

RailTel Corporation of India Ltd
(A Government of India Enterprise)

Website: www.railtelindia.com

Corrigendum-V

Dated: 25-08-2020

Sub: E-Tender No. 528 for “Supply and Supervision of Installation, Testing & Commissioning of MPLS Network at various locations of RailTel and Integration with existing MPLS and Transmission Network”

Ref: (i) E-Tender no. RailTel/Tender/OT/CO/OSS & BSS/ 2020-21/528, 02-07-2020.
(ii) Corrigendum-I, dated 07-07-2020
(iii) Corrigendum-II, dated 30-07-2020
(iv) Corrigendum-III, dated 11-08-2020
(v) Corrigendum-IV, dated 20-08-2020

In reference to the above referred Tender and subsequent corrigendum's, the following amendments mentioned below are issued in the Tender document. The bids may be submitted in consideration to these amendments.

1. Newly Added Clause - Clause 3.26.4 (Chapter-3) - **Bidder as well as OEM have to give the below mentioned undertaking (on their respective letter head):**

“I/We hereby certify that I/We have completely read the Office order no. F. No. 6/18/2019-PPD, dated 23rd July, 2020 (Ministry of Finance, Department of Expenditure, Public Procurement Division) and I/We are fully complying to the mentioned office order clauses against RailTel tender no. E-Tender no. RailTel/Tender/OT/CO/OSS & BSS/ 2020-21/528, 02-07-2020. If such certificate given by a bidder/OEM whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law.”

2. Newly Added Clause – Clause 3.26.5 (Chapter-3) – **Bidder as well as OEM have to give the following certificate (on their respective letter head):**

“I/We have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I/We hereby certify that I/We am/are not from such a country and is/are eligible to be considered”.



3. Clause 3.10 (Chapter-3) para under Make in India clause is to be read as

“Public Procurement (Preference to Make in India): Applicable only for all Global tenders & for all tenders where the minimum local content shall be 50% & tenders valuing above Rs. 5 Lakhs.

The provisions of Public Procurement (Preference to Make in India), Order-2017 dt. 15.06.2017 (or subsequent revisions, if any) is applicable or latest.

Office Memorandum dated 19.02.2020 (or latest) issued by Department of Telecommunications, Ministry of Communications shall be applicable for Clause 10 (d) of Public procurement (Preference to Make in India) Order, 2017.”

4. Following amendments mentioned below are issued in the Tender Document clauses:

S. No.	Tender Clause No.	Section No.	Existing Tender Clause	Amended Clause
1	NIT Page	Point (b) & (c)	b) Submission date of bid – 01-09-2020 upto 15:00 Hrs. (Vide Corrigendum-III) c) Opening of e-bid - 01-09-2020 upto 15:30 Hrs. (Vide Corrigendum-III)	b) Submission date of bid – 04-09-2020 upto 15:00 Hrs. c) Opening of e-bid - 04-09-2020 upto 15:30 Hrs.
2	3.3.2	Point-1	The tenderer should have executed Single order of supply/ provision of similar work # costing not less than 35% (i.e. ₹2,82,71,937/-) of the tendered value during last preceding 3 financial years (i.e. current year and three previous financial years) from the date of opening of tender. The bidder shall also furnish Supply/ work completion certificate issued by customer/s for the Purchase Orders/ Work Orders. # Similar Work- Supply/Supply, Installation & Commissioning/Annual Maintenance Contract of MPLS Equipment in Government/PSU/Telecom Service Provider/ISP network.	The tenderer should have executed Single order of supply/ provision of similar work # costing not less than 35% (i.e. ₹2,82,71,937/-) of the tendered value during last preceding 3 financial years (i.e. current year and three previous financial years) from the date of opening of tender. The bidder shall also furnish Supply/ work completion certificate issued by customer/s for the Purchase Orders/ Work Orders. # Similar Work- Supply or Supply, Installation & Commissioning or Annual Maintenance Contract of IP-MPLS Routers or Data Centre Active Equipment or Switches or WiFi Equipment in Government/PSU/ Telecom Service Provider/ISP network.

3	4.24	Point (xi)	The nodes (stations) should be hitless i.e. removing or inserting plug-in-units must not affect the existing traffic on other units.	The nodes should be hitless i.e. removing or inserting plug-in-units must not affect the existing traffic on other units.
4	4.8	Point-17 (New Point added)	-	All interfaces/Cards/modules should be Hot-swappable. Online Insertion and removal should not affect the traffic on other modules/cards/interfaces.
5	4.8	Point-18 (New Point Added)	-	The 100G interface cards in Tier-3 Router (both Type-A and Type-B) should be interchangeable.
6	4.9.1	Point-1	The router should have 8x10G interfaces equipped with SFP+/XFP {10G 10KM (SMF)} of given specification distributed on minimum two different slots. Should have additional slots/sub-slots for 4x10G interfaces for expandability apart from above 8x10G interface requirement.	The router should have at least 8 numbers of 10G interfaces equipped with SFP+/XFP {10G 10KM (SMF)} of given specification. Should have additional slots/sub-slots for at least 4 numbers of 10G interfaces for expandability apart from above 8 numbers of 10G interface requirement.
7	4.9.1	Point-2.b	(i) Specification - Minimum 30% spare slots (Out of total slots) in chassis after populating with minimum required cards / interface as per 1 and 4 (i.e. Slots to support extra of 30% of 8+4 interfaces of 10G and 30% of 2+4 interfaces of 100G). (ii) PQC/Optional -	(i) Specification - Minimum 2 spare full slots are required for 100G interfaces in chassis, after populating with minimum required cards / interfaces as per clauses 1 and 4 of tender specifications. (ii) PQC/Optional - PQC
8	4.9.1	Point-3, (a)	The router should support the following functionality from the day one:- a) MAC Table Size - 256K	The router should support the following functionality from the day one:- a) MAC Table Size - 128K
9	4.9.1	Point-4	The Router should have 2x100G CFP2-DCO ports (without CFP2-DCO pluggable module) distributed in two slots from day one. Should have additional slots/sub-slots for 4x100G QSFP28 ports for expandability.	The Router should have at least 2 numbers of 100G CFP2-DCO ports (without CFP2-DCO pluggable module) distributed in two slots from day one. Should have additional slots/sub-slots for 4 numbers of 100G QSFP28 ports for expandability.

10	4.9.1	Point-60	Router should support open optics (Pl. give Name of three OEMs)	OEM shall ensure that use of third party optics shall not be explicitly blocked on the Router. Router must support all MSA complied Optics available in market.
11	4.9.1	Point-61, (x)	Specification - The router shall support dynamic point-to-point interface latency performance measurement. The measurement must be integrated in the IGP and BGP LS for SDN Controller Analysis. PQC/Optional - PQC	Specification - The router shall support dynamic point-to-point interface latency performance measurement. The measurement must be integrated in the IGP and BGP LS for SDN Controller Analysis. PQC/Optional - Optional
12	4.9.2	Point-1	The router should have 8x10G interfaces equipped with SFP+/XFP {10G 10KM (SMF)} of given specification distributed on minimum two different slots. Should have additional slots/sub-slots for 4x10G interfaces for expandability apart from above 8x10G interface requirement.	The router should have at least 8 numbers of 10G interfaces equipped with SFP+/XFP {10G 10KM (SMF)} of given specification. Should have additional slots/sub-slots for at least 4 numbers of 10G interfaces for expandability apart from above 8 numbers of 10G interface requirement.
13	4.9.2	Point-2.b	(i) Specification - Minimum 30% spare slots(Out of total slots) in chassis after populating with minimum required cards / interface as per 1 and 4 (i.e. Slots to support extra of 30% of 8+4 interfaces of 10G and 30% of 4+4 interfaces of 100G). (ii) PQC/Optional -	(i) Specification - Minimum 2 spare full slots are required for 100G interfaces in chassis, after populating with minimum required cards / interfaces as per clauses 1 and 4 of tender specifications. (ii) PQC/Optional - PQC
14	4.9.2	Point-3, (a)	The router should support the following functionality from the day one:- a) MAC Table Size - 256K	The router should support the following functionality from the day one:- a) MAC Table Size - 128K



15	4.9.2	Point-4	The Router should have 2x100G ports equipped with 100G QSFP28 module from day one along with connecting cables and 2x100G ports without QSFP28. It Should also have additional slots/sub-slots for 4x100G QSFP28 ports for expandability. Technical specification of QSFP28 is given in the Tender document.	The Router should have 2 number of 100G ports equipped with 100G QSFP28 module from day one along with connecting cables and 2 number of 100G ports without QSFP28. It Should also have additional slots/sub-slots for 4 number of 100G QSFP28 ports for expandability. Technical specification of QSFP28 is given in the Tender document.
✓ 16	4.9.2	Point-60	Router should support open optics (Pl. give Name of three OEMs)	OEM shall ensure that use of third party optics shall not be explicitly blocked on the Router. Router must support all MSA complied Optics available in market.
✓ 17	4.9.2	Point-61, (x)	Specification - The router shall support dynamic point-to-point interface latency performance measurement. The measurement must be integrated in the IGP and BGP LS for SDN Controller Analysis. PQC/Optional - PQC	Specification - The router shall support dynamic point-to-point interface latency performance measurement. The measurement must be integrated in the IGP and BGP LS for SDN Controller Analysis. PQC/Optional - Optional
✓ 18	4.9.3	Point-66	Router should support open optics (suggest three names of supported make)	OEM shall ensure that use of third party optics shall not be explicitly blocked on the Router. Router must support all MSA complied Optics available in market.
✓ 19	4.9.3	Point-67, (x)	Specification - The router shall support dynamic point-to-point interface latency performance measurement. The measurement must be integrated in the IGP and BGP LS for SDN Controller Analysis. PQC/Optional - PQC	Specification - The router shall support dynamic point-to-point interface latency performance measurement. The measurement must be integrated in the IGP and BGP LS for SDN Controller Analysis. PQC/Optional - Optional
20	4.9.3	Point-69 (New Point Added)	-	Point-69 (i) Specification - Router to support GRE tunnels (RFC 2784). (ii) PQC/Optional - PQC

✓ 21	4.9.4	Point-6	Operating temperature: - 5°C to 70°C	Operating temperature: 0°C to 60°C
✓ 22	4.9.5	Point-6	Operating temperature: - 5°C to 70°C	Operating temperature: 0°C to 60°C
✓ 23	4.9.5	Point-8	Power Dissipation < 1.5W	Power Dissipation < 2W
✓ 24	4.9.6	1 to 10	4.9.6 CFP-2-DCO (100G) 1. CFP2-DCO pluggable should be MSA-compliant. 2. Should be IEEE 802.3 Clause 45 compliant for MDIO digital diagnostics. 3. Should have Operating temperature from -5°C to +70°C. 4. Should support 100G-QPSK, 200G 8-QAM, and 200G 16-QAM technique. 5. Should be ITU-T G.709.2 and G.698.2 compliant. 6. Should support SDFEC or HGFE. 7. Should be DWDM Tunable/TOF and coherent. 8. Should have dual LC connector(SMF). 9. Must be under warranty of OEM of router. OEM to certify this part in BOM. 10. Manufacturer should be able to provide Factory test report for supplied transceiver parts.	4.9.6 Deleted
✓ 25	4.9.7	Point-2	2. Supports 103.1Gb/s aggregate bit rate	2. Should Support minimum 100 Gb/s aggregate bit rate
✓ 26	4.9.7	Point-6	6. Single 3.3V power supply	6. Deleted
✓ 27	4.9.7	Point-8	8. 4x25 Gb/s 850mm VCSEL-based transmitter	8. Deleted
✓ 28	4.9.7	Point-10	10. I2C management interface	10. Deleted
✓ 29	4.9.7	Point-5	Commercial case temperature range of 0°C to 70°C	Commercial case temperature range of 0°C to 60°C
✓ 30	4.9.1	Point-2.a	Specification - The Router should support at least 720 Gbps (Full Duplex) throughput rate.	Specification - The Router should support at least 520 Gbps (Full Duplex) throughput rate.

31	4.9.1	Point-3, (g)	(i) Specification - g) Packet Forwarding Rate (ii) Requirement: 1677 million packets (64 Byte packets) per second	(i) Specification - g) Packet Forwarding Rate (IMIX traffic) in Mpps. Calculation is done based on IMIX (58.33% of 84 bytes packets, 33.33% of 614 bytes packets, 8.33% of 1538 bytes packets) + additional buffer. Reference taken from: https://en.wikipedia.org/wiki/Internet Mix (ii) Requirement – Minimum 600 Mpps.
✓ 32	4.9.2	Point-2.a	Specification - The Router should support at least 920 Gbps (Full Duplex) throughput rate.	Specification - The Router should support at least 620 Gbps (Full Duplex) throughput rate.
33	4.9.2	Point-3, (g)	(i) Specification - g) Packet Forwarding Rate (ii) Requirement: 1677 million packets (64 Byte packets) per second	(i) Specification - g) Packet Forwarding (IMIX traffic) Rate. Calculation is done based on IMIX (58.33% of 84 bytes packets, 33.33% of 614 bytes packets, 8.33% of 1538 bytes packets) + additional buffer. Reference taken from: https://en.wikipedia.org/wiki/Internet Mix (ii) Requirement – Minimum 710 Mpps

All other terms & conditions will remain same.


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 For & on behalf of
 RailTel Corporation of India Ltd.