



Date: 24-05-2024

Corrigendum - XI

Sub: Tender for “Supply, Design, Installation, Testing, Commissioning, and Integration of OSS solution at Rail-Tel Network (IP-MPLS & DWDM)”.

- Ref:** (i) This office E-Tender No. RailTel/Tender/OT/CO/NTP/2023-24/OSS/008, Dated 10-11-2023
(ii) Corrigendum-I dated 14.12.23
(iii) Corrigendum-II dated 27.12.23
(iv) Corrigendum-III dated 12.01.24
(v) Corrigendum-IV, dated 31.01.24
(vi) Corrigendum-V dated 15.02.24
(vii) Corrigendum-VI dated 29.02.24
(viii) Corrigendum-VII dated 14.03.24
(ix) Corrigendum-VIII dated 09.04.24
(x) Corrigendum- IX dated 29.04.24
(xi) Corrigendum-X dated 08.05.24

In reference to the Tender for the “Supply, Design, Installation, Testing, Commissioning, and Integration of OSS solution at Rail-Tel Network (IP-MPLS & DWDM)” against **E-Tender No. RailTel/Tender/OT/CO/NTP/2023-24/OSS/008**, Dated 10-11-2023, following is issued with the approval of competent authority:

- 1: Corrigendum- XI (Points 1-21)
- 2: Response to Pre-bid queries (points 1-28)
- 3: Extension of Bid End Date/Time as mentioned below:

Present	Revised Tender closing/opening date and time
Bid End Date/Time 30-05-2024 15:00:00	Bid End Date/Time 10-06-2024 15:00:00
Bid Opening Date/Time 30-05-2024 15:30:00	Bid Opening Date/Time 10-06-2024 15:30:00

All other terms and conditions will remain unchanged.


(Himanshu Kumar)
GM/Technology Planning
(For and behalf of RailTel Corporation of India Ltd.)

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Corrigendum-XI for E-Tender No. RailTel/Tender/OT/CO/NTP/2023-24/OSS/008

SN	Tender clause no.	Existing clause in Tender/Corrigendums issued	Proposed clause
1	8.2.4.1-B-1	The SDN controller should include a unified cloud architecture that integrates management, control, and analysis. The SDN controller should have capability to manage 2000 Nodes of IP-MPLS.	and analysis. The SDN controller should have capability to manage 2000 Nodes of IP-MPLS without any change in the hardware & the base software like OS, DB etc. Bidder Shall consider following type of devices for integrations with the SDN controller from day 1: 1. CISCO: NCS540 (4x100G and 24x10G) or equivalent - 180Nos. 2. CISCO : NCS 5504 or equivalent - 10 Nos. 3. Juniper: MX204 or equivalent - 80Nos. 4. Juniper: MX304 or equivalent - 10Nos. 5. Juniper: ACX7024 or equivalent- 200Nos. 6. Juniper: ACX7100 or equivalent -20Nos. 7. Juniper: ACX710 or equivalent - 20Nos. 8. Nokia: 7750-SR7/SR1- 20Nos. -these routers either to be integrated with SDN controller or device management (legacy devices). 9. Juniper: MX5/80/104/480/960 - 200Nos.- these routers either to be integrated with SDN controller or device management (legacy devices). 10. IP-Infusion: EC-AS7716-24SC- 20Nos.- these routers either to be integrated with SDN controller or device management (legacy devices).
2	8.2.4.1-B-10	The SDN controller must be deployed on VMs/dockers/Physical servers and supports 1000 equivalent Nes.	The SDN controller must be deployed on VMs/dockers/Physical servers and supports 2000 equivalent Nes.without any change in the hardware & the base software like OS, DB etc
3	8.2.4.1-B-2	The SDN controller must support a unified portal to access all SDN components, including device management, service provisioning, network optimization, and network monitoring. The SDN controller must support multivendor (Cisco, Juniper, Nokia and IP-infusion) devices through standard protocols. License/software required for fault & performance management for multivendor devices should be included in offer.	The SDN controller must support a unified portal to access all SDN components, including device management, service provisioning, network optimization, and network monitoring. The SDN controller must support multivendor devices through standard protocols by upgrading the License/software/Hardware. without any change in the base software like OS, DB etc
4	8.2.4.1-B-115	Offered system should support following IP-MPLS OEMs for fault, performance, and service management from day#1: i. Juniper ii. Cisco iii. Nokia iv. IP Infusion	Deleted
5	3.A.1.3.5-Hardware Requirements (point 8)	The average CPU and RAM utilization of the environment must not go beyond 65%.	The average CPU and RAM utilization of the environment must not go beyond 85%.

SN	Tender clause no.	Existing clause in Tender/Corrigendums issued	Proposed clause
6	8.2.4.1-B-12	The SDN controller must support the remote disaster recovery capability. The active and standby controllers must support the database synchronization mechanism.	The SDN controller must support the remote disaster recovery capability or local HA (high Availability) . The active and standby controllers must support the database synchronization mechanism if required.
7	8.2.4.1-B-88	The SDN controller supports monitoring and visualization of service SLA performance,including delay, packet loss, jitter, and bandwidth, by using (TWAMP and Y.1731)--2000 Links	The SDN controller supports monitoring and visualization of service SLA performance,including delay, packet loss, jitter, and bandwidth, by using (TWAMP and Y.1731)--200 Links
8	3.A.1.3.5-Hardware Requirements (point 3)	Bidder must consider given environments for solution deployment – DC/Production, Pre-Production, and DR. Pre production must be of actual replica of production environment in terms of software features.	Bidder must consider given environments for solution deployment – DC/Production and Pre-Production for the OSS layer. The offered system (OSS, SDN controller & Device Management for Legacy devices) shall be provisioned/hosted on Primary Data center(DC) Site at Gurgaon. For DR option, either of two options can be offered - i) Distributed HA where DC will have an instance and another instance will be at DR Site (Secunderabad). ii) Local HA at DC Site (Gurgaon) in case Geo DR (Active-Active) is not offered.
9	8.2.5.3 Application Performance Monitoring	8.2.5.3 Application Performance Monitoring	Deleted
10	8.2.7.1 Server (point 7 Disks configured)	2*1.2 SAS SSD or higher	2*960 GB SSD or better
11	8.2.7.1 Server (point - 5 Memory configured)	64 GB*8 populated with 512 GB RDIMMs 3200 MT/s	32 GB*8 or 64 Gb*4 populated with 256 GB RDIMMs 3200 MT/s
12	8.2.7.2 Storage (point -12 Efficiency & Data Reduction features)	The proposed array should support enterprise class data services including - Thin Provisioning, Inline Compression & Deduplication. Data reduction must be supported on block (FCP, iSCSI) for the entire proposed capacity.	Deleted
13	8.2.7.3 Backup Solution (point -1 Protocol support & Deduplication)	The proposed backup solution must provide efficient data reduction by using variable block length deduplication at the source as well as target side. Proposed purpose-built backup appliance should be able to interface with various industry leading server platforms, operating systems and Must support LAN/SAN based D2D backup and VTL backup simultaneously via NFS, CIFS, FC, OST/Catalyst/NDMP protocols.All the protocols should be available to use concurrently.	The proposed backup solution must provide efficient data reduction by using variable block length deduplication at the source as well as target side. Proposed purpose-built backup appliance or disk base solution should be able to interface with various industry leading server platforms, operating systems and Must support LAN/SAN based D2D backup or backup to VTL via NFS, CIFS, FC, OST/Catalyst/NDMP protocols.All the protocols should be available to use concurrently.
14	8.2.7.3 Backup Solution (point -3 Instant Access of VM & Data loss prevention)	The proposed purpose-built backup appliance should support SSD to help in superior performance support for Instant Access/ Restore of the protected virtual machine. Proposed purpose-built backup appliance should be offered with battery backed up NVRAM for protection against data loss in power failure scenario.	Instant Access of VM & Data loss prevention: The proposed purpose-built backup appliance should support SSD to help in superior performance support for Instant Access/ Restore of the protected virtual machine. Proposed purpose-built backup appliance or backup solution should be offered with mechanism of data protection against data loss in power failure scenario.

SN	Tender clause no.	Existing clause in Tender/Corrigendums issued	Proposed clause
15	8.2.7.3 Backup Solution (point -4 Backup Data Retention Policy and Sizing report/certification)	<p>The offered purpose-built backup appliance should be sized appropriately for backup of front-end data of 50 TB (20% DB, 30% VM & 50% File System) as per below mentioned backup policies:</p> <p>a. Daily Incremental Backup – retained for 4 weeks in the backup Appliance. b. Weekly Full Backup for all data types – retained for 4 Weeks in the backup Appliance. c. Monthly Full Backups – Retained for 12 Months in the backup Appliance. d. Yearly Full Backups - Retained for 5 years in the backup Appliance.</p> <p>The offered purpose-built backup appliance should be quoted with minimum 70TB usable capacity post RAID 6 and hot-spare's penalty. The proposed purpose-built backup appliance must be sized for adequate capacity considering 2% daily data change rate for the contract period. Any additional backup storage capacity, software and any other component required as per sizing needs to be provided by the MSI and OEM at the time of bid. Bidder must provide the backup appliance sizing on OEM's letter head with seal & sign from the authorized signatory basis the backup retention policies mentioned along with Rack, Power & cooling requirements to run the complete infrastructure.</p>	<p>The offered purpose-built backup appliance or backup solution should be sized appropriately for backup of front-end data of 30TB (20% DB, 30% VM & 50% File System) as per below mentioned backup policies:</p> <p>a. Daily Incremental Backup – retained for 4 weeks in the backup Appliance. b. Weekly Full Backup for all data types – retained for 4 Weeks in the backup Appliance. c. Monthly Full Backups – Retained for 12 Months in the backup Appliance. d. Yearly Full Backups - Retained for 3 years in the backup .</p> <p>Any additional backup storage capacity, software and any other component required as per sizing needs to be provided by the bidder/OEM at the time of bid. Bidder must provide the backup appliance sizing on OEM's letter head with seal & sign from the authorized signatory basis the backup retention policies mentioned along with Rack, Power & cooling requirements to run the complete infrastructure.</p>
16	8.2.7.3 Backup Solution (Point 7 I/O Ports)	Proposed purpose-built backup appliance should have the ability to perform different backup, re-store, replication jobs simultaneously and must supports communications and data transfers through 16GB SAN, 10 Gb & 1 Gb ethernet LAN over copper and SFP+. The proposed backup ap-pliance should be offered with minimum 1 x 1Gbps NIC, 4 x 10G SFP+ and 2x 16Gbps FC.	Proposed purpose-built backup appliance or backup solution should have the ability to perform different backup, re-store, replication jobs simultaneously and must supports communications and data transfers through 16GB SAN, 10 Gb & 1 Gb ethernet LAN over copper and SFP+. The proposed backup ap-pliance should be offered with minimum 1 x 1Gbps NIC, 4 x 10G SFP+ and 2x 16Gbps FC.
17	8.2.7.3 Backup Solution (Point 8 Supported Backup Software OEM)	Proposed purpose-built backup appliance should support industry leading backup software like Networker, NetBackup, Commvault, NetVault and Data Protector, etc. and should support deduplication at backup server/ host / application level so that only changed blocks travel through network to backup device.	Proposed purpose-built backup appliance or backup solution should support industry leading backup software like Networker, NetBackup, Commvault, NetVault and Data Protector, etc. and should support deduplication at backup server/ host / application level so that only changed blocks travel through network to backup device.
18	3.A.1.4 -OSS Solution Implementation Phases-category- Fulfillment	Integration with BSS, WFM System: Integration with External Ecosystems	Integration with ERP (oracle) and ticketing system (HPSM) : Integration with External Ecosystems
19	8.2.7.3 Backup Solution (Point 18)	New clause	Bidder can offer either purpose built backup appliance or disk base solution as per the configuration given above.
20	3.B.5 ,PAC ,Phase 2, Point -2	Catalog driven service provisioning/fulfillment via SDN controller/EMS/Mediation	Deleted
21	3.B.5 ,PAC ,Phase 2, Point -7	Point to Point service provisioning from OSS.	Deleted

Response to Queries related to E-Tender No. RailTel/Tender/OT/CO/NTP/2023-24/OSS/008 received after corrigendum-X

SN	Tender clause no.	Existing Clause after corrigendum	Change request	Justification	RailTel Response
1	SDN controller	<p>1. The SDN controller should include a unified cloud architecture that integrates management, control, and analysis. The SDN controller should have capability to manage 2000 Nodes of IP-MPLS.</p> <p>Corrigendum 3.A.1.3.4: Bidder to consider total no. of 1000 SDN enabled devices in day 1 and same should be upgradable with additional license to 2000 Nos. of SDN enabled devices without any change in the hardware & the base software like OS, DB etc. bidder shall also consider following type of devices for integrations with the SDN controller: 1. CISCO : NCS540 (4x100G and 24x10G) & NCS 5504 2. Juniper: MX960 , MX480, MX204, MX304,ACX7024, ACX7100 & ACX710.</p>	<p>Since in multiple corrigendum dimensioning details have been changed, We would request to clarify the exact number of devices in Day-1 deployment for SDN devices.</p> <p>Kindly also suggest type of SDN enabled devices with count of each SDN enabled devices with make and model . This will help us to do right dimensioning for the deployment perspective.</p>		May please see corrigendum-XI
		<p>10. The SDN controller must be deployed on VMs/dockers/Physical servers and supports 1000 equivalent Nes.</p>			May please see corrigendum-XI
2	SDN controller	3.A.1.3.4 - Dimensioning Details	Existing clause "The average CPU and RAM utilization of the environment must not go beyond 65%" is oversizing the infrastructure requirement , hence we request to remove this clause.		May please see corrigendum-XI
3	SDN controller	SDN Controller	Since implementation of SDN controller for IP MPLS devices will be done by different vendor, we request you to kindly clarify the scope of implementation and integration w.r.t. SDN controller for this RFP.		Use cases of SDN Controller with OSS layer & the devices is already defined in clause 3.B.5 (PAC)
4	SDN controller	<p>2. The SDN controller must support a unified portal to access all SDN components, including device management, service provisioning, network optimization, and network monitoring. The SDN controller must support multivendor (Cisco, Juniper, Nokia and IP-infusion) devices through standard protocols. License/software required for fault & performance management for multivendor devices should be included in offer.</p>	<p>We would request to keep the scope of integration of Cisco and Juniper devices, as per current major IP/MPLS backbone for day-1 deployment</p>		May please see corrigendum-XI
		<p>Corrigendum 3.A.1.3.4: Bidder to consider total no. of 1000 SDN enabled devices in day 1 and same should be upgradable with additional license to 2000 Nos. of SDN enabled devices without any change in the hardware & the base software like OS, DB etc. bidder shall also consider following type of devices for integrations with the SDN controller: 1. CISCO : NCS540 (4x100G and 24x10G) & NCS 5504 2. Juniper: MX960 , MX480, MX204, MX304,ACX7024, ACX7100 & ACX710.</p>			May please see corrigendum-XI
5	SDN controller	12. The SDN controller must support the remote disaster recovery capability. The active and standby controllers must support the database synchronization mechanism.	Kindly clarify that this is not day-1 deployment requirement. Only support is required for 1. remote disaster recovery capability 2. active and standby controllers		May please see corrigendum-XI
6	SDN controller	88. The SDN controller supports monitoring and visualization of service SLA performance, including delay, packet loss, jitter, and bandwidth, by using (TWAMP and Y.1731) - 2000 links	Kindly reduce the number of links/sessions to 500. 88. The SDN controller supports monitoring and visualization of service SLA performance, including delay, packet loss, jitter, and bandwidth, by using (TWAMP and Y.1731) - 500 links / Sessions		May please see corrigendum-XI

SN	Tender clause no.	Existing Clause after corrigendum	Change request	Justification	RailTel Response
7	Overall Architecture	3.A.1.2 Overview of the Scope of Work: The offered system shall be provisioned/hosted on Primary Data Centre (DC) site at Gurgaon and a Disaster recovery (DR) site Secunrabad.	Kindly clarify that this is not day-1 deployment requirement. Only support is required for 1. remote disaster recovery capability 2. active and standby controllers		The offered system (OSS, SDN Controller & Device management for Legacy devices) shall be provisioned/hosted on Primary Data Centre (DC) site at Gurgaon and a Disaster recovery (DR) site Secunrabad. Bidder can also propose a local HA (high Availability) in place of Disaster recovery (DR) site.
8	3.A.1.3.5 Hardware Requirements	3.A.1.3.5 Hardware Requirements 3. Bidder must consider given environments for solution deployment – DC/Production, Pre-Production, and DR. Pre production must be of actual replica of production environment in terms of software features	Kindly clarify that this is not day-1 deployment requirement. Only support is required for 1. remote disaster recovery capability 2. active and standby controllers Kindly also delete the Pre-Production and DR requirement for the day-s deployment.		May please see corrigendum-XI
9	8.2.5.3 APM	8.2.5.3 -Application Performance Monitoring	Since the scope of APM module is not clear we request the authority to kindly remove this clause.		May please see corrigendum-XI
11	8.2.7.1 Server	8.2.7.1-Server-Disk Configured -2*1.2 SAS	We request the tendering authority to kindly amend this clause as " Disk -2*960 GB SSD or better for wider participation		May please see corrigendum-XI
12	8.2.7.1 Server	8.2.7.1-Server-Memory configured-64 GB*8 populated with 512 GB RDIMMs 3200 MT/s	We request the tendering authority to kindly amend the clause as "Memory configured-32 GB*8 or 64 Gb*4 populated with 256 GB RDIMMs 3200 MT/s" for wider participation.		May please see corrigendum-XI
13	8.2.7.2 Storage	8.2.7.2-Storage -Efficiency & Data Reduction features -The proposed array should support enterprise class data services including - Thin Provisioning, Inline Compression & Deduplication. Data reduction must be supported on block (FCP, iSCSI) for the entire proposed capacity.	We request the tendering authority to kindly remove the clause for wider participation.		May please see corrigendum-XI
14	8.2.7.3-Backup Data Retention Policy and Sizing report/certification	Protocol support & Deduplication: The proposed backup solution must provide efficient data reduction by using variable block length deduplication at the source as well as target side. Proposed purpose-built backup appliance should be able to interface with various industry leading server platforms, operating systems and Must support LAN/SAN based D2D backup and VTL backup simultaneously via NFS, CIFS, FC, OST/Catalyst/NDMP protocols.All the protocols should be available to use concurrently.	We request to kindly amend the clause as : The proposed backup solution must provide efficient data reduction by using variable block length deduplication at the source as well as target side. Proposed disk base solution should be able to interface with various industry leading server platforms, operating systems and Must support LAN/SAN based D2D backup or backup to VTL via NFS, CIFS, FC, OST/Catalyst/NDMP protocols.All the protocols should be available to use concurrently.	In the world of modern era technology, backup solution are built on scaleout architecture to perform disk to disk backup through various methods. VTL is an old technology which provide tape emulation along with disk backup but its not available in modern appliance. Request to amend for larger audience to participate instead of only VTL vendors. Backup software has feature to integrate with traditional VTL devices for backup to utilize old devices.	May please see corrigendum-XI
15	8.2.7.3-Backup Data Retention Policy and Sizing report/certification	Instant Access of VM & Data loss prevention: The proposed purpose-built backup appliance should support SSD to help in superior performance support for Instant Access/ Restore of the protected virtual machine. Proposed purpose-built backup appliance should be offered with battery backed up NVRAM for protection against data loss in power failure scenario.	We request to kindly amend the clause as : The proposed purpose-built backup appliance should support SSD to help in superior performance support for Instant Access/ Restore of the protected virtual machine. Proposed backup solution should be offered with mechanism of data protection against data loss in power failure scenario.	Battery backed up is required for cache data protection. In modern appliance, erasure coding are used which is better technology than raid card. This erasure coding writes data in 4 + 2 (data+parity) mode and does not need battery backup to protect NVRAM against data loss.	May please see corrigendum-XI

SN	Tender clause no.	Existing Clause after corrigendum	Change request	Justification	RailTel Response
16	8.2.7.3-Backup Data Retention Policy and Sizing report/certification	<p>The offered purpose-built backup appliance should be sized appropriately for backup of frontend data of 50 TB (20% DB, 30% VM & 50% File System) as per below mentioned backup policies:</p> <p>a. Daily Incremental Backup – retained for 4 weeks in the backup Appliance. b. Weekly Full Backup for all data types – retained for 4 Weeks in the backup Appliance. c. Monthly Full Backups – Retained for 12 Months in the backup Appliance. d. Yearly Full Backups - Retained for 5 years in the backup Appliance.</p> <p>The offered purpose-built backup appliance should be quoted with minimum 70TB usable capacity post RAID 6 and hot-spare's penalty. The proposed purpose-built backup appliance must be sized for adequate capacity considering 2% daily data change rate for the contract period. Any additional backup storage capacity, software and any other component required as per sizing needs to be provided by the MSI and OEM at the time of bid. Bidder must provide the backup appliance sizing on OEM's letter head with seal & sign from the authorized signatory basis the backup retention policies mentioned along with Rack, Power & cooling requirements to run the complete infrastructure</p>	<p>We request the tendering authority to kindly amend the clause as "The offered purpose-built backup appliance should be sized appropriately for backup of frontend data of 30 TB (20% DB, 30% VM & 50% File System) as per below mentioned backup policies: a. Daily Incremental Backup – retained for 4 weeks in the backup Appliance. b. Weekly Full Backup for all data types – retained for 4 Weeks in the backup Appliance. c. Monthly Full Backups – Retained for 12 Months in the backup Appliance. d. Yearly Full Backups - Retained for 3 years in the backup Appliance.</p> <p>Any additional backup storage capacity, software and any other component required as per sizing needs to be provided by the MSI and OEM at the time of bid. Bidder must provide the backup appliance sizing on OEM's letter head with seal & sign from the authorized signatory basis the backup retention policies mentioned along with Rack, Power & cooling requirements to run the complete infrastructure." to avoid the oversizing of DC infrastructure and for wider participation .</p>	<p>Modern appliances are based on erasure coding (4+2) which does not require hot spare disk as it provide node level redundancy.</p>	<p>May please see corrigendum-XI</p>
17	8.2.7.3-Backup Data Retention Policy and Sizing report/certification	<p>IO Ports: Proposed purpose-built backup appliance should have the ability to perform different backup, re-store, replication jobs simultaneously and must supports communications and data transfers through 16GB SAN, 10 Gb & 1 Gb ethernet LAN over copper and SFP+. The proposed backup ap-pliance should be offered with minimum 1 x 1Gbps NIC, 4 x 10G SFP+ and 2x 16Gbps FC.</p>	<p>We request to kindly amend the clause as : Proposed backup solution should have the ability to perform different backup, re-store, replication jobs simultaneously and must supports communications and data transfers through 16GB SAN/10 Gb & 1 Gb ethernet LAN over copper and SFP+. The proposed backup ap-pliance should be offered with minimum 1 x 1Gbps NIC, 4 x 10G SFP+ and 2x 16Gbps FC.</p>	<p>Request to amend for other disk</p>	<p>May please see corrigendum-XI</p>
18	8.2.7.3-Backup Data Retention Policy and Sizing report/certification	<p>Supported Backup Software OEMs: Proposed purpose-built backup appliance should support industry leading backup software like Networker, NetBackup, Commvault, NetVault and Data Protector, etc. and should support deduplication at backup server/ host / application level so that only changed blocks travel through network to backup device</p>	<p>We request to kindly amend the clause as : Proposed purpose-built backup appliance solution should support industry leading backup software like Networker/NetBackup/ Commvault/ NetVault/Data Protector and should support deduplication at backup server/ host / application level so that only changed blocks travel through network to backup device</p>	<p>Disk appliance/solution are based on specific vendors. Only VTL devices or general purpose storage can integrate with various backup software else all backup solutions are built on one of the vendor solution.</p>	<p>May please see corrigendum-XI</p>

SN	Tender clause no.	Existing Clause after corrigendum	Change request	Justification	RailTel Response
19	8.2.7.3-Backup Data Retention Policy and Sizing report/certification	<p>The offered purpose-built backup appliance should be sized appropriately for backup of frontend data of 50 TB (20% DB, 30% VM & 50% File System) as per below mentioned backup policies:</p> <p>a. Daily Incremental Backup – retained for 4 weeks in the backup Appliance. b. Weekly Full Backup for all data types – retained for 4 Weeks in the backup Appliance. c. Monthly Full Backups – Retained for 12 Months in the backup Appliance. d. Yearly Full Backups - Retained for 5 years in the backup Appliance.</p> <p>The offered purpose-built backup appliance should be quoted with minimum 70TB usable capacity post RAID 6 and hot-spare's penalty. The proposed purpose-built backup appliance must be sized for adequate capacity considering 2% daily data change rate for the contract period. Any additional backup storage capacity, software and any other component required as per sizing needs to be provided by the MSI and OEM at the time of bid. Bidder must provide the backup appliance sizing on OEM's letter head with seal & sign from the authorized signatory basis the backup retention policies mentioned along with Rack, Power & cooling requirements to run the complete infrastructure</p>	<p>We request the tendering authority to kindly amend the clause as "The offered purpose-built backup appliance should be sized appropriately for backup of frontend data of 30 TB (20% DB, 30% VM & 50% File System) as per below mentioned backup policies:</p> <p>a. Daily Incremental Backup – retained for 4 weeks in the backup Appliance. b. Weekly Full Backup for all data types – retained for 4 Weeks in the backup Appliance. c. Monthly Full Backups – Retained for 12 Months in the backup Appliance. d. Yearly Full Backups - Retained for 3 years in the backup Appliance.</p> <p>Any additional backup storage capacity, software and any other component required as per sizing needs to be provided by the MSI and OEM at the time of bid. Bidder must provide the backup appliance sizing on OEM's letter head with seal & sign from the authorized signatory basis the backup retention policies mentioned along with Rack, Power & cooling requirements to run the complete infrastructure." to avoid the oversizing of DC infrastucutre and for wider participation .</p>		May please see corrigendum-XI
20	8.2.7.3-Backup Data Retention Policy and Sizing report/certification	<p>The offered purpose-built backup appliance should be quoted with minimum 70TB usable capacity post RAID 6 and hot-spare's penalty. The proposed purpose-built backup appliance must be sized for adequate capacity considering 2% daily data change rate for the contract period. Any additional backup storage capacity, software and any other component required as per sizing needs to be provided by the MSI and OEM at the time of bid. Bidder must provide the backup appliance sizing on OEM's letter head with seal & sign from the authorized signatory basis the backup retention policies mentioned along with Rack, Power & cooling requirements to run the complete infrastructure.</p>	<p>The offered purpose-built backup appliance should be quoted with minimum 70TB usable capacity post RAID 6 and spare's penalty. The proposed purpose-built backup appliance must be sized for adequate capacity considering 2% daily data change rate for the contract period. Any additional backup storage capacity, software and any other component required as per sizing needs to be provided by the MSI and OEM at the time of bid. Bidder must provide the backup appliance sizing on OEM's letter head with seal & sign from the authorized signatory basis the backup retention policies mentioned along with Rack, Power & cooling requirements to run the complete infrastructure.</p>	Modern appliances are based on erasure coding (4+2) which does not require hot spare disk as it provide node level redundancy.	May please see corrigendum-XI
21	3.A.1.3.4 -Dimensioning Details		<p>Since the dimensioning details for SDN controller has been changed to 1000 in corrigendum no.7, but in dimensioning details it is still mentioned as 2000, kindly clarify what is the device no. required for dimensioning purpose.</p>		May please see corrigendum-XI
22	SDN Controller		<p>Since in the recent IP MPLS tender, Cisco SDN controller will be installed in Railtel enviornment . This OSS RFP also includes the scope of implemtation and intrgation of SDN Controller for IP MPLS requirement , we request the tendering authority to clarify whether we need to provide new SDN controller or existing controler will be used.</p>		May please see point no. 5 of corrigendum-VI
23	HardwareRequirements -Bidder must consider given environments for solution deployment – DC/Production, Pre- Production, and DR. Pre production must be of actual replica of production environment in terms of software features.		<p>Since the RPO and RTO parameters have not been defined w.r.t. DR , we request the tendering authority to kindly delete the DR requirement.</p>		May please see corrigendum-XI

SN	Tender clause no.	Existing Clause after corrigendum	Change request	Justification	RailTel Response
24	HardwareRequirements -Bidder must consider given environments for solution deployment – DC/Production, Pre- Production, and DR. Pre production must be of actual replica of production environment in terms of software features.		This clause is oversizing the DC infrastructure requirement , hence we request that Railtel should allow bidder to design the pre production as per the solution requirement.		May please see corrigendum-XI
25	3.A.1.3.4 - Dimensioning Details		Kindly re-confirm the dimensioning details breakup for all three Phases i.e. phase wise no. of network elements and no. of EMS (vendor wise)		May please refer tender document , corrigendum & query response issued.
26	3.A.1.3.5 - Hardware Requirement	3. Bidder must consider given environments for solution deployment – DC/Production, Pre- Production, and DR. Pre production must be of actual replica of production environment in terms of software features.	As Pre-production and Main Production is asked of same capacity, Please advice if deployment on cloud as HA Pods can be considered as DR instead of additional DR ? Pre-production environment of same capacity can again work as DR setup, if required.		May please see the corrigendum-XI
27	3.A.1.4 -OSS Solution Implementation Phases		Since the provisioning on DWDM [optics] is static in nature we understand that scope of DWDM is limited to Assurance domain only and provisioning (along with assurance) is for IP/MPLS devices via SDN controller or/and Legacy mediation. Kindly clarify		Provisioning of DWDM network through OSS layer is not in the scope of this tender. May please also see the corrigendum-XI
28	3.A.1.3.3- Integration with Existing Ecosystems		We understand that Railtel doesn't have WFM as existing ecosystem and hence the same can be removed from the scope. Please advice.		May please see the corrigendum-XI