

**CORRIGENDUM-I**

Sub: "Supply and Supervision of Testing & commissioning of Tier-I Router along with SFP and Patch Chords at Various locations of RailTel"

Ref: GEM/2021/B/1449202 dated: 31.08.2021.

1. Clause no. 2.1 of Annexure-I (Technical Specification) & Clause no. 22 (offline submission) of RailTel's Bid Specific Additional Terms & Conditions:

| S. No. | Clause no.                                     | Full/part description of the                                                                                                                              | Revised description                                                                                                                                                                                                  |
|--------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | 25(b) of SOR 1 of 2.1 of Annexure-I            | L2VPN (Kompella BGP/ Martini LDP)                                                                                                                         | L2VPN (Kompella BGP/ Martini LDP/EVPN-VPWS)                                                                                                                                                                          |
| 2      | 26 of SOR 1 of 2.1 of Annexure-I               | RFC3973 PIM DM                                                                                                                                            | PIM DM/ PIM-SSM                                                                                                                                                                                                      |
| 3      | 26 of SOR 1 of 2.1 of Annexure-I               | Shall support BFD: single hop, multi-hop and micro BFD                                                                                                    | Shall support BFD: single hop, multi-hop and micro BFD or equivalent feature                                                                                                                                         |
| 4      | 30(e) of SOR 1 of 2.1 of Annexure-I            | The router should support PCECP as defined in RFC5440                                                                                                     | The router should support PCEP as defined in RFC5440                                                                                                                                                                 |
| 5      | 30 of SOR 1 of 2.1 of Annexure-I               | The offered devices must support API/NBIs for auto discovery of Services and Physical & Logical Topology                                                  | The router should have support for NBI/API interfaces and protocols that would allow auto discovery of nodes, services, topology by NMS/EMS, Controller, Orchestration systems etc.                                  |
| 6      | 5 of SOR 2 & SOR 3 of 2.1 of Annexure-I        | Should support DDMI feature                                                                                                                               | Should support DDMI/DOM feature                                                                                                                                                                                      |
| 7      | 7 of SOR 2 and 8 of SOR 3 of 2.1 of Annexure-I | Should have CE and FCC regulatory compliances                                                                                                             | Router/SFP should have CE and FCC regulatory compliances                                                                                                                                                             |
| 8      | 22                                             | Original copy of following documents shall be submitted by tenderer offline at RailTel Corporate Office, East Kidwai Nagar, New Delhi as mentioned below: | Original copy of following documents shall be submitted by tenderer offline at <b>RailTel Corporate Office, Plate A, 6th Floor, Block - 2, Office Block, East Kidwai Nagar, New Delhi- 10023</b> as mentioned below: |

2. Extension of Bid End Date/Time as mentioned below:

|                       |                     |
|-----------------------|---------------------|
| Bid End Date/Time     | 29.09.2021 16:00:00 |
| Bid Opening Date/time | 29.09.2021 16:30:00 |

All other terms and conditions will remain unchanged.

*(Signature)*  
**(Suresh Kumar)**  
 ED/POM

(For and behalf of RailTel Corporation of India Ltd.)

*(Signature)*  
 14/9/21 AGM/POM

| Sl. No. | Reference Document                                   | Sl. no. /Cl. No. | Specifications / Requirements                                                                                                                                                | Clarifications / Query                                                                                                                                                                                                                                                                                                                                                  | Response from RailTel                                                                                                                                       |
|---------|------------------------------------------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | SOR of 2.1 of Annexure-I                             | 1 of SOR 1       | The router should have atleast 8 number of 100G interfaces with QSFP28 support and 2x400G with QSFP56-DD on Day 1.                                                           | Kindly Clarify number of QSFP28 Optics should be as per SOR-2 and SOR-3 in the RFP.<br>Kindly clarify 2xQSFP-DD optics to be considered from Day-1. Kindly share type of Optics (in term of reach , distance)                                                                                                                                                           | No Change is proposed, QSFP28 Optics should be considered as per SORs and Routers should be supplied with 2xQSFP-DD optics/DAC of minimum 1 meter distance. |
| 2       | SOR of 2.1 of Annexure-I<br>SOR of 2.1 of Annexure-I | 4 of SOR 1       | e) L2/L3 VPN if required by upgrading OS or License: 4K L2VPN and 1K L3VPN<br>h) RSVP LSP ingress/transit: 16K/96K                                                           | RFP has asked for 4K L2 VPN and 1K L3 VPN. However, RSVP LSP ingress LSP asked for 16K. Kindly keep the number of Ingress LSP with same as L2 VPN number , which is 4K, instead of 16K.                                                                                                                                                                                 | No Change is proposed , The scale ask is ensuring use case flexibility and future scalability of these platforms                                            |
| 3       | SOR of 2.1 of Annexure-I                             | 4 g) of SOR 1    | g) Firewall Filters                                                                                                                                                          | Kindly confirm that Firewall Filter asked in this clause is ACL (Access Control List). Kindly reduce the value to 4K per, instead of 8K for larger participation. The ACL/Firewall Filters generally useful for EDGE of the network. These routers would be part of Tier-1 place in the network. Kindly reduce to 4K.                                                   | No Change is proposed, The scale ask is ensuring use case flexibility and future scalability of these platforms                                             |
| 4       | SOR of 2.1 of Annexure-I                             | 5 of SOR 1       | Proposed Router can either be modular or fixed type.                                                                                                                         | Kindly clarify that, the router would be located at main core of the network, in Tier-1 layer. So kindly add "Router should be modular for control plane and Forwarding plane redundancy for critical processes without affecting other processes or rebooting the entire operating system. (Minimum 1+1)"                                                              | Tender Condition is very clear ,No Change is proposed                                                                                                       |
| 5       | SOR of 2.1 of Annexure-I                             | 13 of SOR 1      | b) The router should have ability to support MACSEC at all ports if required by upgrading OS/License.                                                                        | Kindly confirm the requirement of MACSEC is asked in the clause no. 1 and 2 of this document, that is only in 100G and 400G ports.                                                                                                                                                                                                                                      | Tender Condition is very clear ,No Change is proposed Router should have ability to support MACSEC at all ports i.e 100G and 400G.                          |
| 6       | SOR of 2.1 of Annexure-I                             | 20 of SOR 1      | The router shall support traffic interface mirroring in both ingress & egress directions for both IPv4 & IPv6. It should also be able to mirror local and multicast traffic. | In case of Port mirroring, the ports are involved , such as Source port, Destination port, Monitor session with one or many source interfaces.<br>Kindly modify "The router shall support traffic interface mirroring in both ingress & egress directions for both IPv4 & IPv6. It should also be able to mirror local and multicast traffic / many source interfaces." | Tender Condition is very clear ,No Change is proposed                                                                                                       |
| 7       | SOR of 2.1 of Annexure-I                             | 25 b) of SOR 1   | b) L2VPN (Kompella BGP/ Martini LDP)                                                                                                                                         | Kindly allow L2VPN (Kompella BGP/ Martini LDP /EVPN), as EVPN is generally is widely using for L2 VPN                                                                                                                                                                                                                                                                   | Please refer to Corrigendum - I                                                                                                                             |
| 8       | SOR of 2.1 of Annexure-I                             | 26 of SOR 1      | RFC3973 PIM DM                                                                                                                                                               | PIM-DM is an obsolete protocol and not useful in the network. Kindly allow the most popular multicast protocols like PIM-SM, PIM-SSM instead of PIM-DM. Kindly modify clause as: " RFC3973 PIM DM / PIM-SSM"                                                                                                                                                            | Please refer to Corrigendum - I                                                                                                                             |
| 9       | SOR of 2.1 of Annexure-I                             | 26 of SOR 1      | Shall support BFD : single hop, multi-hop and micro BFD                                                                                                                      | Micro BFD is an OEM specific nomenclature. Kindly allow "Micro BFD or BFD over Bundle (BoB) "                                                                                                                                                                                                                                                                           | Please refer to Corrigendum - I                                                                                                                             |
| 10      | SOR of 2.1 of Annexure-I                             | 30 e) of SOR 1   | (e) The router should support PCECP as defined in RFC5440.                                                                                                                   | Kindly clarify PCEP instead of PCECP                                                                                                                                                                                                                                                                                                                                    | Please refer to Corrigendum - I                                                                                                                             |
| 11      | SOR of 2.1 of Annexure-I                             | 30 of SOR 1      | The offered devices must support API/NBIs for auto discovery of Services and Physical & Logical Topology                                                                     | Kindly clarify that this is an EMS/NMS functionality related to Physical & logical topology, and not required in the router, as there is no requirement of EMS/NMS in this RFP.                                                                                                                                                                                         | Please refer to Corrigendum - I                                                                                                                             |
|         | SOR of 2.1 of Annexure-I                             | 38 of SOR 1      | The OEM shall ensure that the use of third party optics shall not be explicitly blocked on the Router. Router must support all MSA complied optics available in market       |                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                             |

*Handwritten signature and date:*  
14/9/21  
AGM/Boj

|    |                          |             |                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                              |
|----|--------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12 | SOR of 2.1 of Annexure-I | 40 of SOR 1 | The router should support third Party standard optical modules like QSFP+, QSFP28, QSFP56-DD and etc                                            | Clause no. 38, 40 are contradictory with SOR-2 and SOR-3. Moreover on 100G and 400G optics, our recommendation to equip the router with saem OEM optics, to avoid interoperability issues.<br><br>Kindly clarify that SOR-2 and SOR-3 is asked for optics from same OEM and third party optics support is not required. | RailTel shall be free to choose between OEM optics or third party optics. OEM shall not block use of such third party optics on their equipment.                                                                             |
|    | SOR of 2.1 of Annexure-I | 1 of SOR 2  | SOR 2 : 100GBASE-SR4 QSFP28 pluggable module, support Ethernet rate<br>1) Should be from same OEM of MPLS Router                                |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                              |
|    | SOR of 2.1 of Annexure-I | 1 of SOR 3  | SOR 3: QSFP, 4X 10GBPS, 40GBASE-SR4, MPO 10meter Plenum Fiber Optics Cables, 40 Gbps 4LC Breakout.<br>1) Should be from same OEM of MPLS Router |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                              |
| 13 | SOR of 2.1 of Annexure-I | 5 of SOR 2  | 5) Should support DDMI feature.                                                                                                                 | Kindly clarify DDMI or DOM support is required for optics                                                                                                                                                                                                                                                               | Please refer to Corrigendum - I                                                                                                                                                                                              |
|    |                          | 5 of SOR 3  | 5) Should support DDMI feature.                                                                                                                 |                                                                                                                                                                                                                                                                                                                         | Please refer to Corrigendum - I                                                                                                                                                                                              |
| 14 | SOR of 2.1 of Annexure-I | 7 of SOR 2  | 7) Should have CE and FCC regulatory compliances                                                                                                | Kindly allow Router should be CE and FCC compliant instead of individual QSFP28 and QFP-DD                                                                                                                                                                                                                              | Please refer to Corrigendum - I                                                                                                                                                                                              |
|    |                          | 8 of SOR 3  | 8) Should have CE and FCC regulatory compliances.                                                                                               |                                                                                                                                                                                                                                                                                                                         | Please refer to Corrigendum - I                                                                                                                                                                                              |
| 15 | Annexure-I               |             | Additional on RFC related                                                                                                                       | Kindly clarify that RFC 's asked in the RFP means that the Functionality of RFC should be complied                                                                                                                                                                                                                      | The OEM can choose to provide compliance to the functionality mentioned in the RFP but will have ensure that issues due to interoperability of such features with third party equipment do not arise due to their equipment. |

  
 14/9/21  
 AGM/Pooj