RailTel response to Pre-Bid Queries against Tender No. RailTel/Tender/OT/CO/OSS & BSS/ 2020-21/528, Dated 02-07-2020

S. NO.	Tender Page No.	Tender Clause No.	Section No.	RFP Clause as per Bidder	Points of Clarification Required by Firm's	Firm's Request	RailTel Response
1	57	4.9.3	Point-7	MPLS Labels: Minimum 32K	We understand that T4 Routers are going to constitute access network for RailTel. Large number for labels are required in edge/aggregation layer where services are terminated (on modular high capacity routers) and not in access. Services in access are going to be distributed and no single access box is going to host services as many as 32K (L2/L3 VPN Scale requested is ~1200). These are standard practices followed by all large service providers across the globe. Considering RailTel network requirement & future network expansion, 32K MPLS label requirement is on higher side. This will push the OEMs to quote higher end boxes and will escalate the overall project cost. "MPLS Labels: Minimum 4K"		No change
2	56	4.9.3	Point-1 & Point-2	Router should support minimum 1G/10G SFP+ ports from day one: 8 Router should have support for 100G Interfaces: 4	10G port count & 100G port count should be in line with each other. For a 280G FD router, considering 4 x 100G ports as uplink, downlink (access ports) should be minimum 12 x 10G or more. So, either, 100G interface qty needs to be decreased or 10G interface qty needs to be increased. While 4 qty 100G ports are requested, minimum 10-12 ports are required to achieve required throughput. Moreover, proposed configuration - 8 x 10G + 4 x 100G combination with all given scaling nos. and throughput is favouring OEM. Hence, we request you to change the clause as follows: Router should support minimum 1G/10G SFP+ ports from day one: 12 Router should have support for 100G Interfaces: 4		No change
3	47	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.	We understand that 2 x 100G with 100G QSFP28 & 2 x 100G without QSFP28 are to be distributed across two different full slots. Hope this understanding is correct. Please clarify.		Pls see Corrigendum Point-15
4	48	4.9.2	Point-20	Shall support 32K queues per system	Considering huge no. of label requirement and high no. of underlying current & future services, future integration with railayws, etc ~20K; and considering 4-6 queues/service (customer), minimum queue requirement comes out to be ~100-120K. Hence, we request you to change the clause as follows: "Shall support 128K queues per system"		No change
5	17	3.3.1	Point-2	The OEM should have supplied at least 35% (i.e. 20 no. of Routers) of the tendered quantity of the equipment offered or equipment of the same series/family during last preceding 3 financial years (i.e. current year and three previous financial years) as on opening date of bid to Government/PSU/Telecom Service Providers. OEM should submit self-certificate with proper contact detail of clients along with PO reference and quantity supplied (Firm Name, Contact person, Designation, Telephone Number, Fax, Official mail id etc.). The same should be issued by authorized signatory.	Purchase Order or PO copy is a confidential & legal document between the purchaser & the vendor. Hence, we request you to remove the need of putting PO reference in self-certificate document. End client complete details are adequate to justify Clause no 3.3.		No change
6	37	4.9.1	Point-4	The Router should have 2x100G CFP2-DCO ports (without CFP2-DCO module) from day one. Should have additional slots/sub-slots for 4x100G QSFP28 ports for expandability.	CFP2 DCO is itself separate and latest technology with respect to Router. We would request to include deployment experience of CFP2 DCO component to be OEM evaluation criteria. Kindly include the same as part of clause no. Clause 3.3, Chapter-3, Page 17.		No change
7	37	4.9.1	Point-4	The Router should have 2x100G CFP2-DCO ports (without CFP2-DCO module) from day one. Should have additional slots/sub-slots for 4x100G QSFP28 ports for expandability.	Kindly add 100G interfaces should also be distributed on minimum two different slots to avoid Single point of failure, as mentioned /asked for 10G interfaces in clause no. 1 of this section		No change
8	38	4.9.1	Point-14	The router should have mechanism to protect itself from DDoS attack.	Kindly include MPP (Management Plane Protection), BGP Flow Spec mechanism to protect itself from DDoS attack		No change
9	40	4.9.1	Point-30	The router shall Support of Sync-E & PTP technology	In addition to SyncE and PTP, We would recommend to include i)1588v2 with OC, BC and TC, ITU-T Telecom Profiles G.8265 and G.8275 ii) BITS port, iii) Class B Timing as per G.8273, iv) GNSS Receiver		No change
10	41	4.9.1	Point-36	Shall support BFD for both single hop and multihop sessions	Kindly include BFD with timing of 3.3 ms interval to achieve protection failover with in 50 ms, as per the RFP requirement		No change
11	42	4.9.1	Point-41	The proposed router should be NEBS level 3 compliant. NEBS Certification is not required for PMA. However OEM has to produce certificate from standard lab approved or authorized by Govt. of India that the supplied Products are equivalent to NEBS and meet all standard and specification of NEBS.	NEBS Certificate is an international standard, follows every majority of OEM and Service provider in the world. So, Kindly include PMA OEM should also be NEBS Level 3 compliant router.		No change

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12	45	4.9.1	Point-47	Router Should Support Dual Image/Partition with USB flash drive booting option for OS recovery	Kindly include that the Router should be Trustworthy Systems: with the following components: Hardware root-of-trust, Secure Boot support to protect the OS, Extensions of trust into the OS runtime		No change
13	46	4.9.1	Point-61, (iii)	Traffic Steering of SR policies with Autoroute Include and Segment Routing TI-LFA SRLG Protection	These are main protocols to implement Segment Routing and moving forward implementation of Automation in the network. Kindly include these feature as PQC.		No change
14	46	4.9.1	Point-61, (vi)	TI-LFA with IGP (Link, Node, Local SRLG, Remote SRLG protection)	These are main protocols to implement Segment Routing and moving forward implementation of Automation in the network. Kindly include these feature as PQC.		No change
15	46	4.9.1	Point-61, (vii)	Controller instantiated SR Policy (PCEP, BGP) and SR policy based on On demand next hop	These are main protocols to implement Segment Routing and moving forward implementation of Automation in the network. Kindly include these feature as PQC.		No change
16	46	4.9.1	Point-62, (ii)	Router should have support of following features on EVPN: EVPN-IRB, EVPN VPWS, EVPN VPWS Preferred Path over SR-TE Policy	EVPN gives the E2E control and automation across domains implements different protocols in different domains. Kindly include these feature as PQC		No change
17	47	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.	Kindly add 100G interfaces should also be distributed on minimum two different slots to avoid Single point of failure, as mentioned /asked for 10G interfaces in clause no. 1 of this section		Pls see Corrigendum Point-15
18	47	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.	We would request to include support of CFP2 DCO in this category of router to have uniformity in the Tier3 Routers in future upgradebility point of view		Pls see Corrigendum Point-5
19	48	4.9.2	Point-14	The router should have mechanism to protect itself from DDoS attack.	Kindly include MPP (Management Plane Protection), BGP Flow Spec mechanism to protect itself from DDoS attack		No change
20	49	4.9.2	Point-30	The router shall Support of Sync-E & PTP technology	In addition to SyncE and PTP, We would recommend to include i)1588v2 with OC, BC and TC, ITU-T Telecom Profiles G.8265 and G.8275 ii) BITS port, iii) Class B Timing as per G.8273, iv) GNSS Receiver		No change
21	51	4.9.2	Point-36	Shall support BFD for both single hop and multihop sessions	Kindly include BFD with timing of 3.3 ms interval to achieve protection failover with in 50 ms, as 50 ms recovery is the RFP requirement		No change
22	52	4.9.2	Point-41	The proposed router should be NEBS level 3 compliant. NEBS Certification is not required for PMA. However OEM has to produce certificate from standard lab approved or authorized by Govt. of India that the supplied Products are equivalent to NEBS and meet all standard and specification of NEBS.	NEBS Certificate is an international standard, follows every majority of OEM and Service provider in the world. So, Kindly include PMA OEM should also be NEBS Level 3 compliant router.		No change
23	54	4.9.2	Point-47	Router Should Support Dual Image/Partition with USB flash drive booting option for OS recovery	Kindly include that the Router should be Trustworthy Systems: with the following components: Hardware root-of-trust, Secure Boot support to protect the OS, Extensions of trust into the OS runtime		No change
24	55	4.9.2	Point-61, (iii)	Traffic Steering of SR policies with Autoroute Include and Segment Routing TI-LFA SRLG Protection	These are main protocols to implement Segment Routing and moving forward implementation of Automation in the network. Kindly include these feature as PQC.		No change
25	55	4.9.2	Point-61, (vi)	TI-LFA with IGP (Link, Node, Local SRLG, Remote SRLG protection)	These are main protocols to implement Segment Routing and moving forward implementation of Automation in the network. Kindly include these feature as PQC.		No change
26	56	4.9.2	Point-61, (vii)	Controller instantiated SR Policy (PCEP, BGP) and SR policy based on On demand next hop	These are main protocols to implement Segment Routing and moving forward implementation of Automation in the network. Kindly include these feature as PQC.		No change
27	56	4.9.2	Point-62, (ii)	Router should have support of following features on EVPN: EVPN-IRB, EVPN VPWS, EVPN VPWS Preferred Path over SR-TE Policy	EVPN gives the E2E control and automation across domains implements different protocols in different domains. Kindly include these feature as PQC		No change
28	58	4.9.3	Point-24	The router should have mechanism to protect itself from DDoS attack.	Kindly include MPP (Management Plane Protection), BGP Flow Spec mechanism to protect itself from DDoS attack		No change
29	59	4.9.3	Point-37	The router shall Support of Sync-E & PTP technology (License price to be quoted separately)	In addition to SyncE and PTP, We would recommend to include i)1588v2 with OC, BC and TC, ITU-T Telecom Profiles G.8265 and G.8275 ii) BITS port, iii) Class B Timing as per G.8273, iv) GNSS Receiver		No change

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30	59	4.9.3	Point-37	The router shall Support of Sync-E & PTP technology (License price to be quoted separately)	This feature is asked in the Tier3 Router as well, and License to be quoted separately is not mentioned there. In view of the clause no. 2, Page no. 6 of "Information to Bidder for Compliance" as below, we would request to have feature as part of the main offer andto be included in he router price. In the specification wherever support for a feature has been asked for, it will mean that the feature should be available without RailTel requiring any other hardware/software/ licenses. Thus, all hardware/software/licenses required for enabling the support/feature shall be included in the offer."		No change
31	60	4.9.3	Point-42	Shall support BFD for both single hop and multihop sessions	Kindly include BFD with timing of 3.3 ms interval to achieve protection failover with in 50 ms, as 50 ms recovery is the RFP requirement		No change
32	61	4.9.3	Point-47	The proposed router should be NEBS level 3 compliant. NEBS Certification is not required for PMA. However OEM has to produce certificate from standard lab approved or authorized by Govt. of India that the supplied Products are equivalent to NEBS and meet all standard and specification of NEBS.	NEBS Certificate is an international standard, follows every majority of OEM and Service provider in the world. So, Kindly include PMA OEM should also be NEBS Level 3 compliant router.		No change
33	64	4.9.3	Point-53	Router should support Dual Image/Partition with USB flash drive booting option for OS recovery	Kindly include that the Router should be Trustworthy Systems: with the following components: Hardware root-of-trust, Secure Boot support to protect the OS, Extensions of trust into the OS runtime		No change
34	65	4.9.3	Point-67, (iii)	Traffic Steering of SR policies with Autoroute Include and Segment Routing TI-LFA SRLG Protection	These are main protocols to implement Segment Routing and moving forward implementation of Automation in the network. Kindly include these feature as PQC.		No change
35	66	4.9.3	Point-67, (vi)	TI-LFA with IGP (Link, Node, Local SRLG, Remote SRLG protection)	These are main protocols to implement Segment Routing and moving forward implementation of Automation in the network. Kindly include these feature as PQC.		No change
36	66	4.9.3	Point-67, (vii)	Controller instantiated SR Policy (PCEP, BGP) and SR policy based on On demand next hop	These are main protocols to implement Segment Routing and moving forward implementation of Automation in the network. Kindly include these feature as PQC.		No change
37	66	4.9.3	Point-68, (ii)	Router should have support of following features on EVPN: EVPN-IRB, EVPN VPWS, EVPN VPWS Preferred Path over SR-TE Policy	EVPN gives the E2E control and automation across domains implements different protocols in different domains. Kindly include these feature as PQC		No change
38	66	4.9.4	-	4.9.4 SFP+ 10 Gbps (10 Km):	Kindly clarify the vlaues of TX Power range +0.5 to -8 dBm and Rx sensitivity is 0.5 to -14 dBm		No Change
39	67	4.9.5	-	4.9.5 XFP 10 Gbps, 10 Km	The Router we will offer, support SFP+ form factor for 10km, 10Gbps optics.XFP is an obsolete standard. Kndly clarify, compliance for XFP is not applicable for SFP+ offering.		Choice of SFP+/XFP is based on interface supported in offered Router. Firm may offer SFP+ if Router interface requires that.
40	67-68	4.9.7	-	4.9.7 QSFP28 (100 Gbps)	As per standard, CFP2 DCO technology supports both 100G and 200G, we would recommend to add 200G support per port, instead of 100G for CFP2 DCO ports and increase the overall RP capacity of the Tier3 router (non Blocking)		No Change
41	67-68	4.9.7	-	4.9.7 QSFP28 (100 Gbps)	Kindly clarify the vlause of TX Power range +2.4 to -6 dBm and Rx sensitivity is +2 to -7.5		No change
42	36	4.8	Point-3	3. Router Model/Series offered shall be of proven performance for minimum twelve months in India or outside India other than the country of origin. Relevant document (like Satisfactory Performance etc.) in support of the same shall be submitted.	Kindly clairify, as per Cluase 3.3.1, Cluase 6, Page 9, as we understand, Country of origin is country whether products are manufactured.		Country of origin is country where products are manufactured.
43	9	3.3.1	Point-6	If the equipment offered are not made in India and are not installed in RailTel network, OEM must give at least two references from verifiable customers from two different countries other than the country where product/products are manufactured. The reference letter should clearly mention that the Offered equipment (series/family) quoted in SOR is installed in the signatory's network and working satisfactorily for more than 1 year. Letter must be in English with contact address, email id and phone numbers for verification.			Country of origin is country where products are manufactured.
44	-	New	-	MACSEC: New	MACSEC is security standard for protecting data traversing Ethernet. Kindly include this as part of mandaory requirement for securiy protocol perspective ove Ethernet Link		No change
45	-	-	-	Clarification	The Caluses are categorized as PQC and Optional. Kindly clarify that if any offered Router complies to the Optional clauses, any QCBS mechanism is there for evaluation		All PQC clauses are mandatory to comply from day one. Optional clauses mentioned in the specification will have to be supported by OEM at no extra cost to RailTel, whenever available. No QCBS assessment is present in this tender.
46	28	3.19.2	3.19.2.3	Standing PBG of Rs 10 Lakh submitted against Rate Contract will be released after successful completion of Rate Contract period and only after submission of 10% PBG against each SPO's issued against the Rate Contract.	Need to Clerify - We have to submit PBG Value of 10 Lakhs or 10 % of Contract value.		RFP clause is clear
47	28	3.19.2	3.19.2.2	95% payment shall be made after complete delivery of material and on submission of documents as per clause 3.14 (Chapter-3) above. Remaining 5% payment shall be released after expiry of one year from the date of delivery. In this case, warranty of material will be 36 months from the date of complete delivery of material.	Need Clerification - In this case, warranty of material need to be consider 36 months from the date of complete delivery of material.		RFP clause is clear

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48	21	3.8.5	-	In case a tenderer quotes AMC amount lower than 5% of total supply cost and if the tenderer wins the contract, his quoted product price will be reduced by differential (w.r.t. 5%) AMC rates for five years & tenderer will be paid accordingly. However, AMC charges will be paid @ 5% per annum on quoted product price. In case a tenderer quotes AMC amount higher than 5% of total supply cost and if the tenderer wins the contract, he will be paid at his quoted AMC amount per annum. Note: Taxes will be as per actual at the time of executing of the AMC.	Need Clerfication for AMC quoted price - 5 % value to be consider excluding Tax.		RFP clause is clear
49	67-68	-	-	4.9.7 QSFP28 (100 Gbps)	As per standard, CFP2 DCO technology supports both 100G and 200G, we would recommend to add 200G support per port, instead of 100G for CFP2 DCO ports and increase the overall RP capacity of the Tier3 router (non Blocking)		RFP Clause is clear
50	37	4.8	Point-15	Bidder/OEM has to supply all required 10G physical ports as per given specification of each Router without using breakout cable. However, RailTel may leverage break out cable for 100G to 10G, if required	Leveraging breakout ports for 10G is now a standard practice across global operators. This ensures that the valuable slots on the router which are limited in number are used solely for higher capacity 100G ports. Using dedicated cards for 10G ports is a dated practice which leads to a lot of capacity wastage per slot and does not resonate with a future ready & forward-looking architecture choice	It is requested that flexibility to propose all 10G ports through breakout option should be allowed for better architecture and a future ready network	No change
51	-	New Clause	-	New Clause	For flexibility of deployment and ease of part management it is recommend that Tier-3 Type-A and Type-B chassis should be of same make and model	Please add the clause " Tier-3 Type A and B routers should be of same make and model such that any card/module should be interchangeable between the two"	No change
52	37	4.9.1	Point-2.a	The Router should support at least 720 Gbps (Full Duplex) throughput rate.	There should be parity in throughout requirement of Tier-3 nodes so that the chassis for both Tier-3 type-A & B are similar and interchangeable.	To maintain parit with Tier-3 type B node request to please amend this clause as "The Router should support at least 920 Gbps (Full Duplex) throughput rate."	Pls see Corrigendum Point- 5 & 30
53	37	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.	It is our understanding of RailTel architecture that Tier-3 nodes will uplink to Tier-1/2 and will have Tier-4 as downstream nodes. To have an all 100 backbone a Tier-3 node would typically need atleast 3 x100G on Day 1 where 2 x100G will connect to 2 different Tier-1/2 nodes and 1x100G will connect to a 1x Tier-4 node at the minimum. Incase there are more than 1 x Tier-4 connecting to a single Tier-3 then th required number of ports will be > 3.	It is requested that the required 100G port quantity be adjusted to reflect a proper 100G backbone architecture. It is suggested that atleast 4 x 100G CFP2-DCO ports across atleast 2 slot be mandated for day 1 and slots for additional 4 x 100G QSFP28/CFP2/CFP be requested for future	No change
54	38	4.9.1	Point-6	All 10G interfaces shall support LR, ER, ZR and color standard	Since Railtel traffic will travel over optical paths therefore it is redundant to request for ZR and color standards	Request to please amend the clause as " All 10G interfaces shall support LR/ ER/ ZR /color standard	No change
55	40	4.9.1	Point-30	The router shall Support of Sync-E & PTP technology	It is our understanding that RailTel does not use either SyncE or PTP in any portion of their network. These are used for networks that connect to cell sites for timing and sync requirements	Ass these are not actively used features It is requested that SyncE/PTP be quoted as optional HW/SW	No change
56	47	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.	It is our understanding of RailTel architecture that Tier-3 nodes will uplink to Tier-1/2 and will have Tier-4 as downstream nodes. To have an all 100 backbone a Tier-3 node would typically need at least 3 x100G on Day 1 where 2 x100G will connect to 2 different Tier-1/2 fiber legs and 1x100G will connect to a 1x Tier-4 node at the minimum. Incase there are more than 1 x Tier-4 connecting to a single Tier-3 then th required number of ports will be > 3.		Pls see Corrigendum Point-15
57	47	4.9.2	Point-6	All 10G interfaces shall support LR, ER, ZR and color standard	Since Railtel traffic will travel over optical paths therefore it is redundant to request for ZR and color standards	Request to please amend the clause as " All 10G interfaces shall support LR/ ER/ ZR /color standard	No change
58	57	4.9.3	Point-9	L2 / L3 VPN VRF : Minimum L2 1000, Minimum L3 256	As RailTel network is primarily using L2VPN services it is		No change
59	57	4.9.3	Point-10	Packet Forwarding Rate (IMIX traffic) in Mpps : Min 300 Mpps	The requested through put for the device is 280 Gbps which translates to 400 Mpps at 64 byte line rate	Request to amend the clause as " Packet Forwarding Rate (IMIX traffic) in Mpps : 400 Mpps"	No change
60	-	New Clause	-	Modular Chassis Universal Slots	For chassis flexibility and better parts management it is suggested that any modular chassis should have universal slots i.e any interface module should be accepted in any slot without restrictions.	Request to please add: "In case a modular chassis is proposed for Tier-4 the OEM shall ensure that the chassis shall have universal slots i.e any card in any chassis"	No change
61	-	New Clause	-	BNG support	For Railtel it is important that any edge location should also have the flexibility to support subscriber services. This will ensure deeper penetration for RailTel broadband services and help increase Railtel subscriber base and revenue.	Request to please add: "Tier-4 node should have the ability to support broadband gateway functionality if this is required by Railtel in future "	No change
62	25	3.14	3.14.1	75% payment of the value of the hardware items against LOA/Sub PO/PO would be made on receipt of material by the consignee (at site /the stores, to be decided by RailTel)		Request to change this with 95% against delivery and balance 5% payment against FAC	No change

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63	26	3.14	3.14.2	Balance 15% payment of the value of hardware items of the LOA/Sub PO/PO shall be made by RailTel after successful completion and signing of Network Acceptance Test (NAT)		Request to remove this clause	No change
64	26	3.14	3.14.3	5% payment of value of hardware items of the LOA/Sub PO/PO on issue of Provisional Acceptance Certificate (PAC). Please also refer Clause 8.28, Chapter-8 of B.D.S.(Chapter-2).		Request to remove this clause	No change
65	26	3.14	3.14.4	And the last remaining 5% payment of the value of hardware items of the LOA/Sub PO/PO shall be made by RailTel on issue of Final Acceptance Certificate (FAC) which will be issued by GM/OSS & BSS/CO.		Request to remove this clause	No change
66	26	3.14	3.14.4	(15% + 5 %) payment of value of hardware items of the Sub PO/PO which could not be installed for want of site readiness or as per the decision of RailTel, will be made on issue of PAC and remaining 5% on issue of FAC.		For the Non installed location we request Railtel to release 5% balance amount(which is supposed to be released post submission of FAC) post 30 days of equipment deliveries/inspection.	No change
67	26	3.14	3.14.6	Payment of SOR Item-4 towards “AMC/Long term maintenance Support" would be paid quarterly by the Corporate Office after satisfactory completion of AMC Services of that quarter and on certificate furnished by CNOC.		Request to change this with " Annual Advance Payment" in place of Quarterly payment.	No change
68	31	4.2.1	Point-a	It consists of deployment of routers in mentioned cities categorized as Tier-3 and Tier-4 locations.	We need exact location details of deployment	Request to help us with cities name where deployment needs to be done.	Deployment locations will be shared at the time of issue of LOA.
69	20	3.7	3.7.1	The tenderer shall arrange formal class room training as per approved course structure for 20 man-weeks and shall also include hands on practical experience at the manufacturer’s/bidder’s premises. Set of Documents related to training to each of the trainees shall be provided. A	Please confirm does training include certification as well		RFP clause is clear
70	49	4.9.2	Point-30	The router shall Support of Sync-E & PTP technology	It is our understanding that RailTel does not use either SyncE or PTP in any portion of their network. These are used for networks that connect to cell sites for timing and sync requirements	As these are not actively used features It is requested that SyncE/PTP be quoted as optional HW/SW	No change
71	25	3.14	3.14.1	75% payment of the value of the hardware items against LOA/Sub PO/PO would be made on receipt of material by the consignee (at site /the stores, to be decided by RailTel) duly inspected and on submission of the following documents subject to any deductions or recovery which RailTel may be entitled to make under the contract. Balance 15% payment of the value of hardware items of the LOA/Sub PO/PO shall be made by RailTel after successful completion and signing of Network Acceptance Test (NAT). 5% payment of value of hardware items of the LOA/Sub PO/PO on issue of Provisional Acceptance Certificate (PAC). Please also refer Clause 8.28, Chapter-8 of B.D.S.(Chapter-2). And the last remaining 5% payment of the value of hardware items of the LOA/Sub PO/PO shall be made by RailTel on issue of Final Acceptance Certificate (FAC) which will be issued by GM/OSS & BSS/CO. (15% + 5 %) payment of value of hardware items of the Sub PO/PO which could not be installed for want of site readiness or as per the decision of RailTel, will be made on issue of PAC and remaining 5% on issue of FAC.	We request you to kindly revise Payment Terms as bidder he is giving complete payment for product and services in advance and as per current payment terms :- (Clause for final payment of 5 % will be recieved after getting final acceptance of the works completed shall take effect from the date of successful completion of 12 months from PAC). As an MSME bidder we request you to modify the payemnt terns as follows :- 80% payment of the value of the hardware items against LOA/Sub PO/PO would be made on receipt of material by the consignee (at site /the stores, to be decided by RailTel) duly inspected and on submission of the following documents subject to any deductions or recovery which RailTel may be entitled to make under the contract. Balance 20% payment of the value of hardware items of the LOA/Sub PO/PO shall be made by RailTel after successful completion and signing of Network Acceptance Test (NAT) and PAC from the conecrned authority If the site is not ready for doing installation then bidder/ Contractor need to submit SNR (site not ready certificate and final 20 % payment will be made to the contractor. Contractor is also liable to give undertaking that when site becomes ready for installation work then contractor will do the pending installation work and get the sign off from the customer.		No change
72	9	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	"We request to kindly allow relaxation to MSME / Startup bidders against this clause and add these lines:- For MSME / Startup bidders should have a minimum average annual turnover of at least INR 5.5 Crs. for last financial year (2019-20)."		No change
73	9	3.3.2	Point-2	The bidder should have minimum cumulative turnover of 150% (i.e. ₹12,11,65,446/-) of tendered value or above during the last 3 financial years (i.e. current year and/or three previous financial years). The bidder should provide Audited Balance Sheets / annual reports as documentary evidence and for current year, the Statutory Auditor’s certificate for turnover of current year up to the date of bid opening for which Balance Sheet/P&L may not be available. In case of photocopy of Balance Sheet/P&L the same should be certified by Chartered Accountant as true copy.	"We request to kindly allow relaxation to MSME / Startup bidders against this clause and add these lines:- As per Govt. norms, MSME / Startup bidders are relaxed for prior experience subject to meeting of quality & technical specifications hence this clause is not applicable to MSME / Startup bidders."		No change

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S. NO.	Tender Page No.	Tender Clause No.	Section No.	RFP Clause as per Bidder	Points of Clarification Required by Firm's	Firm's Request	RailTel Response
74	47	4.9.2	Point-2.b	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	This clause may have scope of confusion and exception: Though interfaces are distributed on half-slots, half-slots will have dependency on main slot and incase main slot card fails, it will become single point of failure. We recommend RailTel that after accommodating current interface requirement, at least 1 main (full) slot must be free for maintenance purpose & eventually same may be used for 30% expansion. The 'slot' for any router means a main slot or full slot on the router chassis. As per industry best practices, 1 free main slot is always recommended for maintenance and unforeseen operations issues. Hence, we request you to change the clause as follows: "Minimum 1 spare unoccupied full-slot (Out of total slots) in chassis (for maintenance purpose & future expansion) after populating & distributing interfaces 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). The 'slot' for any router means a main slot or full slot on the router chassis."		Refer Corrigendum Point-13
75	37	4.9.1	Point-2.b	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).	This clause may have scope of confusion and exception: Though interfaces are distributed on half-slots, half-slots will have dependency on main slot and incase main slot card fails, it will become single point of failure. We recommend RailTel that after accommodating current interface requirement, atleast 1 main (full) slot must be free for maintenance purpose & eventually same may be used for 30% expansion. The 'slot' for any router means a main slot or full slot on the router chassis. As per industry best practices, 1 free main slot is always recommended for maintenance and unforeseen operations issues. Hence, we request you to change the clause as follows: "Minimum 1 spare unoccupied full-slot (Out of total slots) in chassis (for maintenance purpose & future expansion) after populating & distributing interfaces 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). The 'slot' for any router means a main slot or full slot on the router chassis."		Refer Corrigendum Point-7
76	37	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	Distribution of ports can be done between different full slots or between sub-slots (daughter-slots). Kindly clarify if distribution is required across only sub-slots or the interfaces are required to be distributed such that they are distributed across minimum two different full slots.		Pls see Corrigendum Point-6 and Point-7
77	47	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.	Distribution of ports can be done between different full slots or between sub-slots (daughter-slots) in a single full-slot. Kindly clarify if distribution is required across only sub-slots or the interfaces are required to be distributed such that they are distributed across minimum two different full slots.		Refer Corrigendum Point-12 and Point-13
78	46	4.9.1	Point-60	Router should support open optics (Pl. give Name of three OEMs)	Optics supported are based on MSA. We support all MSA compliant SFPs. However, using 3rd party optics is not recommended as it might create TAC support issues. All leading OEMs are having NDAs with their component suppliers & would not be able to furnish their supplier details. Hence, we request you to remove this clause.		Refer Corrigendum Point-10
79	55	4.9.2	Point-60	Router should support open optics (Pl. give Name of three OEMs)	Optics supported are based on MSA. We support all MSA compliant SFPs. However, using 3rd party optics is not recommended as it might create TAC support issues. All leading OEMs are having NDAs with their component suppliers & would not be able to furnish their supplier details. Hence, we request you to remove this clause.		Refer Corrigendum Point-16
80	65	4.9.3	Point-66	Router should support open optics (suggest three names of supported make)	Optics supported are based on MSA. We support all MSA compliant SFPs. However, using 3rd party optics is not recommended as it might create TAC support issues. All leading OEMs are having NDAs with their component suppliers & would not be able to furnish their supplier details. Hence, we request you to remove this clause.		Refer Corrigendum Point-18
81	9	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/Supply, Installation & Commissioning/ Annual Maintenance Contract of MPLS/IT/Telecom Networking Equipment in Government/PSU/ Telecom Service Provider/ISP network.		Refer Corrigendum Point-2
82	-	New	-	Online Insertion - Field replaceable - Tier3	Kindly clarify that All modules should be Field replaceable and should have Online Insertion and removal of any modules, cards in in Tier3- TypeA and Type-B routers		Refer Corrigendum Point-3 and 4

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S. NO.	Tender Page No.	Tender Clause No.	Section No.	RFP Clause as per Bidder	Points of Clarification Required by Firm's	Firm's Request	RailTel Response
83	66	4.9.4	Point-6	Operating temperature - 5°C to 70°C	Commercial Temperature for SFP is generally around 60 DegreeC. Kindly change as per standard parametter value, for Short haaul SFP, generally would be installed in controllr environment, as per Temperature conditions (0 to 40 DegreeC) mentioned in the Router specifications		Refer Corrigendum Point-21
84	67	4.9.6	Point-2	2. Should be IEEE 802.3 Clause 45 compliant for MDIO digital diagnostics.	Kindly clairfy this is Monitoring requirement for optical parameters. Kindly deete IEEE 802.3 clause 45 requirement, as this is not related to CFP2 DCO Optics		Refer Corrigendum Point-24
85	67-68	4.9.7	Point-2	2. Supports 103.1Gb/s aggregate bit rate	Kindly clarify the agregate bit rate is 100 Gbps for this category of SFP, instead of 103.1 Gbps		Refer Corrigendum Point-25
86	67-68	4.9.7	Point-5	Commercial case temperature range of 0°C to 70°C	Commercial Temperature for SFP is generally around 60 DegreeC. Kindly change as per standard parametter value, for Short haaul SFP, generally would be installed in controllr environment, as per Temperature conditions (0 to 40 DegreeC)mentioned in the Router specifications		Refer Corrigendum Point-29
87	67-68	4.9.7	Point-6	6. Single 3.3V power supply	Kinldy delete this, as this is internal to equipment and Optics and detailed specs are generally not avilable		Refer Corrigendum Point-26
88	67-68	4.9.7	Point-8	8. 4x25 Gb/s 850mm VCSEL-based transmitter	Generally wavelength range and number of stream with speed are standard (e.g. 4x25G), Kindly delete "VCSEL"		Refer Corrigendum Point-27
89	67-68	4.9.7	Point-10	10. I2C management interface	Kindly clarify this 12C Management interfaces in Optical QSFP. We understand, for multimodde short reach interfae of 100G should be offered with MPO12 type of connector		Refer Corrigendum Point-28
90	9	3.3.2	Point-1	Eligibility Criteria for Bidder: 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.	Request you to kindly consider high level switch also in product category to established the eligibility criteria as Switches also have router feature and capability.		Refer Corrigendum Point-2
91	37	4.9.1	Point-2.b	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).	The first part of the statement mandates 30% spare out of all available slots but in the second part it mentions that spare slots count should be to accommodate additional 30% capacity of required ports. This contradictory. For e.g if one considers a 10 slot chassis then does RailTel expect that minimum 3 slots (30% of all available) should be free after populating all ports ? or does Railtel expect that enough slots to be available for expanding the required port capacity by 30%, which will not be a fixed number and will vary from OEM depending on the configuration of their cards.	It is requested that this point be elaborated further for clarity. Request to please explain by example.	Refer Corrigendum Point-7
92	46	4.9.1	Point-60	Router should support open optics (Pl. give Name of PQC three OEMs)	Third party optics support cannot be guaranteed. Although these may work but the responsibility for the same would lie with the optics OEM/Railtel.	Request to please make this clause optional as this is a non standard request since OEM cannot be expected to support an external component/part over which OEM has no control	Refer Corrigendum Point-10
93	46	4.9.1	Point-61, (x)	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.	This requirement corresponds to an RFC draft "https://tools.ietf.org/html/draft-gandhi-spring-sr-mpls-pm-01"which is only "informational" and not yet a standard RFC. As such its implementation is vendor specific.	As this requirement does not map to a standard therefore we request to make this requirement optional	Refer Corrigendum Point-11
94	47	4.9.2	Point-2.b	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).	The first part of the statement mandates 30% spare out of all available slots but in the second part it mentions that spare slots count should be to accommodate additional 30% capacity of required ports. This contradictory. For e.g if one considers a 10 slot chassis then does RailTel expect that minimum 3 slots (30% of all available) should be free after populating all ports ? or does Railtel expect that enough slots to be available for expanding the required port capacity by 30%, which will not be a fixed number and will vary from OEM depending on the configuration of their cards.	It is requested that this point be elaborated further for clarity. Request to please explain by example.	Refer Corrigendum Point-13
95	55	4.9.2	Point-60	Router should support open optics (Pl. give Name of PQC three OEMs)	Third party optics support cannot be guaranteed. Although these may work but the responsibility for the same would lie with the optics OEM/Railtel.	Request to please make this clause optional as this is a non standard request since OEM cannot be expected to support an external component/part over which OEM has no control	Refer Corrigendum Point-16
96	56	4.9.2	Point-61, (x)	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.	This requirement corresponds to an RFC draft "https://tools.ietf.org/html/draft-gandhi-spring-sr-mpls-pm-01"which is only "informational" and not yet a standard RFC. As such its implementation is vendor specific.	As this requirment does not map to a standard therefore we request to make this requirement optional	Refer Corrigendum Point-17
97	66	4.9.3	Point-67, (x)	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.	This requirement corresponds to an RFC draft "https://tools.ietf.org/html/draft-gandhi-spring-sr-mpls-pm-01"which is only "informational" and not yet a standard RFC. As such its implementation is vendor specific.	As this requirement does not map to a standard therefore we request to make this requirement optional	Refer Corrigendum Point-19
98	-	4.9.3	Point-69	GRE Support	Tier 4 router will either be a GRE tunnel initiator or a GRE tunnel termination point. GRE support has been requested in Tier -3. A GRE tunnel initiated at Tier-3 will need a termination point at Tier-4 layer and as such GRE support is needed in Tier-4 nodes.	Request to please mandate GRE support at Tier-4 layer for better architecture and a future ready network	Refer Corrigendum Point-20
99	66	4.9.4	Point-6	Operating Temperature : - 5°C to 70°C	Not all OEMs would have the same specs for the optics. Juniper optics support 0°C to 85°C	Request to please amend the clause as "Operating Temperature : 0°C to 85°C	Refer Corrigendum Point-21

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100	67	4.9.5	Point-8	Power Dissipation < 1.5W	Not all OEMs would have the same specs for the optics. Juniper optics have a 1.7W power dissipation	Request to please amend the clause as "Power Dissipation < =1.7W"	Refer Corrigendum Point-23
101	9	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	We would request to relax the clause that bidder should have executed order of similar work supply installation commissioning / Annual Maintenance contract of MPLS. OR Bidder should execute order IT/ ICT/ Hardware equipment Server/Storage/Switches/Router in single or multiple orders in government /PSU/ Telecom/ ISP Network/Private Companies in last three financial year. Justification - By mentioning only that bidder should have executed of similar work for MPLS Equipment for a period of last three years it is restricting competition hence we would like to amend/relax the clause for larger participation.		Refer Corrigendum Point-2
102	56	4.9.3	Point-1	Router Should support minimum 1G/ 10G SFP + ports from day one (including 8X10G SFP+ module): 8	T4 Routers are fixed and non-expandable routers unlike T3-A & T3-B. Hence we should not restrict to 8x1/10G access port requirement considering organization horizon, Indian Railways services' roadmap & increasing throughput demands. Also, 8x1/10G ports with 4 x 100G uplinks is inconsistent & underutilization of the investment as all leading OEMs design boxes which have multiple (12-20) 1/10G ports with 4 x 100G combination at same price-point thus having no budget impact Moreover, it would just favour single OEM. Infact, adding few additional 1/ 10G ports is going to give investment protection benefit at same price point. **Router should support minimum 1G/ 10G SFP + ports from day one (Including 8X10G SFP + module): 12**		No change
103	56	4.9.3	Point-3	Total throughput (Full duplex): 280 Gbps	With above mentioned 4-6 additional 1x10G ports, **Total throughput (Full duplex): 340 Gbps. Packet Forwarding Rate should be modified accordingly to 505 mpps.**		No change
104	37	4.9.1	Point-2.a	The Router should support at least 720 Gbps (Full Duplex) throughput rate.	Considering overall requirement & RailTel project budget: **The Router should support at least 360 Gbps (Full Duplex) throughput rate. Packet Forwarding Rate should be modified accordingly to 535 mpps.**		Pls see Corrigendum Point-30 and 31
105	47	4.9.2	2.a	The Router should support atleast 920 Gbps (Full Duplex) throughput Rate.	Considering overall requirement & RailTel project budget: **The Router should support at least 500 Gbps (Full Duplex throughput rate. Packet Forwarding Rate should be modified accordingly to 744 mpps.**		Pls see Corrigendum Point-32 and 33
106	47	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.	Considering overall requirement & RailTel project budget: 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 2x100G ports for expandability. Technical specification of QSFP-28 is given in the Tender document.		Pls see Corrigendum Point-15
107	-	4.9.2	-	New Point addition:	To have common functionality/compatibility, sparing & stocking advantage: **T3-B Router from day-1 should have support for 2 x 100G CFP2-DCO ports.**		No Change
108	General	RFP Budget	-	Current RFP Budget inclusive of GST: 8.08 Cr INR	We would request you to make 8.08 Cr INR excluding of GST		No Change

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S. NO.	**Tender Page No.**	**Tender Clause No.**	**Section No.**	**RFP Clause as per Bidder**	**Points of Clarification Required by Firm's**	**Firm's Request**	**RailTel Response**
109	37	4.9.1	3.a	a) MAC Table Size: 256 K	Kindly reduce the MAC Table Size to 128K, as MPLS P/PE router does not require so many MAC address support.		Pls see corrigendum Point-8
110	47	4.9.2	3.a	a) MAC Table Size: 256 K	Kindly reduce the MAC Table Size to 128K, as MPLS P/PE router does not require so many MAC address support.		Pls see corrigendum Point-14