet Fiber Switch Other features: 8	52	**Tender Clause:** It should support Layer-2 VPN (100 Nos) & VPLS (dual homing) ethernet circuits using concept of IP-MPLS (LDP). The switching completion time (transfer time) for a failure on a ring Network of IP-MPLS shall be less than 50ms. Layer-2 VPN should support pseudowire redundancy to provides the ability to recover from a failure either of the remote provider edge (PE) device or of the link between the PE and	It should support Layer-2 VPN (100 Nos) & VPLS (dual homing) ethernet circuits using concept of IP-MPLS (LDP) / EVPN-VxlAN. The switching completion time (transfer time) for a failure on a ring Network of IP-MPLS shall be less than 50ms. Layer-2 VPN should support pseudowire redundancy to provides the ability to recover from a failure either of the remote provider edge (PE) device or of the link between the PE and customer edge (CE) device or switch should support EVPN-VxLAN for the L2VPN & L3 functionality.

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			customer edge (CE) device.	
27	CHAPTER-4 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III Features Required for Type-I, Type-II and Type-III Ethernet Fiber Switch Other features: 10	57	**Tender Clause:** It should support VPLS/L2-VPN instances on subinterfaces of one physical port and also support multiple VPLS/L2-VPN instances on one physical port.	It should support VPLS/L2-VPN instances on subinterfaces of one physical port and also support multiple VPLS/L2-VPN instances on one physical port or switch should support EVPN-VXLAN to achieve L2 fucntionality.
28	CHAPTER-4 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III Features Required for Type-I, Type-II and Type-III Ethernet Fiber Switch Other features: 22	59	**Tender Clause:** Support multiple privilege level to provide different level of access on console port and telnet sessions	Support multiple privilege level to provide different level of access on console port and SSH sessions
29	CHAPTER-4 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III Features Required for Type-I, Type-II and Type-III Ethernet Fiber Switch Other features: 33	60	**Tender Clause:** v) Threshold alarms for Temperature. vi)Ethernet OAM SNMP alarms.	v)Threshold alarms for Temperature or should support telemetry. vi) Ethernet OAM SNMP alarms or should support telemetry

30	CHAPTER-4 2.3 SOR-5, 6 & 7: Ethernet Fiber Switch Type-I, II, III Features Required for Type-I, Type-II and Type-III Ethernet Fiber Switch:Other features: 33	57	It should support Minimum Label Stack: 5 and Minimum MPLS Labels:10K.	It should support Minimum Label Stack: 5 and Minimum MPLS Labels: 8K.

Last Date and Time of Submission of bid: 18.12.2024 upto 15:00 hrs.
Date and Time of opening of bid: 18.12.2024 at 15:30 hrs.

All other terms and conditions of the tender document and previous corrigenda, if any will remain unchanged.

27/11/2024

(Netesh Kumar Singh)
Sr.DGM/Project

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