

Tender Queries

1. Alcatel Lucent

SI NO	Query Type	RFP Spec Mentioned	Clarification Required	SWR Remarks
1	Product/service Specification	3.1.7 Schedule A4 Item 1 : Layer 3 Switch 1.1.4 Switch should have minimum 6 GB RAM and 4 GB Flash or higher.	The RAM & Flash asked are very high and is favoring particular OEM. The industry standard for such enterprise level switch are 1GB of RAM & 1GB of Flash	Specification of the item shall be RDSO Spec RDSO/SPN/TC/83/2020 Rev 02 or latest. Same has been indicated in revised tender document
2	Product/service Specification	3.1.7 Schedule A4 Item 1 : Layer 3 Switch 1.1.5 Switch should have a dedicated slot for modular stacking, in addition to asked uplink ports. Should support a minimum 300 Gbps or higher of throughput .	300Gbps of stacking are very high considering the switch port requirement of 1G uplinks and is favoring particular OEM. Request to change the same to 40Gbps stacking throughput and the 4 uplink ports mentioned to be used for the same.	Specification of the item shall be RDSO Spec RDSO/SPN/TC/83/2020 Rev 02 or latest. Same has been indicated in revised tender document
3	Product/service Specification	3.1.7 Schedule A4 Item 1 : Layer 3 Switch 1.2.2 Switch shall have a minimum 32K MAC Addresses or higher active VLAN.	MAC table size asked for this category is very high, request to change the same to 16K.	Specification of the item shall be RDSO Spec RDSO/SPN/TC/83/2020 Rev 02 or latest. Same has been indicated in revised tender document
4	Product/service Specification	3.1.7 Schedule A4 Item 1 : Layer 3 Switch 1.2.3 Should support minimum 16K IPv4	IP routes size asked is very high for the category is very high, request to change the same to 12K.	Specification of the item shall be RDSO Spec RDSO/SPN/TC/83/2020 Rev 02 or latest. Same has been indicated in revised tender document

		routes or more and 16K IPv6 routes or more		
5	Product/service Specification	3.1.7 Schedule A4 Item 1 : Layer 3 Switch 1.2.4 Switch shall have 8K or more multicast routes.	Multicast routes size asked is very high for the category is very high, request to change the same to 12K .	Specification of the item shall be RDSO Spec RDSO/SPN/TC/83/2020 Rev 02 or latest. Same has been indicated in revised tender document
6	Product/service Specification	3.1.7 Schedule A4 Item 1 : Layer 3 Switch 1.2.7 Switch should have a 16MB or more packet buffer.	Packet Buffer asked here is very high and favoring particular OEM, request to change the same to 1.5MB which is as per industry standards for this category of switch	Specification of the item shall be RDSO Spec RDSO/SPN/TC/83/2020 Rev 02 or latest. Same has been indicated in revised tender document
7	Product/service Specification	3.1.7 Schedule A4 Item 1 : Layer 3 Switch 1.3.3 Should have advance Layer 3 protocol like BGPv4, BGPv6 , MPLS, VRF, VXLAN, IS-ISv4, OSPFv3, MP-BGP or any	Most of the L3 protocols and functions in this particular architecture is taken care by the Routers in place, believe that these switch's are only used to provide connectivity to couple of end devices. In that case, Advanced L3 features are not required at this level - request to delete this clause. If not request to explain why advanced L3 features are required at this level	Specification of the item shall be RDSO Spec RDSO/SPN/TC/83/2020 Rev 02 or latest. Same has been indicated in revised tender document
8	Product/service Specification	3.1.7 Schedule A4 Item 1 : Layer 3 Switch 1.4.1 Switch shall have 24 nos. 10/100/1000 Base-T ports and additional 4 nos.1G BX SFP uplinks ports or more.All Modules	1G uplinks is a dying technology, request to change the uplink ports to 4nos. of 10G uplinks .	Higher specification is accepted

		required in this switch are included.		
9	Product/service Specification	3.1.7 Schedule A4 Item 1 : Layer 3 Switch 1.4.3 Always-on POE to that supplies POE power even during schedule reboot.	Request to delete this clause. As this is not a industry standard and persistent technology. Which is favoring only particular OEM's	Please supply as per RDSO Spec RDSO/SPN/TC/83/2020 Rev 02 or latest. Same will be issued in corrigendum
10	Product/service Specification	3.2.2 Schedule B4 Item 4:Single mode 1 G SFP-BX (10 km) 1 SFP modules should comply with multi-source agreement (MSA), enabling compatibility with other vendors' equipment	Use of SFP with other vendors will void the warranty of the switch. Request to change the same to - SFP should be from the same OEM of the switch	In Chapter 1 Detailed technical specifications, it is clearly mentioned that Router, Switches and SFP of same make shall be supplied.
11	Product/service Specification	3.2.2 Schedule B4 Item 4:Single mode 1 G SFP-BX (10 km) 6. Should support DDMI/DOM features. Option should be available for SFP+/XFP	XFP is an old technology which is not in current day use. Request to change the same to "6 Should support DDMI/DOM features. Option should be available for SFP/SFP+"	SFP+/XFP has been indicated and holds good
12	Product/service Specification	3.2.3 Schedule B4 Item 5: Single Mode 10 G SFP+ (10 km) 6. Should support DDMI/DOM features. Option should be available for SFP+/XFP	XFP is an old technology which is not in current day use. Request to change the same to "6 Should support DDMI/DOM features. Option should be available for SFP/SFP+"	

13	Product/service Specification	3.3.19 Schedule C4 Item No 9: Single mode 1 G SFP-BX (10 km) 6. Should support DDMI/DOM features. Option should be available for SFP+/XFP	XFP is an old technology which is not in current day use. Request to change the same to "6 Should support DDMI/DOM features. Option should be available for SFP/SFP+"	Specification of the item shall be RDSO Spec RDSO/SPN/TC/83/2020 Rev 02 or latest. Same has been indicated in revised tender document
14	Product/service Specification	3.3.21 Schedule C4 Item No 13 : Layer 3 Switch 1.1.4 Switch should have minimum 6 GB RAM and 4 GB Flash or higher.	The RAM & Flash asked are very high and is favoring particular OEM. The industry standard for such enterprise level switch are 1GB of RAM & 1GB of Flash	
15	Product/service Specification	3.3.21 Schedule C4 Item No 13 : Layer 3 Switch 1.1.5 Switch should have a dedicated slot for modular stacking, in addition to asked uplink ports. Should support a minimum 300 Gbps or higher of throughput .	300Gbps of stacking are very high considering the switch port requirement of 1G uplinks and is favoring particular OEM. Request to change the same to 40Gbps stacking throughput and the 4 uplink ports mentioned to be used for the same.	
16	Product/service Specification	3.3.21 Schedule C4 Item No 13 : Layer 3 Switch 1.2.2 Switch shall have a minimum 32K MAC Addresses or higher active VLAN.	MAC table size asked for this category is very high, request to change the same to 16K.	
17	Product/service Specification	3.3.21 Schedule C4 Item No 13 : Layer 3 Switch 1.2.3 Should support minimum 16K IPv4	IP routes size asked is very high for the category is very high, request to change the same to 12K.	

		routes or more and 16K IPv6 routes or more		
18	Product/service Specification	3.3.21 Schedule C4 Item No 13 : Layer 3 Switch 1.2.4 Switch shall have 8K or more multicast routes.	Multicast routes size asked is very high for the category is very high, request to change the same to 12K .	
19	Product/service Specification	3.3.21 Schedule C4 Item No 13 : Layer 3 Switch 1.2.7 Switch should have a 16MB or more packet buffer.	Packet Buffer asked here is very high and favoring particular OEM, request to change the same to 1.5MB which is as per industry standards for this category of switch	
20	Product/service Specification	3.3.21 Schedule C4 Item No 13 : Layer 3 Switch 1.3.3 Should have advance Layer 3 protocol like BGPv4, BGPv6 , MPLS, VRF, VXLAN, IS-ISv4, OSPFv3, MP-BGP or any	Most of the L3 protocols and functions in this particular architecture is taken care by the Routers in place, believe that these switch's are only used to provide connectivity to couple of end devices. In that case, Advanced L3 features are not required at this level - request to delete this clause. If not request to explain why advanced L3 features are required at this level	
21	Product/service Specification	3.3.21 Schedule C4 Item No 13 : Layer 3 Switch 1.4.1 Switch shall have 24 nos. 10/100/1000 Base-T ports and additional 4 nos.1G BX SFP uplinks ports or more.All Modules	1G uplinks is a dying technology, request to change the uplink ports to 4nos. of 10G uplinks .	Specification of the item shall be RDSO Spec RDSO/SPN/TC/83/2020 Rev 02 or latest. Same has been indicated in revised tender document

		required in this switch are included.		
22	Product/service Specification	3.3.21 Schedule C4 Item No 13 : Layer 3 Switch 1.4.3 Always-on POE to that supplies POE power even during schedule reboot.	Request to delete this clause. As this is not a industry standard and persistent technology. Which is favoring only particular OEM's	Please supply as per RDSO Spec RDSO/SPN/TC/83/2020 Rev 02 or latest. Same will be issued in corrigendum
23	Product/service Specification	Clause No. 14.0(I) of RDSO/SPN/TC/65/2021 Revision 6.0 17. Minimum Operating Temperature 0 to 50 degree	Industry standard Operating Temperature for Enterprise class switch is 0-45 degree , if higher temperature resistance is required then Industrial/Ruggers class switch to be opted.	Temperature range shall be as mentioned in RDSO specification
24	Product/service Specification	Clause No. 14.0(II) of RDSO/SPN/TC/65/2021 Revision 6.0 20. Minimum Operating Temperature 0 to 50°C.	Industry standard Operating Temperature for Enterprise class switch is 0-45 degree , if higher temperature resistance is required then Industrial/Ruggers class switch to be opted.	Temperature range shall be as mentioned in RDSO specification
25	Product/service Specification	Clause No. 14.0(III) of RDSO/SPN/TC/65/2021 Revision 6.0 14. Operating temperature/ Humidity: 0°C to 50°C, 10%-90% non-condensation	Industry standard Operating Temperature for Enterprise class switch is 0-45 degree , if higher temperature resistance is required then Industrial/Ruggers class switch to be opted.	Temperature range shall be as mentioned in RDSO specification

Alcatel Lucent Query 2

1			Local content %age to be relaxed to be 20%	Percentage of local content is guided by extant guidelines of DIPP on Make In India
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Alcatel Lucent Query 3

SI NO	Query Type	RFP Spec Mentioned	Clarification & Change request	SWR Remarks
1	TECHNICAL SPECIFICATIONS	Sub-Work C: VOIP Based TCCS & SIP EXCHANGE >> Schedule C2: IP Phones and their wiring and termination>> IP Phones (Page 23 IP phone point 1 & 2)	Asked IP Phones & SIP auto phones will register to TCCS exchange or SIP EXCHANGE ?	Item No. 1 of said schedule pertains to IP Phone that shall work with VoIP Based TCCS and Item No.2 of said schedule is SIP Phone connected to SIP Exchange to extend autophones to Railway stations
2	TECHNICAL SPECIFICATIONS	Sub-Work C: VOIP Based TCCS & SIP EXCHANGE >> Schedule C2: IP Phones and their wiring and termination>> SIP Phone for SIP EXCHANGE (Page 23 IP phone point 3)	can asked SIP phones can be configured with native SIP/ native protocol for better feature options ?	Yes,The Item wise RDSO/Other Specifications / features mentioned in the tender document shall positively be complied . Additional/better features can be offered

3	TECHNICAL SPECIFICATIONS	Sub-Work C: VOIP Based TCCS & SIP EXCHANGE >> Schedule C3: Servers, Consoles and Licences >> Point 1 & 2 (Page 24)	Asked servers will be for TCCS exchange or SIP EXCHANGE ?	Said servers,consoles, licences are for VoIP Based TCCS
4	TECHNICAL SPECIFICATIONS	Sub-Work C: VOIP Based TCCS & SIP EXCHANGE >> Schedule C3: Servers, Consoles and Licences >> Point 3 to 19 (Page 24 to 26)	Do points 3 to 19 are associated with TCCS exchange, and all asked components will connect to it?	Yes, all the said items are meant for VoIP Based TCCS
5	TECHNICAL SPECIFICATIONS	Sub-Work C: VOIP Based TCCS & SIP EXCHANGE >> Schedule C3: Servers, Consoles and Licences >> Servers for SIP >> Point 27 (Page 26)	Asked server power supply is both AC & DC where is standard server only have one option either AC or DC. Therefore request to replace & with OR.	Dual power supply is required
6	TECHNICAL SPECIFICATIONS	Sub-Work C: VOIP Based TCCS & SIP EXCHANGE >> Schedule C3: Servers, Consoles and Licences >> Intercom Server and Perpetual License >>Upgrading SBC Aeonix Server	For Other OEMs, it will not be possible to upgrade existing exchange as license & upgrade support etc. are not in their control; therefore, allow other OEMs to quote additional license & integrate with existing exchange only instead of upgrading the existing exchange. (Please note upgrade license give exclusivity to one OEM, and others will not be able to quote due to this clause)	The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with

				existing SIP server with seamless working Can be proposed by the bidder
7	TECHNICAL SPECIFICATIONS	Sub-Work C: VOIP Based TCCS & SIP EXCHANGE >> Schedule C3: Servers, Consoles and Licences >> Intercom Server and Perpetual License (Point 35 & Page 27)	Asked Servers for intercom exchange can be in skin servers, or bidder need to COST server for intercom exchange as well?	Bidder need to supply COTS (Commercial off-the-Shelf) server. Separate Sever is required for intercom
8	TECHNICAL SPECIFICATIONS	Sub-Work C: VOIP Based TCCS & SIP EXCHANGE>> Schedule C4: Gateway and Switches >> Gateways for SIP EXCHANGE >> 96 Port 4*24 FXS Gateway (Point 1 page 27)	Asked port size, 24 ports are specific to existing OEM & favoring them request you to open port size from 8/16/24 OEM & OEM compatible gateways.	It is Mentioned in the technical Spec Chapter 1 Sch C4, any combination is mentioned or higher model can be supplied.
9	TECHNICAL SPECIFICATIONS	Sub-Work C: VOIP Based TCCS & SIP EXCHANGE>> Schedule C4: Gateway and Switches >> Gateways for SIP EXCHANGE >> 48 Port 2*24 FXS Gateway (Point 4 page 27)	Asked port size, 24 ports are specific to existing OEM & favoring them request you to open port size from 8/16/24 OEM & OEM compatible gateways.	Mentioned in the technical Spec Chapter 1 Sch C4, any combination is mentioned or higher model can be supplied.
10	TECHNICAL SPECIFICATIONS	Sub-Work C: VOIP Based TCCS & SIP EXCHANGE>> Schedule C4: Gateway and Switches >> Gateways for SIP EXCHANGE >> 24 Port	Asked for a separate FXO gateway is specific to existing OEM & favoring them request to allow other OEM to offer FXO port in FXS gateway itself as they support Trunk & Extension both from the same gateway units.	Mentioned in the technical Spec Chapter 1 Sch C4, any combination is mentioned or higher model can be supplied.

		FXO Gateway (Point 7 page 28)		
11	TECHNICAL SPECIFICATIONS	Sub-Work C: VOIP Based TCCS & SIP EXCHANGE>> Schedule C4: Gateway and Switches >> Gateways for SIP EXCHANGE >> E1 Gateway (Point 8 page 28)	Asked for a separate E1 gateway is specific to existing OEM & favoring them request to allow other OEM to offer FXO & E1 port in FXS gateway itself as they support Trunk & Extension both from the same gateway units.	E1 Gateway is required to connect BSNL Exchange which is Non SIP Exchange. FXO Gateway is required to connect FXS gateways.
12	TECHNICAL SPECIFICATIONS	CHAPTER-2: SCOPE OF WORK AND TECHNICAL REQUIREMENTS >> 2.2 IP based Exchange using SIP Protocol >> SIP based Exchange shall comply with TEC specification of IP Private Automatic Branch Exchange (IP PABX)TEC/GR/SW/PBX-IP/01/MAR2015, IP PABX with MEDIA GATEWAY No. : TEC/GR/SW/PBX-005/01/SEP-16 Signalling gateway No. : TEC/GR/SW/SGW-001/04/DEC-19	<p>Asked TEC should be OR instead of all.</p> <p>E.g. as all TEC represent the different categories, whereas some OEM offer all in one solution (PBX + Media gateway) and would not sell PBX & Media Gateway separately; those OEM only need to opt for IP PBX with Media gateway categories (TEC/GR/SW/PBX-005/01/SEP-16)</p> <p>TEC - TEC/GR/SW/PBX-IP/01/MAR2015 category only for IP PBX TEC - TEC/ GR/SW/PBX-005/01/SEP-16 category for IP PBX with Media gateway TEC - TEC/GR/SW/SGW-001/04/DEC-19 category for Signalling gateway</p>	Bidder should comply with TEC/GR/SW/PBX-005/01/SEP-16 category for IP PBX with Media gateway or latest. Same will be corrected in corrigendum
13	TECHNICAL SPECIFICATIONS	CHAPTER-2: SCOPE OF WORK AND TECHNICAL REQUIREMENTS >> 2.2.7 Details of SIP Server/Exchange Existing at Divisions.		

14	TECHNICAL SPECIFICATIONS	Sub-Work C:VOIP Based TCCS & SIP EXCHANGE >>CHAPTER-2 >> 3.3.1 Schedule C2 Item 2 : Specifications for BASIC IP PHONE Entry Level IP Telephone >> Point 1 (Page 202)	RFP ask is Minimum 132 x 64-pixel graphical LCD or better for entry-level phones is very specific to existing OEM whereas 128x64 is the most common pixel for entry-level phones and would not impact any display quality for screen sizes 2.2 to 2.8 inches screen size; hence request to allow 128x64 pixel.	Said specification has since been modified as 128x64 pixel graphical LCD or higher.
15	TECHNICAL SPECIFICATIONS	Sub-Work C:VOIP Based TCCS & SIP EXCHANGE >>CHAPTER-2 >> Specifications for BASIC IP PHONE Entry Level / MEDIUM IP PHONE / VIDEO PHONE. >> IPv4/IPv6	IPv4/IPv6 represents a dual-stack network. Can bidder offer solutions over dual-stack using IPv4 endpoints?	Solution with dual-stack can be offered.
16	TECHNICAL SPECIFICATIONS	Sub-Work C:VOIP Based TCCS & SIP EXCHANGE >>CHAPTER-2 >> 3.3.1 Schedule C2 Item 2 : Specifications for BASIC IP PHONE Entry Level IP Telephone >> Point 12 (Page 202)	<p>The STUN server allows clients to find out their public address, the type of NAT they are behind and the Internet side port associated by the NAT with a particular local port. This information is used to set up UDP communication between the client and the VoIP provider to establish a call.</p> <p>A STUN (Session Traversal of User Datagram Protocol [UDP] Through Network Address Translators [NATs]) server allows NAT clients (i.e. IP Phones behind a firewall) to set up phone calls to a VoIP provider hosted outside of the local network (Internet)</p> <p>DO SWR looking for users over the internet can make a call if not we request to remove this specification (we strongly suggest to go for other secure methods for remote users like SBC or VPN)</p>	Ok it will be Modified same will given in corrigendum

17	TECHNICAL SPECIFICATIONS	Sub-Work C:VOIP Based TCCS & SIP EXCHANGE >>CHAPTER-2 >> 3.3.1 Schedule C2 Item 2 : Specifications for BASIC IP PHONE Entry Level IP Telephone >> Point 13 (Page 202)	Proxy mode deployment required internet connectivity and allowed the user to register over the internet; DOT does not approve this option for enterprise telephony; therefore, it should be removed.	This feature has since been optional.
18	TECHNICAL SPECIFICATIONS	Sub-Work C:VOIP Based TCCS & SIP EXCHANGE >>CHAPTER-2 >> 3.3.2 Schedule C2 Item 3 : Specifications for MEDIUM IP PHONE >> Point 1 (Page 202)	The asked screen size of 3.66 is very specific to the existing OEM we request to open for all and reduce to 2.8 to 3.5 inches or 3.5 inches.	The specification has since been revised to Screen size 3.5 inches or higher.
19	TECHNICAL SPECIFICATIONS	Sub-Work C:VOIP Based TCCS & SIP EXCHANGE >>CHAPTER-2 >> 3.3.2 Schedule C2 Item 3 : Specifications for MEDIUM IP PHONE >> Point 2 (Page 202) also Point 6 3.3.3 Schedule C2 Item 4 : Specifications for IP VIDEO PHONE with POE (Page 203)	What is the use case of 6 VoIP account in SWR deployment? call server redundancy clause clearly defines the scope, so why is there a need for 6 VoIP & (16 VOIP for video phones) accounts if the phone is not registering to multiple servers (in case of multiple server registration required additional license in all servers to register multiple accounts)? We suggest removing this clause if not needed as it will give the edge to existing OEMs.	Minimum 6 or higher VOIP accounts should be available for both medium SIP phone and SIP Video phone connecting different servers in cluster mode over SWR,as per the modified tender document
20	TECHNICAL SPECIFICATIONS	Sub-Work C:VOIP Based TCCS & SIP EXCHANGE >>CHAPTER-2 >> 3.3.2 Schedule C2 Item 3 : Specifications for MEDIUM	Integrated Screenshots is OEM-specific features; other OEMs offer Screenshots using NMS software; therefore, request to remove it from phone specification.	Specification has been modified ,revised tender document may please be referred

		IP PHONE >> Point 12 (Page 202)		
21	TECHNICAL SPECIFICATIONS	Sub-Work C:VOIP Based TCCS & SIP EXCHANGE >>CHAPTER-2 >> 3.3.2 Schedule C2 Item 3 : Specifications for MEDIUM IP PHONE >> Additional Features (Page 202)	Some advance feature asked in RFP like hot desking available with Native SIP/Native protocol therefore request SWR to approve native protocol configuration for advance feature for offered SIP endpoints.	Feature of hot desking is made optional now
22	TECHNICAL SPECIFICATIONS	Sub-Work C:VOIP Based TCCS & SIP EXCHANGE >>CHAPTER-2 >> 3.3.2 Schedule C2 Item 3 : Specifications for MEDIUM IP PHONE >> Physical Features: (Page 202)	8 line keys will give an advantage to some OEMs; we request to change to 4 programable keys with 25 softkeys so additional keys would not be required in the future also or consider softkeys as line keys	Line keys are necessary for speed dial numbers, park calls,set up line busy etc.8 Line Keys are minimum requirement of Railway

2. Aravind Syntel

Sr. No	Document	Page no	Clause no	Description	Queries	Request for Change	SWR Remarks
1	Detailed Technical Spec	26	SC H-C 3, 22 to 26	Addon licenses for Mysore location	As licenses in Telephony exchange are always proprietary, only existing exchange OEM can supply these licenses i.e. only	Option-1 : Request you to remove these items and make separate work inviting only these OEM. Option-2 : Add separate servers and make this as new exchange. New exchange can be integrated	The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of 1.either upgrading the existing SIP exchange or

					Tadiran can participate in this	with any existing exchange over SIP or PRI	2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working Can be proposed by the bidder
2	Detailed Technical Specification	27	SC H-C 3, 33 & 34	Addon licenses for SBC location	As licenses in Telephony exchange are always proprietary, only existing exchange OEM can supply these licenses i.e. only Tadiran or Coral can participate in this	Option-1 : Request you to remove these items and make separate work inviting only these OEM. Option-2 : Add separate servers and make this as new exchange. New exchange can be integrated with any existing exchange over SIP or PRI	
3	Detailed Technical Specification	27	SC H-C 4, 1	FXS gateway 24ports cards x 4nos	No. of ports in cards varies from OEM to OEM. There are some Make in India exchanges will get affected because of this. Until OEM's is providing 96port gateway in any combination should be accepted	4x24 FXS gateway cards to be removed	Mentioned in the technical Spec Chapter 1 Sch C4, as 'any combination'
4	Detailed	27	SC H-C 4, 4	FXS gateway 24ports cards x 2nos	No. of ports in cards varies from OEM to OEM. There are some Make in India exchanges will get	2x24 FXS gateway cards to be removed	Mentioned in the technical Spec Chapter 1 Sch C4, as 'any combination'

	TechnicalSpec				affected because of this. Until OEM's is providing 48port gateway in any combination should be accepted		
5	Detailed TechnicalSpec	83	2.2.1 Scope of the Work	Adding Licenses in current exchange	Licenses to upgrade current exchange at HQ, Hubli, Mysore and SBC intercom	Current exchange cannot be maintained by other vendor by adding licenses etc., Hence you are requested to go for new exchange at these locations or put this in separate work	The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working Can be proposed by the bidder
6	Detailed TechnicalSpec	88	2.2.6	Multi-Gateways locations like Hubballi jn, Hosapete, Ballari, KSR, etc.,	During the situation of self-survivability i.e., when both server goes down, all gateways in the respection location should communicated	During the situation of self-survivability i.e., when both server goes down, all gateways in the respection location should communicated each other. Also gateways to gateway in the	During self-survivability mode i.e., when both servers go down, all phones connected to that gateway in the respective location should communicate with each

					each other. Also gateways to gateway in the division should communicate each other. This is supported by all OEM and giving advantages to railways	division should communicate each other.	other. Also if possible, gateways in the division can communicate with each other.
7	Detailed Technical Specification	205	3.3.5.1	At Mysore Aeonix system Tadiran Make is already installed. The new resources licenses to be added I.e. User licenses, Mobility and SIP trunks licenses etc. in the same Tadiran Aeonix system installed. If any other OEM/vendor wants to give a complete new system, can offer at no additional cost and supply subject to without compromising any of the existing system features and	In this case, apart from Tadiran rest all vendor cannot commercially compete and only Tadiran can participate in this tender. As it is open tender and to benefit of railways, we request you to keep this license work as separate limited tender work.	Request to keep this work separately as limited tender for the benefit of railways else only Tadiran can participate in this	The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working Can be proposed by the bidder

				performance required. (Exiting server hardware shall be utilized). In this Railway decision is final			
8	Detailed Technical Specification	206	3.3.5.3	Nowhere server capacity has been mentioned in such huge requirement.		We request you to mention per server capacity of minimum 15000ports which is supported by all 99% OEM. This benefit huge to railways in terms of expandability considering future requirement	The hardware specification of the servers provided in the Schedule, shall be supplied
9	Detailed Technical Specification	207	3.3.5.6	The proposed solution must support Hybrid Cloud Solution in order to guarantee business continuity with overall survivability regardless of a failure at any single location. The proposed solution must enable part of the cluster to	Public cloud are not generally not allowed in Railways considering security threat to database of Railway exchange	Please remove these clause	The proposed solution must support this feature, however installing server based solution or cloud based solution will be decided by Railways

				<p>be hosted in a public or private cloud.</p> <p>The proposed solution must have built in redundancy using a cloud solution to provide automatic disaster recovery options.</p>			
10	<p>Detailed Technical Specification</p>	208	3.3.5.8	<p>Help Desk Specifications/Complain Management General capabilities:</p> <p>The proposed solution must be embedded within the platform, not installed on a separate server and should be from the same OEM of the telephony system.</p>	<p>Asking this application from same OEM is biasing to single OEM i.e Tadiran. We request you to remove "The proposed solution must be embedded within the platform, not installed on a separate server and should be from the same OEM of the telephony system" So that we can offer full fledged solution for this application and which will offer more additional feature than</p>	<p>Please remove the clause "The proposed solution must be embedded within the platform, not installed on a separate server and should be from the same OEM of the telephony system."</p>	<p>Bidder can propose either embedded solution on existing platform or his/her own solution on same or different hardware at vendors cost.</p> <p>This can be from any OEM but integration shall be done with existing server</p>

					this which is added advantage to railways		
11	Detailed Technical Specification	209	3.3.5.9 & y)	The Personal conference solution should be from the same telephony server and have the facility to automatically dial out to connect up to 30 participants or more in a single conference	Conference solution can be offered with more advantage than asked. To offer the same kindly remove "should be from the same telephony server". This point also biased to single OEM	The Personal conference solution should have the facility to automatically dial out to connect up to 30 participants or more in a single conference	Specification has since been modified so that bidder can propose different solution also that works on third party solution not only on same telephony server
12	Detailed Technical Specification	216	3.3.9.9 Telephony Features	The Personal conference solution should be from the same telephony server and have the facility to automatically dial out to connect up to 30 or more	Conference solution can be offered with more advantage than asked. To offer the same kindly remove "should be from the same telephony server". This point also biased to single OEM	The Personal conference solution should have the facility to automatically dial out to connect up to 30 participants or more in a single conference	Specification has since been modified so that bidder can propose different solution also that works on third party solution not only on same telephony server

				participants in a single conference.			
13	Detailed Technical Specification	217	3.3.10 Schedule C3 Item. No 33 & 34:	The existing server should be upgraded with additional 100 IP licenses and 30 SIP trunk licenses to cater for intercom provision to construction officers in Bengaluru Cantonment . The server should be reprogrammed accordingly .	This can be done only by Tadiran. By mentioning this point, only Tadiran can participate in this tender.	Please remove this to allow us to participate in this tender	The description of scope of work has since been modified as Upgradation/Integration, so that one of the solutions of 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working Can be proposed by the bidder
14	Detailed Technical Specification	218	3.3.13 to	The Preferably Gateway should be	Why do you need products from Same OEM when we are talking about open	Please remove this clause	It is mentioned the gateway should be 'preferably' of same OEM but bidder can propose any other gateway

	icalSpec		3.3 .18	of Same OEM as of Call Server.	source. I think Railway have already listed features they wanted hence product from same OEM is again biasing to some particular vendors		which can support all the features of SIP Exchange also
15	Detailed TechnicalSpec	22 2	3.3 .20 .1	NMS(Network Management Server) Application should be the preferable same as the OEM of the IP PBX system.	Why do you need products from Same OEM when we are talking about open source. I think Railway have already listed features they wanted hence product from same OEM is again biasing to some particular vendors	Please remove this clause	NMS(Network Management Server) Application should be of same make of the OEM of the IP PBX system, preferably .If bidder is providing new server at existing locations ,then NMS should be from OEM of that SIP server

IPMPLS Queries

Mention to support to add 2 x STM1 (channelized optical) ports in the router (LER / LSR) :

- Indian railways are on path to complete migrate to IPMPLS Ethernet based communication devices for the data and voice and STM1 would only be a mere initial need if at all required in the network

- It would be better to have an option such as STM 1 or WDM module in LER / LSR which can allow Indian Railways to carry STM 1. The WDM module can carry STM1 / 4/ 16/ 64 this allow more flexibility and intelligence in the migration to IPMPLS for Indian Railways
 - It is also cost effective and also providing much more flexibility as mention above helping you to carry higher levels of STM which will be required in your network at branch lines or where you have STM4 as you have also upgraded STM1 to STM 4 for better speeds on SDH network
 - Carrying STM1 through IPMPLS traffic might also have very minor delay in the SDH network this could be a deterrent where in you carrying certain vital circuits like BPAC / UFSBI of signalling nature on SDH might get affected but through WDM it will not cause any delay for such network
 - STM1 module is also required only such time till the systems is fully migrated to IPMPLS which will be very soon but after that STM 1 would be redundant which was unnecessarily adding cost to the IPMLS router but WDM module will continue to be useful after migration also as it will enhance the optical fibre capacity manifold and can be used to for various other ever-growing needs of the user or Nation.
 - However, if a challenge is envisaging that STM 1 is required to be carried through IPMPLS traffic than in certain locations than we can have SMART SFP which convert STM 1 traffic to Ethernet on need basis of the network
- The flexibility to use STM 1 or WDM to be given for ease and intelligent migration to IPMPLS
- WDM module also adds more features to your network as it can also be connected on single fibre and provide tremendous advantages
- The WDM also allows to enhance the capacity without interfering with your IMPLS router if required
- Being a large network and backbone of such an impressive organization like Indian Railways which is the heart of the nation and very vital, such flexibility will add value to the user network options to use interface such as STM1 / WDM / Smart SFP to be provided which will benefit the network and is also future protected be it capacity need and ease of interconnecting
- We also know that SDH devices are fast being replaced by Ethernet devices and also the availability of STM 1 module will be very much limited in terms of availability and support. This also true for 1G Ethernet devices (access devices) also evolving to 10G and WDM will ensure more capacity availability

SWR Remarks: RDSO STT/TAN/IP-MPLS/2020 Ver 01 datedor latest may please be seen and complied.

3. Arjun Desai Innovative Worldtech Private Limited

Sl No	Query	Remark/Reply	SWR Remarks
1	Request for extension bid submission date from 15 Nov by 3 weeks due to the large number of items and the long holidays of Rajyotsava and Deepavali.	Bid submission date is extended and now Tender closing date is 03/12/2021	Last date for submission of Bids has since been extended to 03.12.2021
2	Please clarify if we can bid as a consortium. If yes, what is the maximum number of members in a consortium. (Consortium will be formed with a legal agreement with clear definition of scope of work among all the members)	Joint Venture may be formed by maximum of 3 parties. Conditions of JV are given in the SCC clause no. 17	Joint Venture may be formed by maximum of 3 parties. Conditions of JV are given in the SCC clause no. 17

4. ATOS PRE BID QUERIES

A. COMMERCIAL

1. Is it mandatory to Bid for all schedules A /B/C or selective schedule bidding allowed

SWR Remarks : It is mandatory to bid for all schedules A/B/C.

2. Please clarify on

Bidding Style	[Decision at Schedule level]
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SWR Remark : The Bidder has to quote higher, lower or at par percentages for each schedule.

3. Technical Eligibility Condition: All 03 Schedule should meet below Technical Criteria Eligibility

Special Technical Criteria

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	For composite works (e.g. works involving more than one distinct component, tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited: Three similar works each costing not less than the amount equal to 30% of advertised value of each component of tender, or Two similar works each costing not less than the amount equal to 40% of advertised value of each component of tender, or One similar work each costing not less than the amount equal to 60% of advertised value of each component of tender. Note: This work involves 3 distinct Components i.e IP MPLS Network (Rs 28,03,14,591.47/-), Video Surveillance System (Rs 35,67,81,178.5/-), VOIP Based TCCS / SIP Exchange (Rs16,83,11,298.54/-) . The Similar nature of work is as below For IP-MPLS network- Design, supply, configuration, installation and commissioning of a network with IP based Technology having IP-MPLS backbone spread over geographically dispersed ,remote point of Presence site/locations spanning multiple Cities/Towns along with provision of Network Management System for the entire network For Video Surveillance System Design, supply, configuration, installation and commissioning of IP enabled video surveillance system with video management servers, in Federated and multi-tenant Architecture ,spread over geographically dispersed , remote sites /locations spanning multiple towns/cities For VOIP TCCS /SIP Exchanges Design, supply, configuration, installation and commissioning of IP based telephony by Provision of IP server based IP- PBX /SIP exchanges	No	No	Allowed (Mandatory)

SWR Remarks: Yes. Technical eligibility criteria has been specified as meeting criteria of having executed single similar nature of work for three sub works as specified for all the three works.

4. Financial Eligibility Condition: Contractual Payment - 150% - Total cumulative receipt on last 03 FY – 150% - 120 Cr ??

Special Financial Criteria

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	The tenderer must have received contractual payments in the previous three financial years and the current financial year up to the date of inviting of tender, at least 150% of the advertised value of the tender. The tenderers shall submit Certificates to this effect which may be an attested Certificate from the concerned department / client or Audited Balance Sheet duly certified by the Chartered Accountant/Certificate from Chartered Accountant duly supported by Audited Balance Sheet. Note for 10.2: Client certificate from other than Govt Organization should be duly supported by Form 16A/26AS generated through TRACES of Income Tax Department of India.	No	No	Allowed (Mandatory)

SWR Remarks: Yes .Financial eligibility criteria ,vide para no. of Tender document ,shall meet 150% of the advertised value of Tender i.e Rs 120.81 Cr.

5. Compliance to Land Border Circular – Must include compliance Certificate

SWR Remarks:- Yes.

Declaration certificate for the compliance to land border guidelines shall be submitted by the bidder as per RDSO/SPN/TC/65/2021 ver. 6.0 guidelines.

6. PPP-MII – Format for Local Content Declaration - Must include compliance Certificate

SWR Remarks:- Please read clause no. 6.0 of special conditions of contract (SCC) in modified tender document .

7. Consortium – Allowed – if Yes Terms of Consortium

SWR Remarks:- Please refer to Joint Venture (JV) Clause No 17 in Special conditions of contract (SCC).

8. Due date Extension

SWR Remarks:- Has since been extended up to 03.12.2021.

9. Applicable Rate of GST – 12% or 18%

SWR Remarks:- Presently 12 % GST is applicable on all works contracts in Railways.

10. Payment Terms for Supply and Installation Schedule items

Supply

Supply & Installation

Installation

SWR Remarks :- Please refer to Payment Terms clause no. 4 in special conditions of contract (SCC).

B. TECHNICAL QUERIES

1. Schedule Item of Tadiran upgradation to be removed as it is OEM specific. This is to be sourced separately

SWR Remarks :The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of

1.either upgrading the existing SIP exchange

or

2.using the existing server hardware and loading new software

or

3.providing new server and integrating with existing SIP server with seamless working

Can be proposed by the bidder

Intercon Server – Can be part on Mail SIP Server – reduces hardware

SWR Remarks:- Separate server is to be provided for intercom as the same is a separate exchange

2. Universal licenses for OEM / 3rd Party SIP Phones

SWR Remarks:- No change. Please read schedule C3 item no. 22

3. Per single Server capacity for max number of users

SWR Remarks:- Server hardware shall comply with or better than the specification mentioned in the tender document.

Server shall support minimum licenses as specified in schedule C3.

4. SBC Certification

SWR Remarks:- Query is not clear.

5. Encryption

SWR Remarks:- Query is not clear.

6. Detailed Technical Specifications: 2.2 IP based Exchange using SIP Protocol

1. Page No. 87: Point No. 10. The IP PBX should support Open Standard architecture. The system should work with SIP Phones and media gateways (FXS/FXO/PRI) from the same OEM. It should also support third party SIP phones and media gateways of third parties so that the system can be scaled horizontally in Future— Request you to amend the clause for the supplied Lic. should support Universal Lic. i.e. same Lic. for Analog, Digital, OEM IP Phone, 3rd Party SIP Phone and Video phone. This will help Indian Railway to plan any future modification without any dependency on the IP Telephony Vendor.

SWR Remarks:

The IP PBX should support Open Standard architecture as elaborated in above specification. Therefore same holds good. No Change.

2. Page No. 217: 3.3.10 Schedule C3 Item. No 33 & 34: Specifications for Upgradation of Aeonix server-- Schedule Items are OEM specific so please remove the same. It is very difficult for any bidder to bid for a specific OEM if they are working with another OEM. This is extremely restrictive clause favoring to particular 1 vendor and Railway cannot get any other competitive Bids for this section. Narayanaswamy G Country Manager – Channels Atos - Unify 2 of 2 SWR can source this these items separately

SWR Remarks :- The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of

- 1. either upgrading the existing SIP exchange**

or

2. using the existing server hardware and loading new software

or

3. providing new server and integrating with existing SIP server with seamless working can be proposed by the bidder

5. Bay Talkitec

S.N	Unified Communication	Clarification needed	SWR Remarks
	3.3.5 Schedule C3 Item 20-24 : Communication (SIP) Server Services and Licenses		

1	The system must be suitable with adequate interfaces to provide a control of the communication processes and computer telephony integration (CTI).	Server HW is included under C2 . No quantity also mentioned. Under which line item it is given ? Confirm ?	It is the feature of the Software license under the schedule item mentioned . No additional hardware is involved .
2	<ul style="list-style-type: none"> Multimedia workflow solutions 	What is Multimedia work flow ? More details are needed.	Shall support Audio , video and other multimedia applications
3	<ul style="list-style-type: none"> CTI and presence based communication services 	It is IP based system. It is integral part.No separate CTI. CTI is for the PBX legacy system.	CTI is integral part of IP PBX
4	<ul style="list-style-type: none"> Web Collaboration Solutions, Instant Messaging 	What type of web collaboration	For Management of SIP server and organizing conferences through Web browser etc. ,web collaboration feature shall be available
	3.3.5.1 Standards and guidelines that have to be met		
	The communication server must meet the requirements of the regulatory authorities for Telecommunications in India and recommendations of the ITU Standards.		

5	<ul style="list-style-type: none"> ● The offered Make and Model with Similar configuration should have been installed in India using IP technology in at least 2 locations in the last 5 years. Model should be the latest. 	IPPBX with new technology could be WEBRTC . Hence VOIP based experience should be considered not similar configuration. It is favoring one vendor.	Said clause has since been modified
6	<ul style="list-style-type: none"> ● The products must comply with Safety and EMC standards, including FCC, UL/TUV, CE, and the RoHS directive or equivalent. 	It is server based, Hence server should have these certificates ?	Yes
7	<ul style="list-style-type: none"> ● Vendors must submit TEC Compliant approval certificate for GR/IR issued by Telecommunication Engineering Centre (TEC), Department of Telecommunication, Govt. of India tested with IPv4 & IPv6 for both SIP terminals and SIP Trunks from day 1 for the particular model of IP-PBX with Server & Media Gateway system quoted. Notarised copy of the same is required to submit along with the technical bid. 	IPPBX with new technology like webRTC and mobile integration may not meet the TEC GR. May be AT can be conducted by the authorized organization. Also IP PBX is using SW component using SIP. If SIP meets the required RFC it should be sufficient. We can submit the certificate from SIP Stack vendor that we are OEM. Otherwise have direct com. This clause can be removed or modified.	TEC approval certificate is mandatory for establishing technical credentials of the proposed system
8	<ul style="list-style-type: none"> ● The OEM offered unified communication and call manager application must have valid trademark registration certificate 	This is specifically meeting particular vendor. OEM vendor	Only TEC approval certificate is made mandatory for establishing technical

	as per Govt. of India trademark act 1999, Section 23, rule No. 62(1).	should be Indian company Make India .	credentials of the proposed system
9	<ul style="list-style-type: none"> Hardware of the offered IP Telephony Exchange of server-Gateway architecture with redundancy system should be from same OEM or compatible, IP telephony system Software, IP/SIP Phones, Media Gateways, Auto attendance, Help Desk and voice mail should be preferably of same OEM of IP Telephony Exchange. 	IP Exchange utilizes standard server like HP/Dell/Lenova and they do not have application like IPPBX. It is meeting one particular vendor.	<ul style="list-style-type: none"> IP telephony system Software, IP/SIP Phones, Media Gateways, Auto attendance, Help Desk and voice mail should be preferably from same OEM or compatible with each other
10	<ul style="list-style-type: none"> At Mysore Aeonix system Tadiran Make is already installed. The new resources licenses to be added I.e. User licenses, Mobility and SIP trunks licenses etc. in the same Tadiran Aeonix system installed. If any other OEM/vendor wants to give a complete new system, can offer at no additional cost and supply subject to without compromising any of the existing system features and performance required. (Exiting server hardware shall be utilized). In this Railway decision is final 	It depends upon the availability of the spare from Aeonix. To provide new system requirement / specification is needed.	The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working Can be proposed by the bidder

11	<ul style="list-style-type: none"> ● System software shall allow independent shutdown of each unit/card. During the demounting and mounting of extension or trunk cards, no other unit/card shall be shut down (hot swapping). 	IPPBX is SW application running on servers and SIP trunk. No card here. Each system or channel can be enabled or disabled,	Applicable for SIP trunk/PRI Gateway/FXO/FXS gateways
12	<ul style="list-style-type: none"> ● In case of a capacity expansion or adding another location to the network there should be no Interruption of the central system (reset, shut down etc.) 	It depends of type of expansion. For adding extensions or changing configuration it is ok. If server to ab added with extra HDD, enhance memory. Standby server will take control.	Working system should not be affected while adding or modify any changes in server. Two servers on active - active configuration will be deployed
13	<ul style="list-style-type: none"> ● The system should allow for third party applications to be added in the open architecture. 	Need details about third party applications. It is allowed within the RFPscope.	Conference bridge, Web based video conference or call center solutions, any other applications which is additionally required.
	3.3.5.5 Interfaces for Subscriber & Trunk and System networking to be supported		
14	Server should support standard SIP or H.323 Protocols for IP Phones and Trunks. System should Support all terminals like analog with CLIP, IP, SIP, soft phone, conference room phones.	H.323 is outdated. You have mentioned SIP for all the endpoints. Supporting one	It has been asked latest SIP technology or H.323 protocol. SIP shall support all the endpoints

		vendor. This can be an option not mandatory	
15	<ul style="list-style-type: none"> • Conferencing and messaging capability. 	Confirm it is only audio conference . How many concurrent calls	As Mentioned in Tender documents clause 3.3.5.9 Telephony Minimum Features should be available.
	3.3.6 Schedule C3 Item 26 : Specifications for Soft Phone and its features		
16	1. The soft client should be from the same OEM of IP telephony systems for the new server. Wi-Fi facility for smartphone to be provided by the user. Authentication of soft phone should be done from the server.	It is supporting one vendor. There are many good soft clients are available. It should support SIP with required RFC.	Soft client license should be of same OEM or of third party which supports MAXIMUM features of OEM.
17	9. Support of CTI-Link according to CSTA	It is IP based system. No separate CTI	Being an integral part, separate hardware for CTI is not required
	3.3.9.2 Communication Server Services		
18	The system must be suitable with adequate interfaces to provide a control of the communication processes and computer telephony integration (CTI).	It is IP based system. CTI is pulling out the information for telephony. Here it is IPPBX. Hence CTI is integral part .	Being an integral part, separate hardware for CTI is not required

19	f. CTI and presence based communication services	It is IP based system. CTI is pulling out the information for telephony. Here it is IPPBX. Hence CTI is integral part.	
	3.3.9.4 System Architecture		
20	a. The system server should use an operating system like Centos , UNIX, and should not have any additional licensing or proprietary overheads.	In the server specification it is also mentioned windows. Hence here also it should mention windows	Will be incorporated in modified tender document
	3.3.9.5 Interfaces for Subscriber & Trunk and System networking to be supported		
21	Server should support standard SIP or H.323 Protocols for IP Phones and Trunks. System should Support all terminals like analog with CLIP, digital, IP, SIP, soft phone, conference room phones.	H.323 is outdated. You have mentioned SIP for all the endpoints. Supporting one vendor.This can be a option not mandatory	Server shall support Standard SIP or H.323 protocols for IP phones . The clause that system shall support all the endpoints /terminals is a functional requirement and is universal .

	3.3.9 Schedule C3 Item.No 33 & 34: Specifications for Upgradation of Aeonix server		
22	<p>The Existing R 230 Dell server (Tadiran Aeonix unified communication system)at Bengaluru is equipped with 24 Analog license,100 Tadiran IP endpoint license,10 SIP trunk licenses in Active-active cluster mode. The existing server should be upgraded with additional 100 IP licenses and 30 SIP trunk licenses to cater for intercom provision to construction officers in Bengaluru Cantonment . The server should be reprogrammed accordingly</p>	<p>It is old system. The vendor should give upgrade offer. Railway and do activation. This requires a joint proposal from the new vendor and railway.</p>	<p>The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of</p> <ol style="list-style-type: none"> 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working <p>Can be proposed by the bidder</p>

6. Belden India Private Limited

S. N.	Tender Ref.	Tender Cl	Queries	SWR Remarks
1	Sub-Work A - IP MPLS(Multi Protocol Label Switching) Schedule A2: MPLS Routers, Manageable Switches and Accessories Sl.2	Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) IPMPLS Router with Redundant -48V DC Power Supply, Redundant Controller Card, 8 x 10G SFP+ Ports along with 8 Nos of 40 Kms 10 G SFP+ Modules, 32 E1 card with Adapter and modules along with patch panels, 4x1G Optical SFP Ports with Single Mode Bi-directional Modules and 4 x 1Gbe Copper WAN based interfaces & Modules, 2x STM-1(Channelised) along with 2 Nos of SFP(S.1.1) Modules Compatible with Existing STM-1.Non Blocking throughput ,Mounting Kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Inspection RDSO.	As per S.N 2 of Schedule A2. Label Switching Router (LSR) demands for 32 E1 card with Adapter and modules along with patch panels, 4x1G Optical SFP Ports with Single Mode Bi-directional Modules and 4 x 1Gbe Copper WAN based interfaces & Modules, 2x STM-1(Channelised) along with 2 Nos of SFP(S.1.1) Modules Compatible with Existing STM-1. However as per RDSO document the this interface is only applicable with LER (Label edge Router) and not with LSR. Kindly clarify if it is applicable for LSR also.	Correction in description of LSR will be made and same shall be in accordance with specifications elaborated as per RDSO STT/TAN/IP-MPLS/2020 Version 1.0

2	LER And LSR Qty	LER and LSR in Schedule A2 and proposed IP MPLS network diagram	As per Schedule A2 the quantities of LER = 291 and LSR=28 , however as per IP MPLS network diagram the quantities of LER= 327 and LSR =38 , Kindly clarify which all location are having existing LER/LSR	Quantity mentioned in the schedule to be considered while bidding.
3	Schedule A2: MPLS Routers, Manageable Switches and Accessories	Power supply requirement -48V DC for LER and LSR	As power supply DC is mention for LER and LSR application However other application do have the provision to use AC power supply. Please let us know if product LER and LSR shall also use the AC power supply instead of DC Power supply.	LER and LSR shall work on -48V DC. As per RDSO TAN No. STT/TAN/IP-MPLS/2020

7. Blue Harp

	IP MPLS			
S N	Tender Ref.	Tender CI	Queries	SWR Remarks
1	Sub-Work A - IP MPLS(Multi Protocol Label Switching) Schedule A2: MPLS Routers, Manageable Switches and Accessories SI.2	Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) IPMPLS Router with Redundant -48V DC Power Supply, Redundant Controller Card, 8 x 10G SFP+ Ports along with 8 Nos of 40 Kms 10 G SFP+ Modules, 32 E1 card with Adapter and modules along with patch panels, 4x1G Optical SFP Ports with Single Mode Bi-directional Modules and 4 x 1Gbe Copper WAN based interfaces & Modules, 2x STM-1(Channelised) along with 2 Nos of SFP(S.1.1) Modules Compatible with Existing STM-1.Non Blocking throughput ,Mounting Kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Inspection RDSO.	As per S.N 2 of Schedule A2. Label Switching Router (LSR) demands for 32 E1 card with Adapter and modules along with patch panels, 4x1G Optical SFP Ports with Single Mode Bi-directional Modules and 4 x 1Gbe Copper WAN based interfaces & Modules, 2x STM-1(Channelised) along with 2 Nos of SFP(S.1.1) Modules Compatible with Existing STM-1. However as per RDSO document this interface is only applicable with LER (Label edge Router) and not with LSR. Kindly clarify if it is applicable for LSR also.	Specification of LSR shall comply with aforesaid RDSO TAN. Same will be updated in corrigendum.
2	LER And LSR Qty	LER and LSR in Schedule A2 and proposed IP MPLS network diagram	As per Schedule A2 the quantities of LER = 291 and LSR=28 , however as per IP MPLS network diagram the quantities of LER= 327 and LSR =38 , Kindly clarify	The quantities mentioned in schedule in chapter 1 of detailed

			which all location are having existing LER/LSR	technical spec are to be followed.
3	Schedule A2: MPLS Routers, Manageable Switches and Accessories	Power supply requirement -48V DC for LER and LSR	As power supply DC is mention for LER and LSR application However other application do have the provision to use AC power supply. Please let us know if product LER and LSR shall also use the AC power supply instead of DC Power supply.	LER and LSR shall work on -48V DC. As per RDSO TAN No. STT/TAN/IP-MPLS/2020
	VSS			
S N	Tender Ref.	Tender Cl	Queries	
1	Sub work B of SOR, Video Surveillance System, Schedule B IP Cameras,	4K UHD Bullet type IP as per RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 focal length requirement is 4.5 to 10mm.	Most of the Major brands in India carries focal length of less than 10mm in 4K(8MP) models, we request you to consider focal length as 4.5 to 8.5mm.	No change. Specification as per RDSO Spec No RDSO/SPN/TC/65/2021 Rev.6
2	Sub work B of SOR, Video Surveillance System, Schedule B IP Cameras,	Full HD Fixed Bullet/Dome type IP Colour Camera as per RDSO Spec No RDSO/SPN/TC/65/2021,Rev 6.0Image sensor is 1/ 2.8" or larger	Please allow 1/3" type Image sensor for 2MP camera Dome & bullet cameras	No change. Specification shall be as per RDSO Spec No

				RDSO/SPN/TC/65/2021 Rev.6
3	Subwork B of SOR, Schedule B3: Server, Licenses and Workstation	Video analytics at multiple locations such as Station, RPF Post & VAS Software Security control by same license) as per RDSO Spec No RDSO/SPN/TC/65/2021 Rev.6	If camera is having few in-built analytics like intrusion, tampering, Loitering etc. Which can be monitored and managed by VMS software, then also will it be proposed separately in the video analytics section or not required to quote again.	Bidder can quote as per schedule under any one item
4	Subwork B of SOR, Schedule B3: Server, Licenses and Workstation	Video analytic at multiple locations such as Station, RPF Post & VAS Software Security control by same license) as per RDSO Spec No RDSO/SPN/TC/65/2021 Rev.6	Color search analytics is for vehicle search only. Please specify	Colour search analytics may be used to identify a person/Vehicles based on their colour.,As per Clause 18.4.7 RDSO Spec No RDSO/SPN/TC/65/2021 Rev.6

8. BSNL

Sl No	Description	Remark BSNL	SWR Remarks
1	The tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited: Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or One similar work each costing not less than the amount equal to 60% of advertised value of the tender	Similar experience in all the three parts of tender i.e Cisco WAN, IP VSS & IP Voice, is difficult for any Bidder	The Eligibility Criteria shall be as per General Conditions of Contract of Indian Railways and is mandatory to be fulfilled .
2	Note for Item 10.1: Work experience certificate from private individual shall not be considered. However, in addition to work experience certificates issued by any Govt. Organisation, work experience certificate issued by Public listed company having average annual turnover of Rs 500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, incorporated/registered at least 5 years prior to the date of opening of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates.	Not very clear need clarification for the same	Certificate for having done similar works as defined above work experience certificate issued by any Govt. Organisation shall be considered . In addition ,Work experience certificate issued by Public listed company having average annual turnover of Rs 500 crore and above in last 3 financial years excluding the current financial year, Companies

			listed on National Stock Exchange or Bombay Stock Exchange, incorporated/registered at least 5 years prior to the date of opening of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates.
3	Financial Eligibility Criteria: The tenderer must have received contractual payments in the previous three financial years and the current financial year up to the date of inviting of tender, at least 150% of the advertised value of the tender. The tenderers shall submit Certificates to this effect which may be an attested Certificate from the concerned department / client or Audited Balance Sheet duly certified by the Chartered Accountant/Certificate from Chartered Accountant duly supported by Audited Balance Sheet	Is this only for the Financial criteria for any payment received by tenderer or specific to the similar works done	Financial Criteria is for payment received by Tenderer for any works and need not necessarily be for works of similar nature only.
4	Documents testifying tenderer previous experience and financial status should be produced along with the tender. Tenderer(s) who is / are not borne on the approved list of the Contractors of _____ Railway shall submit along with his / their tender:	Is Registration of tenderer with Railways a must, if yes please	Not necessary.

		specify the process to register	
5	Participation of Joint Venture (JV) in Works Tender: This Clause shall be applicable for works tenders wherein tender documents provide for the same.	Not very clear need clarification for the same	Detailed explanation mentioned in under clause no. 17 of Special Conditions of Contract may be seen
6	Number of members in a JV shall not be more than three, if the work involves only one department (say Civil or S&T or Electrical or Mechanical) and shall not be more than five, if the work involves more than one Department. One of the members of the JV shall be its Lead Member who shall have a majority (at least 51%) share of interest in the JV. The other members shall have a share of not less than 20% each in case of JV with upto three members and not less than 10% each in case of JV with more than three members. In case of JV with foreign member(s), the Lead Member has to be an Indian firm/company with a minimum share of 51%.	Does this mean lead members of the JV should have majority of experience in implementing the project?	It means lead members of the JV should have majority percentage of share and the said para has no connection with work experience
7	Security Deposit: The Earnest Money deposited by the Contractor with his tender will be retained by the Railways as part of security for the due and faithful fulfillment of the contract by the Contractor. The Security Deposit shall be 5% of the contract value. Security Deposit may be deposited by the Contractor before release of first on account bill in cash or Term Deposit Receipt issued from Scheduled Bank, or may be recovered at the rate of 6% of the bill amount till the full Security Deposit is recovered. Provided also that in case of defaulting Contractor, the Railway may retain any amount due for	Whether submission of both Security Deposit & Performance Bank Guarantee necessary?	Yes, necessary as per General Conditions of Contract

	<p>payment to the Contractor on the pending "on account bills" so that the amounts so retained (including amount guaranteed through Performance Guarantee) may not exceed 10% of the total value of the contract.</p> <p>Performance Guarantee</p> <p>The procedure for obtaining Performance Guarantee is outlined below:(a) The successful bidder shall have to submit a Performance Guarantee (PG) within 21 (Twenty one) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 21 (Twenty one) days and upto 60 days from the date of issue of LOA may be given by the Authority who is competent to sign the contract agreement. However, a penal interest of 12% per annum shall be charged for the delay beyond 21(Twenty one) days, i.e. from 22nd day after the date of issue of LOA. Further, if the 60th day happens to be a declared holiday in the concerned office of the Railway, submission of PG can be accepted on the next working day.</p>		
8	<p>Contractor to Arrange Supply of Electric Power for Works: Unless otherwise provided in the contract, the Contractor shall be responsible for arrangements to obtain supply of Electric Power for the works. Electric Supply from the Railway System: The Railway may supply to the Contractor part or whole of the electric power wherever available and possible, required for execution of works from the Railway's existing electric supply systems at or near the site of works on specified terms and conditions and such charges as shall be determined by the Railway and payable by the Contractor provided the cost of arranging necessary connections to the Railway's Electric Supply systems and laying of underground</p>	<p>Un-interrupted Power supply necessary for the implementation of all the components mentioned in the tender, should be provided by Railways & not in the scope of tenderer</p>	<p>Railway will arrange Un-interrupted power supply/EB Supply for working of equipment once they are installed and commissioned .</p> <p>However power supply required during the wiring example for drilling machine, platform cutting etc for work has to be</p>

	/overhead conductor, circuit protection, electric power meters, transmission structure, shall be borne by the Contractor and that the Contractor shall not be entitled to any compensation for interruption or failure of the Electric supply system.		arranged by contractor or alternately can be arranged by Railway duly for which , payment has to be done by tenderer on meter .
9	Unit rates for each spare required for operation and maintenance shall be provided. Bidder shall also provide the address, contact person, mail-id, fax, and telephone no. of the manufacturer of the spare parts, if different from the bidder itself. The bidder shall warrant that spare parts for the system would be available for a minimum of 8(3 Year Maintenance and 5 Year AMC) years after issue of PAC for IT setup at Data Center- Disaster Recovery.	Does this mean the OEM has to provide warranty support for the proposed hardware, for the next 8 years?	Initial Warranty support is for 3 years. Availability of spare parts during AMC Maintenance is to be ensured for next 5 years minimum under the schedule for AMC.
10	Unit rates for each spare required for operation and maintenance shall be provided. Bidder shall also provide the address, contact person, mail-id, fax, and telephone no. of the manufacturer of the spare parts, if different from the bidder itself. The bidder shall warrant that spare parts for the system would be available for a minimum of 8(3 Year Maintenance and 5 Year AMC) years after issue of PAC for IT setup at Data Center- Disaster Recovery.	Kindly clarify what 3 Year Maintenance means, whether it is Component warranty for all the goods mentioned in this tender?	3 years maintenance means that if any component/equipment gets defective in that period , same shall be rectified free of cost.
11	Unit rates for each spare required for operation and maintenance shall be provided. Bidder shall also provide the address, contact person, mail-id, fax, and telephone no. of the manufacturer of the spare parts, if different from the bidder itself. The bidder shall warrant that spare parts for the system would be available for a minimum of 8(3 Year Maintenance and 5 Year AMC) years after issue of PAC for IT setup at Data Center- Disaster Recovery.	Kindly clarify what 5 Year AMC means, whether it is onsite resource support along with scheduled visits & maintenance of the solution?	Scope of work under AMC period of 5 years is elaborated in Special Conditions .

12	Replacement Services In case of hardware failure, the replacement must be given in the next business day. If the bidder fails to replace as per below mentioned duration, the following penalties will be imposed as decided by Railways depending on the Circumstances :If the Bidder fails to replace /Equipment card/Part in next business day, the following penalties will be imposed	Kindly confirm if Next Business day support is required for all the equipments supplied?	Applies for all equipment.
13	4. Supply, Installation, Testing & Commissioning of Video Recording Server cum Video Analytic Hardware and all accessories required for installation purpose.as per As per Clause No. 10.1.1.3 RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Inspection RDSO. Total Qty: 27	As per the RDSO Spec RDSO/SPN/TC/65/2021, Rev 6.0; the server specification for Video Analytics are Clause no. 10.1.1.2 whereas you have mentioned Clause no. 10.1.1.3 which is FRS server. Request you please correct. According to the Clause 10.1.1.2 the video analytic server quantity should be one each for 32 number of cameras. The quantity asked in BOQ is not sufficient to handle the AI workload of 2452 cameras.	Video Analytics for cameras are needed only to the extent of Qty mentioned in schedule.

14	<p>As per schedule description(Per camera License means Video analytic at multiple locations such as Station, RPF Post & Security control by same license) as per clause No.18.4 RDSO Specification No RDSO/SPN/TC/65/2021 Rev.6 or latest. Inspection RDSO.Tenderer can offer in-built Video analytics in the camera itself. Details of additional,optional features of Video Analytics Software (in addition to RDSO specification) are as under .AI based video analytics should be able to detect Smoke and Fire in a defined area. (Optional)1. Auto tracking of person whereabouts while movement in Railway Premises through Video analytics in Fixed cameras. (Optional)2. Auto focussing through PTZ camera of the person under suspicion. (Optional)3. People counting. (Optional)4. Face Mask Detection(Optional) and any other analytics.</p>	<p>For sizing the video analytics server, the total number of cameras and number of analytics assigned to single camera is the important factor. Request you to share the number of analytics running simultaneously on one single camera.</p>	<p>Video analytics assigned to each camera is mentioned in Clause 18.4.11 of RDSO/SPN/TC/65/2021</p> <p>This is to be provided for all cameras, as mentioned in RDSO specification.</p>
15	<p>Details of additional,optional features of Video Analytics Software (in addition to RDSO specification) are as under .AI based video analytics should be able to detect Smoke and Fire in a defined area. (Optional)1. Auto tracking of person whereabouts while movement in Railway Premises through Video analytics in Fixed cameras. (Optional)2. Auto focussing through PTZ camera of the person under suspicion. (Optional)3. People counting. (Optional)4. Face Mask Detection(Optional) and any other analytics.</p>	<p>Request to confirm the number/channels of optional Video Analytics Required.</p>	<p>1. Smoke and Fire detection in Relay Room,2.Auto Tracking in all cameras 3.Auto focusing in the PTZ Cameras and 4. People counting for the cameras provided at the entrance/FOB of the stations. Detailed list of cameras duly indicating their location is enclosed .These analytics are optional without any additional cost to Railways.</p>

16	<p>With reference to the letter under reference, SWR Hubli has floated a tender and BSNL wants to participate in this tender. As you are aware that BSNL, a CPSE under telecom ministry, is carrying out all type of telecom maintenance work and operation work. It is also carrying out the equipment installation work by empanelled original equipment manufacturers (OEM) in association with system / service integrators. BSNL has signed agreement with these system integrators.</p> <p>In this regard I am directed to seek the following clarifications please.</p> <p>(1) BSNL is contemplating in tender and subsequently execute the work in case of award through the empanelled OEMs / service integrators of BSNL. Kindly confirm whether execution of job through our system / service integrators will be amount to subletting & invite tender As per the clause 7 (a) (i), Part-II of GCC, it is stated that, "total value of work to be assigned to sub-contractor(s) shall not be more than 50% of total contract value".</p> <p>It is requested to clarify the above point please.</p>		<p>Whether or not 50 % applicable</p> <p>Assignment or subletting of contract is required in case subcontractor also demand the work completion certificate in his name, once work is completed.</p> <p>If, subcontractor doesn't demand any work completion certificate in his name then BSNL can execute the work by either themselves or through some other agency and this clause doesn't applies.</p> <p>However whenever work is assigned to subcontractor ,the value of work assigned shall not be more than 50 %,if the subcontractor demands credential from Railways .</p> <p>Further Please refer clause no. 7 (h) of part II of GCC</p>
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9. Cisco

	RFP reference	Description	Clarification / Change Request	SWR Remarks
Technical specification Document	Schedule A2, Point 1, Page 4	Supply of Standard 19" Rack Mountable LER(Label Edge Router) , IP- MPLS Router with Redundant -48V DC Power Supply, 2 x 10G SFP+ Ports along with 2 Nos of 40 Kms 10G SFP+ LC Modules, 4 x 1Gbe Optical interface Module along with 4 Nos of 1Gbe Single Mode Bi-directional SFP(10KMs) Modules and 4 x 1Gbe Copper WAN based interfaces & Modules , with Minimum one or more Additional Slot to add any one of the following interfaces : 16 x E1, 32 x E1 , 2 x STM1 (Channelised). Non Blocking throughput Mounting kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Inspection RDSO	As per proposed MPLS architecture in page number 52 some of the location (MRJ, HG,MAO, DMM) requires 3 number of 10G ports connectivity. Also we would required additional 10G ports for connecting towards LAN hence request you to kindly add additional 2x10G for LAN side connectivity with 10G SR Optics from LER. SO total port should be 4x10G and non-blocking Forwarding Capacity should be $4 \times 10 + 8 \times 1G = 48Gbps$ or more	Router Spec should be as Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. At the said stations which are Zonal interchange points ,as of now only 2 ports are required as these stations are not within SWR.

Technical specification Document	Schedule A2, Point 1	Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) IPMPLS Router with Redundant -48V DC Power Supply, Redundant Controller Card, 8 x 10G SFP+ Ports along with 8 Nos of 40 Kms 10 G SFP+ Modules, 32 E1 card with Adapter and modules along with patch panels, 4x1G Optical SFP Ports with Single Mode Bi-directional Modules and 4 x 1Gbe Copper WAN based interfaces & Modules, 2x STM-1(Channelised) along with 2 Nos of SFP(S.1.1) Modules Compatible with Existing STM-1.Non Blocking throughput ,Mounting Kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Inspection RDSO.	There are at least 2x10G ports would be connected locally from LER router, so kindly clarify that 8x10G with 2x10G SR 500m and 6x10G ER 40km optics should be provided, instead of all 40km optics. As per figure in page no. 52 under point no. 6)	Specification of offered equipment shall comply with RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest.
Technical specification Document	Page 5, Sr. no. 5	2 x 10G Adapter Module with 2 Nos. of 10G SFP+ Modules for above Routers. Inspection RDSO.	Kindly clarify this card is for LSR router	This is for LER Routers

Technical specification Document	Page 5, Sr. no. 6	8 x 1G Adapter Module without SFP for above Routers. Inspection RDSO.	Kindly clarify this card is for LSR router	This is for LER Routers
Technical specification Document	Page 8, Sr. no. 10	Training of personnel over and above the on-site/OEM premises training, during the installation, maintenance and supervision period as detailed in the tender document. Defined in Man-Week i.e. One week training for one personnel or as desired by the Railway.	Kindly clarify Training should be either OEM or OEM authorised Training Partner	Training by OEM / OEM authorised training partner either onsite or in OEM premises shall be imparted
Technical specification Document	Page 14, Sr. no. 3	Supply, Installation, Testing and Commissioning of VMS Server with all the accessories required for the installation for VSS project, one 17 inch Monitor with Keyboard, Mouse, KVM Switch, as per As per Clause No. 10.1.1.3 of RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Inspection RDSO.	KVM switch would be additional cost and and may be avoided for the case of standard Rack server of the capacity asked for. Kindly clarify that KVM switch can be optional.	KVM switch is required and should be included in the server under the schedule item for server as per given description being part of RDSO spec
Technical specification Document	Page 14, Sr. no. 2	Supply, installation and Commissioning of Layer 2 Core Aggregator Switch 24 Port Managed switch with 24 Nos GE(Optical) 1G SFP BX SM based Port and 4 Nos of 10 G SFP+ Port with SFP optical Modules	"As per the network architecture, maximum 6 Field POE switches to be connected in each platform in larger stations with these Aggregation Switches in the platform (page 58 of RFP)	The no. of SFP ports in field switches as specified by RDSO has been incorporated in tender document and same holds good.

		loaded, including Mounting Kit with all accessories. As per RDSO/SPN/TC/65/2021, Rev.6.0 or latest. Inspection RDSO.	and 4 port 1G SFP maximum in case of smaller station are required maximum 4 numbers of 1G SFP ports. Asking 24x1G SFP ports for 4 port requirement is an overkill and unnecessary cost to the project. Kindly reduce to maximum 12x1GE SFP instead of 24x1GE SFP Ports. Kindly change the port requirement from 24 to 12x 1GE SFP or less to 8x1G SFP"	
Technical specification Document	Page 14, Sr. no. 2	Supply, installation and Commissioning of Layer 2 Core Aggregator Switch 24 Port Managed switch with 24 Nos GE(Optical) 1G SFP BX SM based Port and 4 Nos of 10 G SFP+ Port with SFP optical Modules loaded, including Mounting Kit with all accessories. As per RDSO/SPN/TC/65/2021, Rev.6.0 or latest. Inspection RDSO.	As per the network architecture (in RFP page no. 58), 2x10GE SFP would be sufficient instead of 4x10GE SFP+ Ports. Kindly change the port requirement to 2x 10GE SFP+.	The no. Of SFP ports in field switches as specified by RDSO has been incorporated in tender document and same holds good
Technical specification	Page 14, Sr. no. 2	Supply, installation and Commissioning of Layer 2 Core Aggregator Switch 24 Port Managed switch with 24 Nos GE(Optical) 1G SFP	This is an Aggregation Switch. Aggregation Switch should have Layer 3 functionalities to do Aggregation from Type-1 Layer2	Aggregation switch specification incorporated in tender is As per

on Document		<p>BX SM based Port and 4 Nos of 10 G SFP+ Port with SFP optical Modules loaded, including Mounting Kit with all accessories.</p> <p>As per RDSO/SPN/TC/65/2021, Rev.6.0 or latest. Inspection RDSO.</p>	<p>field Switches.</p> <p>In addition to above, In case of TypeC, D and E stations, this Aggregation switches would be connected to MPLS network in other stations. So the Layer2 network design would be with lot of broadcast and we would recomend Layer3 functionalities in Aggregation switches to avoid large broadcast domain.</p> <p>Kindly add features like IP/MPLS, OSPF, IS-IS, Layer 3 Multicast like PIM-SM, PIM-SSM, BGP, BFD, IP/MPLS, MPLS-TE, Layer3 VPN to reduce broadcast and use this Aggregation as CE Router</p>	RDSO Specification of VSS and same holds good
Technical specificati on Document	Page 27, Sr. no. 3	<p>Supply Installation & Commissioning of Standard 19-inch Rack Mountable 24 Port managed POE switch , 24 GE 10/100/1000 BaseX Ethernet port with POE+ support and 4x1GE SFP Port for uplink with 4 nos of 1GE SFP BX SM modules included as per RDSO SPECIFICATION NO.</p>	<p>Kindly clarify that the POE/POE+ switch of 24 port also to be referred from RDSO GR RDSO/SPN/TC/65/2021, Rev.6.0 or latest with sr. no. 14.0 (II) Layer 2 Switches (24 ports) and 4x1G SFP with 1G SX optics</p>	<p>The said POE Switch shall be As per RDSO spec RDSO/SPN/TC/65/2021, Rev.6.0 or latest.</p>

		RDSO/SPN/TC/83/2020 Rev 2 or Latest. (Inspection Clause- RDSO)		
Technical specification Document	Page 36	The offered Model/Product should have End of life and service Support of not less than 8 Years for Routers , Switches, Media Converters , Storage Servers, NMS, CCTV Cameras and 12 years for Server Based IP Exchange, 10 Years for VOIP based TCCS. Required certificate for the same by OEM shall be submitted along with the bid.	Kindly reduce to 5 years or less for server and router, switches, as technology evolution on chipset is changing fast as per the chipset industry	As the converged communication system has to function in the long run smoothly supporting mission critical applications ,end of life service support as sought in the tender is mandatory.
Technical specification Document	Page 170	Features/Services V. Load balancing IX. It must support preferable concurrent connections up to 17,000,000 or more. Firewall appliances should handle new connections/sec: 4,50,000 or higher. XIII Proxy features and Any additional or equivalent features /services.	Change Clause : "Features/Services V. Load balancing/load sharing IX. It must support preferable concurrent connections up to 17,000,000 or more. Firewall appliances should handle new connections/sec: 2,10,000 or higher with AVC enabled. XIII. Proxy/ URL filtering Proxy features and Any additional or equivalent features /services." Justification : Load balancing/	Noted and same will be incorporated in modified tender document..

			<p>Load sharing are interchangeably used in firewall by different vendors. Both of them provide the capability to prioritise the traffic and route traffic over multiple available links</p> <p>As the ask is for NGFW, the new sessions and concurrent connection should be considered including L7 parameter. hence the change</p>	
Technical specificati on Document	Page 169	Proposed firewall must verify MAC address with IP allocated to user to mitigate IP-MAC Spoofing. It must provide IP, MAC address spoofing.	<p>Change Clause : Proposed firewall must verify MAC address/IP with IP allocated to user to mitigate IP/MAC Spoofing. It must provide IP/MAC address spoofing."</p> <p>Justification : IP-MAC Spoofing is layer 2 Switch feature not Firewall feature request you to kindly remove this for larger participation.</p>	Noted and will be modified .
Technical specificati	Page 169	e) Proposed firewall must verify username with user's MAC address to	Kindly Change Clause : " Proposed firewall must verify	Noted and will be modified

on Document		strengthen authentication process and allow only authorized, verified user's machine.	MAC/username / IP address to strengthen authentication process and allow only authorized, verified user's machine." Justification: Username or IP address is the ideal way to enable authentication on the firewall to login into the firewall for the management. Request you to kindly change for larger participation.	
Technical specification Document	Page 169	c) Proposed firewall should allow admin to set Quota in MB/GB for amount of data in periodical manner such as daily/weekly and Firewall should support creating access-rules with IPv4 & IPv6 objects, user/groups, application, geolocation, url, zones, vlan, etc.	Change Clause : "Firewall should support creating access-rules with IPv4 & IPv6 objects, user/groups, application, geolocation, url, zones, vlan, etc." Justification: - Bandwidth Quota manage is not part of Firewall Functionality, the proposed NGFW firewall is for protecting threat againg DC and it is not connected to the internet for bandwidth Quota management.	Vender can supply with Firewall with better/higher Specification. Firewall will be used for Railnet when the same is connected to Internet .

			request you to Kindly remove for larger participation.	
Technical specification Document	Page 11	VMS Server, VAS Server, FRS Server "As per Clause No. 10.1.1.3 RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Inspection RDSO."	Change clause : DVD Drive Internal/External Justification: - DVD Drives are obsoleting and these day its not being supplied with desktops and laptops, if this mandatory we can be supplied with external drive. Request you to kindly amend for larger participation.	DVD drive internal/External Drive can be supplied ,same will be incorporated in modified tender document
Technical specification Document	Page 26 Sub-Work C: VOIP Based TCCS & SIP EXCHANGE Schedule C3: Servers, Consoles and Licences Servers for SIP Point 24.	SIP Trunk Licenses (for PRI Gatewaying & SIP Trunk).Inspection RDSO.	Clarification: Request to give break up of SIP trunk & PRI channels. This is required to identify license and Physical port requirement for PRI & SIP trunk.	Location wise breakup is already indicated in chapter 2 of tender document ,mentioning divisions

Technical specificati on Document	<p>Page 26</p> <p>Sub-Work C: VOIP Based TCCS & SIP EXCHANGE</p> <p>Schedule C3: Servers, Consoles and Licences</p> <p>Intercom Server and Perpetual Licens Point 24.</p>	Intercom Server and Perpetual License	<p>Revision: Please remove the word Perpetual as the licenses from many OEM's have now moved to subscription and hence request to revise as follows:</p> <p>Intercom Server and Licenses</p>	Perpetual licenses are requirement of Railways and are necessary.
Technical specificati on Document	<p>Page 27</p> <p>Sub-Work C: VOIP Based TCCS & SIP EXCHANGE</p> <p>Schedule C3: Servers, Consoles and Licences</p> <p>Intercom Server and Perpetual License</p>	<p>Upgrading of Existing Bengaluru Aeonix Server with Additional SIP Licenses-80, Sip Trunk License-30 for DRM Intercom to cater for Bengaluru Cant CAO Office.</p> <p>33. IP Endpoint Licenses to Existing Server including Technical Support Charges . Inspection Consignee.</p> <p>34. SIP Trunk Licenses. Inspection Consignee.</p>	<p>Revision: Mention of a single OEM Upgrade limites Bidders to as Biders are forced to go to the single OEM which leads to price monopoly as only Tadiran may give best price for their favorable vendor and provides very high price to other vendors causing unfair competition.</p> <p>Hence request to keep this optional or revise the</p>	The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working Can be proposed by the bidder

	Point 33-37.	37. Installation and Commissioning Charges as per Site requirement at Bengaluru and Bengaluru Cant(Upgrading the existing server)	<p>statements to following:</p> <p>Refresh of Existing Bengaluru Aeonix Server to latest version / new installation of SIP Exchange by other OEM and with SIP Licenses-80, Sip Trunk License-30 for DRM Intercom to cater for Bengaluru Cant CAO Office and integration with existing Aeonix server on SIP.</p> <p>37. Installation and Commissioning Charges as per Site requirement at Bengaluru and Bengaluru Cant(Expanding the solution)</p>	
Technical specification Document	<p>Page 27</p> <p>Sub-Work C: VOIP Based TCCS & SIP EXCHANGE</p> <p>Schedule C4: Gateway and Switches</p>	<p>1. 96 Port 4*24 FXS Gateway</p> <p>4. 48 Port 2*24 FXS Gateway</p> <p>5. 24 Port FXS Gateway</p> <p>6. 8 Port FXS Gateway</p> <p>7. 24 Port FXO Gateway</p>	<p>Revision:</p> <p>Requesting for a Gateway that supports 96/48/24/8 port restricts OEM's as all OEM's do not have all sizes of FXS & FXO port chasis, however OEM's do have different ways to add multiple gateways to provide the total analog FXS & FXO ports to meet the requirement.</p>	<p>The locations specified for Gateways indicate the distribution and within a station too, gateways are needed at different locations .The vendor can supply gateway with higher port configurations than sought ,if the asked gateway is not available</p>

	Gateways for SIP EXCHANGE		Hence Please do not mention Gateway QTY and only mention FXS & FXO ports requirement at every location and allow Bidders to choose the Gateway qty and sizing	with the OEM bidder is proposing to procure from.
Technical specification Document	Page 36 1.2: General Instruction to Bidders during participation. Point 28.	OEM undertaking to be submitted for providing 3 years warranty/maintenance and 5 years AMC support- If during the course of the contract, if the ownership/ shareholder of the company changes , the present OEM shall give an undertaking to this effect to support the system under the present scope of the work.	Revision: OEM's can take an undertaking for OEM warranty/maintenance for 3 years. However, OEM cannot providing an undertaking for AMC of 5 years. Hence request to revise the clause as follows: OEM undertaking to be submitted for providing 3 years warranty/maintenance and Bidder undertaking to be submitted for 5 years AMC support. If during the course of the contract, if the ownership/ shareholder of the company changes , the present OEM/Bidder shall give an undertaking to this effect to	8 years support is positively required from the OEM. If during the course of the contract, if the ownership/ shareholder of the company changes , the present OEM shall give an undertaking to this effect to support the system under the present scope of the work.

			provide warranty /AMC to support the system under the present scope of the work	
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10. Coral Telecom

Sl No	Tender Specification	Query	Remark
1	No. 3.3.5.1 - If any other OEM/vendor wants to give a complete new system, can offer at no additional cost and supply subject to without compromising any of the existing system features and performance required. (Exiting server hardware shall be utilized). In this Railway decision is final	Existing system features of old system to be specified, in case of total new system is considered.	Existing system features have already been mentioned in Chapter 2 under scope of work.

2	Tender Specification No. 3.3.5.3 (Point 1) & 3.3.9.4 Point-a - The system server should use an operating system like Windows, Centos, UNIX, and should not have any additional licensing or proprietary overheads.	Centos is a Linux flavour and there are many other better variants of Linux used, So please modify the specification as - OS to be Windows or Linux.	Under the Scope of work, it is mentioned in Point No 4 ,para 2.2.5
3	Tender Specification No. 3.3.5.4 - It should be possible to send CDR online for immediate update and to external Windows based Billing system for complete recording of Internal, External and Network calls to generate various types of traffic reports if required.	Normal practice in IP-PBX is CDR is inbuilt and reports can be accessed from any PC without any application on browser software, GUI based. Windows based application is used for TDM & old legacy systems.	Browser based GUI is sufficient. Report should be downloadable in Excel/CSV format
4	No. 3.3.5.9 - z. - Selective extension voice logger - Number of licences required	Number of licences required for Voice logger to be mentioned and desired HDD planning to be made on that basis.	As Per Technical Specification Para No 3.3.5.8.,for all connected phones , upto 10 concurrent calls can be recorded
5	Tender Specification No. 3.3.14 & 3.3.15 - Led for Line Status	Coral Observations – LED for line status indicator is not available for higher configuration cards.	Same as added as Optional in tender document

6	Tender Specification No. 2.2.5 - 7. - Media gateway should continue to work independently in case of Network Connectivity failure.Once the Media gateway works in survival mode, it should provide all standards. & Tender Specification No.3.3.13 & 3.3.14 for Media Gateway	Self-Survivability must be defined as in case of network outage in any location then Analog extension and IP phone in that location to function locally and calls can be made between IP and analog extension of particular location so communication of particular location does not get effected.	In case of link failure,there will be no communication between server and gateway. However during that period within gateway communication shall happen and gateway has to work as an intercom. If possible, Communication between gateway to gateway shall also be provided
7	3.3.13, 3.3.14, 3.3.15, 3.3.16 & 3.3.17 - Protocol MGCP	MGCP is a Cisco proprietary protocol and making this mandatory for gateways will eliminate Indian players.	Media Gateway Control Protocol (MGCP), commonly known as H. 248, is a standard protocol for handling the signaling and session management and same is needed during a multimedia conference
8	The gateway should have a minimum dual ethernet port and Dual power supply input (96 port ,48 port,24 Port).	CPU is a critical part and Dual Redundant CPU in HSB mode, in Media Gateway should be mentioned.	Minimum configuration needed is indicated ,however Vendor can provide higher specification for gateway configuration.
9	No. 3.3.1, 3.3.2 & 3.3.3 - Suitable PoE Injector	PoE Injector is not required if PoE switches are deployed and will be additional cost.	POE injector is required as part of this schedule .Same will be utilized where non POE switches are available

10	No. 3.3.5.1 - The offered Make and Model with Similar configuration should have been installed in India using IP technology in at least 2 locations in the last 5 years. Model should be the latest.	Similar configuration installation at 2 places to be considered.	Said clause has since been modified
11	No. 3.3.5.1 - The OEM of IP PBX / bidder should have ISO 9001:2015, ISO 14001, ISO 45001 & ISO 90003, ISO 27001 certification or equivalent in all the company's activities.	Certifications like ISO 9001, ISO 9001:2015, ISO 14001, ISO 27001, NSIC certification, DOT TEC certification etc are sufficient for proving the quality of the product hence other certification requirement such as ISO 45001 & ISO 90003 must be removed.	OEM shall comply TEC Specification/Certification. Same will be mentioned in modified tender document.ISO certifications will be optional
12	The OEM offered unified communication and call manager application must have valid trademark registration certificate as per Govt. of India trademark act 1999, Section 23, rule No. 62(1).	Trademark requirement is not in-line with Govt of India guidelines for procurement of Ip-PBX systems. Kindly follow DOT guidelines, where in TEC-GR certification is a mandatory requirement for procurement of IP-PBX with media gateway. There was no tender of railways or any other government organisation, where trademark requirement has been made mandatory. Hence this requirement to be removed.	OEM shall comply TEC Specification/Certification. Same will be mentioned in corrigendum

13		As per latest Government guide lines no bidder should offer products which has country of origin from any country which has land border with India. This clause should be added and declaration for the same to be submitted by OEMs participating directly or indirectly through some system integrator. Have attached the order along with this letter.	Is available in clause no 3.0 of RDSO/SPN/TC/65/2021 ver 6.0 or latest which is already mentioned
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11. Honeywell Automation India Ltd

S I	Clause details as in RFP	Query/Clarification required	Remark/Reply
1	In addition to the above penalty for breach of the SLA parameters, No payment for the month would be made for the all stations under (including stations located at that particular SSE/T Jurisdiction) where the down time observed would be more than 20% for Availability . In case of frequent SLA breaches, Railway reserves the right to forfeit the R-PBG submitted by the bidder. The R-PBG	Penalty applied on breach of the SLA should not be more than 10%.	These systems are involved in security and safety of passengers being backbone of train control communication .Down time in critical circuits is not acceptable and Therefore the penalty

	submitted by the selected bidder, shall remain valid during AMC Period plus three months.		clause in tender document stands good.
2	3 distinct Components i.e IP MPLS Network (Rs 28,03,14,591.47/-), Video Surveillance System (Rs 35,67,81,178.5/-), VOIP Based TCCS / SIP Exchange (Rs16,83,11,298.54/-)	In continuation of this clause , please reword/acceptCompletion of any components out 3 distinct Components i.e IP MPLS Network , Video Surveillance System , VOIP Based TCCS / SIP Exchange the value should be as per CVC guidelines of 60% value 1 order, 2 orders of 40% , 3 orders of 20% of combined values of 3 components.	This work consists 3 different subworks and as per eligibility criteria for composite works being followed by Railways ,the bidder shall satisfy technical eligibility of having executed similar work/works as stipulated in tender document
3	Please include following clauses as a part of Standard special terms of contract	LIMITATION OF LIABILITY IN NO EVENT WILL Consortium/JV OR BUYER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, PUNITIVE, STATUTORY OR INDIRECT DAMAGES, INCLUDING WITHOUT LIMITATION, LOSS OF PROFITS, REVENUES OR USE, OR THE LOSS OR CORRUPTION OF DATA, EVEN IF INFORMED OF THE POSSIBILITY OF THESE DAMAGES. NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, THE AGGREGATE LIABILITY OF BIDDER RELATED TO THE ORDER WILL IN NO CASE EXCEED THE INITIAL ORDER PRICE. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THESE LIMITATIONS AND EXCLUSIONS APPLY IF	All terms of contract will be guided by the Indian Railways standard General Conditions of Contract (GCC-July 2020) and Special Conditions of Contract.

		<p>LIABILITY ARISES FROM BREACH OF CONTRACT, INDEMNITY, WARRANTY, TORT (INCLUDING NEGLIGENCE), OPERATION OF LAW, OR OTHERWISE.</p>	
		<p>DEFAULT AND TERMINATION Either Party may terminate or suspend an Order if there is a material breach of the Agreement or the Order and the breaching Party fails to begin a cure within 30 calendar days after receipt of written notice from the non-breaching Party specifying the grounds.</p>	
		<p>INVENTIONS AND INTELLECTUAL PROPERTY: No right, title or interest in OEM' Intellectual Property will be transferred to Customer under this Agreement, including Intellectual Property which existed prior to or is created independent of the performance of the Agreement. All Intellectual Property and results of Services, including software, models, designs, drawings, documents, inventions, and know-how ("Inventions"), conceived or developed by OEM' in connection with the Agreement are their sole property and Buyer has no right or license to the Intellectual Property or Inventions except as granted in the Agreement.</p>	

12. Intellicon

Sl No	Query	Reply/Remark
1	Is it mandatory to Bid for all schedules A /B/C or selective schedule bidding allowed	Yes, it is mandatory to bid for all schedules A/B/C.
2	Please clarify on Bidding Style - Decision at Schedule level	The Bidder has to quote higher,lower or at par percentages for each schedule. The lowest of offers will be judged based on total value of work
3	Technical Eligibility Condition: All 03 Schedule should meet below Technical Criteria Eligibility	All 3 sub works should separately meet technical eligibility criteria specified
4	Financial Eligibility Condition: Contractual Payment - 150% - Total commulative receipt on last 03 FY – 150% - 120 Cr ??	Financial eligibility criteria shall meet 150% of the advertised value of Tender.
5	Compliance to Land Border Circular – Must include compliance Certificate	Yes. Declaration certificate has to be submitted as per para no. 3.10 of RDSO/SPN/TC/65/2021 ver. 6.0 guidelines
6	PPP-MII – Format for Local Content Declaration - Must include compliance Certificate	Yes. Compliance has to be submitted as per clause no. 6.0 of special conditions of contract (SCC).

7	Consortium – Allowed – if Yes Terms of Consortium	Please refer to clause regarding Joint Venture (JV) under Clause No 17 in Special conditions of contract (SCC).
8	Due date Extension	Last date for submission of bids has since been extended to 03.12.2021
9	Applicable Rate of GST – 12% or 18%	12 % GST is applicable on all works contracts in Railways
10	Payment Terms for Supply and Installation Schedule items Supply Supply & Installation Installation	Please refer to Payment Terms elaborated under clause no. 4 in special conditions of contract (SCC) of tender document
	TECHNICAL QUERIES	
1	Schedule Item of Tadiran upgradation to be removed as it is OEM specific. This is to be sourced separately	The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working Can be proposed by the bidder
2	Intercon Server – Can be part on Mail SIP Server – reduces hardware The tender schedule has requirement of a separate server for “intercom usage”. This can be part of main SIP Server if the bidder can supply a single solution with scalability with logical separation between the intercom system and SIP server. This reduces the hardware required	No, Separate server is to be provided for intercom as it is a separate exchange

	and complexity of the solution. SWR may amend the schedule accordingly	
3	Universal licenses for OEM / 3rd Party SIP Phones and Gateways – The RFP is for large IP open standard based voice network thus it should support universal licenses for the OEM IP Phones / 3 rd Party SIP Phones / SIP Based Media Gateways (FXS/FXO etc.), please include this in technical specifications.	No change. Please read schedule C3 item no. 22
4	Per single Server capacity for max number of users Per Server capacity for max number of Users : The Server asked for TCCS and IP Communication should support high scalability of users per server, this can be 20000 or higher to take care of the future expandability. Please define this requirement is technical specifications.	Server hardware shall be supplied as per the specification mentioned in the tender document. Server shall support minimum licenses as given schedule C3
5	SBC Certification The offered product should have third party certified SBC devices for connecting the SIP providers for secure communications with internet connected devices like mobile devices in secure environment. Please include this in technical specifications.	Please refer clause No. 3.3.5.3 in chapter 3 of detailed technical specification.
6	Encryption The bidder should support TLS signaling and end to end encryption of VoIP traffic to ensure a secured communication. Please include this in technical specifications	Already available under Para No 3.3.9.4 J of Technical Specification.

7	<p>The IP PBX should support Open Standard architecture. The system should work with SIP Phones and media gateways (FXS/FXO/PRI) from the same OEM. It should also support third party SIP phones and media gateways of third parties so that the system can be scaled horizontally in Future—</p> <p>Request you to amend the clause for the supplied Lic. should support Universal Lic. i.e. same Lic. for Analog, Digital, OEM IP Phone, 3rd Party SIP Phone and Video phone. This will help Indian Railway to plan any future modification without any dependency on the IP Telephony Vendor.</p>	<p>IP PBX should support Open Standard Architecture and separate licenses for analog and SIP softphones are to be supplied.</p>
8	<p>Specifications for Upgradation of Aeonix server-- Schedule Items are OEM specific so please remove the same. It is very difficult for any bidder to bid for a specific OEM if they are working with another OEM. This is extremely restrictive clause favoring to particular 1 vendor and Railway cannot get any other competitive Bids for this section.</p>	<p>The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of</p> <ol style="list-style-type: none"> 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working <p>Can be proposed by the bidder</p>

13. Juniper

S. No.	RFP Page No.	Document Name, Clause no	Current Clause	Query/ Suggestion/ Clarification	Change Request	SWR Remarks
1	3	TECHNICAL SPECIFICATIONS Sub Work :A - IP MPLS (Multi Protocol Label Switching)	Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) IP- MPLS Router with Redundant -48V DC Power Supply, Redundant Controller Card, 8 x 10G SFP+ Ports along with 8 Nos of 40 Kms 10 G SFP+ Modules, 32 E1 card with Adapter and modules along with patch panels, 4x1G Optical SFP Ports with Single Mode Bi-directional Modules and 4 x 1Gbe Copper WAN based interfaces & Modules, 2x STM-1(Channelised) along with 2 Nos of SFP(S.1.1) Modules Compatible with Existing STM-1.Non Blocking throughput ,Mounting Kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No.	Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) IP- MPLS Router with Redundant -48V DC Power Supply, Redundant Controller Card, 6 x 10G SFP+ Ports along with 8 Nos of 40 Kms 10 G SFP+ Modules, Non Blocking throughput ,Mounting Kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020	Please change the clause for solution clarity and leading OEM to participate.	Specification of LSR shall be as per RDSO TAN .

			STT/TAN/IP-MPLS/2020 Version 01 or latest. Inspection RDSO.	Version 01 or latest. Inspection RDSO.		
2	7	Document No. STT/TAN/IP-MPLS/2020	Should be possible to upgrade the equipment to have a total of 32xE1 (G.703) ports by way of adding / replacing interface cards or should be possible to add 2xSTM-1 (channelized, optical) ports. Thus by way of adding / replacing interface cards / ports, it should be configurable in all three configurations; LER min Configuration, LER Max Configuration-I and LER Max Configuration-II. Purchaser should specify their initial requirement of quantities for LER min Configuration, LER Max Configuration- I and LER Max Configuration-II.	As per the maximum configuration I & II mentioned in the RFP, the router should be able to accommodate additional 16 x E1's or 2 x STM-1 apart from existing interfaces provided from Day 1.	The Router should have min one slot free after accommodating the existing interfaces . This is required to accommodate the additional interfaces as mentioned -additional 16 E1 without replacing the existing 16 E1 or 2-STM-1 . Or The router should be able to accommodate the LER MAX config of 16 E1 and -STM-1 or 16 E1 and additional 16 E1 by adding another 16 E1 module in the router	LER Min and LER Max.II Configurations mentioned in Technical note of RDSO are the Railway requirement. However Vendor can give higher configuration for LER Min
	8	B. IP-MPLS Routers & Interfaces Configuration C. Functional and Technical requirements	1.5 The router shall be equipped with the following interfaces – 2x10G (optical), 4x1GbE (optical), 4x1GbE (copper) and 16xE1 (G.703) interfaces in case of LER Min configuration. It should be possible			

		ts of Label Edge Router (LER)	to add 2 x STM-1 (channelized, optical) as LER Max configuration-II or to have a total of 32 x E1 (G.703) interfaces as LER Max configuration-I by way of adding/ replacing suitable interface cards. All the optical interfaces shall be equipped with suitable optics to work on two single mode fibres upto 40km.		with the existing interfaces .	
3	9	Document No. STT/TAN/IP-MPLS/2020 C. Functional and Technical requirements of Label Edge Router (LER)	1.8 Fan tray, controller cards, interface cards should be a hot-swappable and Field Replaceable Unit (FRU).	The Fan Tray , Interface cards are hot swappable and Field Replaceable Unit (FRU) in fixed modular router	We request to confirm the controller card also should be hot swappable and Field replaceable	LER shall be supplied as Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest.
4	9	Document No.	2.1 Router should support unicast IPv4 & IPv6 routing protocols (BGP, OSPF, IS-IS, OSPF v3, Segment	We request to amend the clause to "Router should support unicast IPv4 & IPv6 routing	The router in the solution would be in linear fashion connectivity, hence	As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest.

		STT/TAN/IP-MPLS/2020 C. Functional and Technical requirements of Label Edge Router (LER)	Routing or similar protocol and Circuit emulation).	protocols (BGP, OSPF, IS-IS, OSPF v3, Segment Routing or RSVP and LDP or similar protocol and Circuit emulation)."	segment routing may not be required. We request to relax the clause.	Vendor can supply Router of higher Spec
5	9	Document No. STT/TAN/IP-MPLS/2020 C. Functional and Technical requirements of Label Edge Router (LER)	2.5 Router shall support multi-chassis LAG for aggregation of links across two chassis	We understand that as per the architecture there will be one LER per station hence we request to remove the clause.	The Multi-Chassis LAG is primarily on the L2 switches (2 numbers connected together). As per RFP the LER is an router and only one per station. We request to remove this feature as it is not required on single router which is positioned in every station .	As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Vendor can supply higher Spec Router

6	9	Document No. STT/TAN/IP-MPLS/2020 C. Functional and Technical requirements of Label Edge Router (LER)	2.7 Router shall support IPV4 and IPV6, IGMP, MLD, and PIM-SM & SSM, ECMP, NGMVPN.	The NGMVPN is primarily required in the LSR as it forms the core network and does not need to run the Multicast protocol . The LER is the edge router to which the multicast devices will send the IGMP join and hence can be taken care by Multicast protocols like PIM	This is not a multitier design and PIM will suffice the Multicast requirement hence we request to amend the clause to "Router shall support IPV4 and IPV6, IGMP, MLD, and PIM-SM/ SSM/ PIM, ECMP, NGMVPN/ Multicast"	As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest.
7	9	Document No. STT/TAN/IP-MPLS/2020 C. Functional and Technical requirements of Label Edge	2.12 Router should support Point to Point and Point to Multipoint LSP for Unicast and Multicast traffic.	In IP/MPLS the Multipoint LSP can be achieved through different ways using VRF /L2VPN /H-VPLS .It is primarily finalized during the implementation	Request to amend the clause to" Router should support Point to Point/ Point to Multipoint / Any to any VRF for Unicast/ Multicast traffic." as different OEM has different solutions and provide the flexibility in	As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest.

		Router (LER)			optimized design and implementation. Since it's a Linear design,	
8	9	Document No. STT/TAN/IP-MPLS/2020 C. Functional and Technical requirements of Label Edge Router (LER)	2.13 Router shall support layer3 and layer2 MPLS VPN, VPLS and EVPN.	The EVPN is used for Data Center interconnect between two Data center's or locations . This is required in LSR as it forms the back-Bone and connects different DC's or Locations like Hubli, Blore , Mysore	The layer-2 VPN can be deployed using VPLS/H-VPLS/ L2VPN . The EVPN is primarily used in Data centre solution, since this is a IP/MPLS network we request to amend the clause to support " Router shall support layer3 and layer2 MPLS VPN, VPLS/HVPLS."	Specification shall be as Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Vendor can supply higher Spec Router
9	10	Document No. STT/TAN/IP-MPLS/2020 C. Functional and	2.16 The switch/router shall support Multicast troubleshooting tools like Mtrace and mfib ping.	The Multicast troubleshooting like MTRACe , MFIB ping is relevant form the end Multicast device rather than on LER . Different OEM's has different approach in	Request to amend the clause to "The switch/router shall support Multicast troubleshooting tools like Mtrace and mfib ping or equivalent	Please follow specification in RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Vendor can supply higher Spec Router/switch

		Technical requirements of Label Edge Router (LER)		troubleshooting Multicast issue .	troubleshooting mechanism." This Clause is mentioned in LSR Specifications and request to retain the same.	
10	10	Document No. STT/TAN/IP-MPLS/2020 C. Functional and Technical requirements of Label Edge Router (LER)	<p>3.1 The switch/router shall provide per-service, per-forwarding class queuing and shaping features</p> <p>3.2 The router shall provide following QoS features: classification and hierarchical scheduling, WRR, strict priority (SP), profiled scheduling and multi-tier policing and shaping</p> <p>3.3 Router shall support 3 level HQOS on all kind of Ethernet interface with minimum 8K hardware queues.</p>	The LER needs to have hardware based QOS for prioritizing the traffic . The HQOS is required in. LSR which aggregates the multiple traffic from LER	<p>The LER needs to have hardware based QOS to prioritize the traffic with low latency and hence we request to amend the clause " Router shall support QOS on all kind of Ethernet interface with minimum 8 hardware queues and should support strict Priority Queuing."</p> <p>The rest of the features mentioned like hierarchical scheduling, 3level HQOS on all kind of Ethernet interface with minimum 8K hardware queues</p>	Please follow RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest for specification .

					needs to be supported on LSR which aggregates the LER traffic on the Back-Bone network.	
1 1	10	Document No. STT/TAN/IP-MPLS/2020 C. Functional and Technical requirements of Label Edge Router (LER)	4.4 Ingress and egress packet filtering based on L2-L4 criteria at wire speed. The possibility to log the actions on individual filter rules shall be supported.	We request to amend the clause to "Ingress/ egress packet filtering based on L2-L4 criteria at wire speed. The possibility to log the actions on individual filter rules shall be supported."		Please follow specification As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest.
1 2	11	Document No. STT/TAN/IP-MPLS/2020 C. Function	5.2 Router shall support 10K IPv4 & 5K Pv6 routes..	We request to amend the clause to "Router shall support 10K IPv4 & 10K IPv6 routes." This is to ensure that no bottleneck is created	Request to change the clause for common scale for both IPv4 and IPv6 as the same is also asked in LSR/ Type II Router.	Please follow As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Vendor can supply router of higher Spec

		al and Technical requirements of Label Edge Router (LER)		while we shift/ migrate to IPv6		
13	11	Document No. STT/TAN/IP-MPLS/2020 C. Functional and Technical requirements of Label Edge Router (LER)	5.4 Minimum 100 MPLS layer-3 VPN's	Minimum 64 MPLS layer-3 VPN's	The Railways will have layer-3 services and applications which are not more than 25-30. Hence we request to amend the clause.	As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest.
14	11	Document No. STT/TAN/	5.6 Minimum 64 MPLS VPLS	mimulus 64 MPLS VPN/VPLS	The Railways will have layer-3 services and applications	As Per RDSO Document No.

		IP-MPLS/2020 C. Functional and Technical requirements of Label Edge Router (LER)			which are not more than 25-30. Hence we request to amend the clause.	STT/TAN/IP-MPLS/2020 Version 01 or latest.
15	13	Document No. STT/TAN/IP-MPLS/2020 C. Functional and Technical requirements of Label Edge	Router shall support 3 level HQOS on all kind of Ethernet interface with minimum 6K hardware queues.	We request to amend the clause to "Router shall support 4 level HQOS on all kind of Ethernet interface with minimum 64K hardware queues."	As we understand there are multiple data network such as PRS, UTS, FOIS, SCADA, surveillance and will have strict QoS requirement, hence 64k will ensure the smooth transmission of traffic (Voice, Video, Data and Control/ Signalling) via	As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Vendor can supply higher Spec Router

		Router (LER)			<p>dedicated hardware queues so that critical traffic can be honoured even to granular level like Sub interfaces and services type and within sub interface and Vlan level</p> <p>Since it will become a single network its become even more important to have services scale. "</p>	
16	13	<p>Document No. STT/TAN/IP-MPLS/2020</p> <p>C. Functional and Technical requirem</p>	Router shall support 64k IPv4 & 64k IPv6 routes Multicast routes 1K	We request to amend the clause to "Router shall support 250k IPv4 & 250K Pv6 route and 64k Multicast Routes."	Route scale is of prime importance, apart from throughput and functionality. Lower scale of will pose a threat when various services will be configured and routes will be exchanged / learned from each location to every other	As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Vendor can supply higher Spec Router

		ents of Label Edge Router (LER)			<p>locations during the implementation of services and also while configuring the various VPN services for various data network used by railways.</p> <p>This network will be become the part of bigger railways network and scale is required for running various services hence we request to retain it. Now of Days quite a few application works on multicast and its become a important factor. We recommend to increase the scale.</p>	
1 7		Docume nt No. STT/TAN/	Addition	We request to add the clause as "The LSR	This Railways IP MPLS is the integration of Railways and RailTel	As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest.

		IP-MPLS/2020 Functional and Technical requirements of Label Edge Router (LSR)		should have the capability to create two logical router to become the PE and ASBR with separate routing and management domain functionality on a single physical router so that RailTel and Railways can manage the respective logical routers and LER/LSR function alone can be managed by railways."	network, The connectivity between them is through the LSR Router hence it will be the key component for the solution. It will have two roles one is LER towards Railways network and other is LSR role towards the RailTel network. This will provide the clear demarcation for the both the organisation for management and operation perspective.	Vendor can supply higher Spec Router
18	136	TECHNICAL SPECIFICATIONS	Standard 19" Rack Mountable Switch Router) LSR (Label Switch Router)	Standard 19" Rack Mountable Switch Router) LSR (Label Switch Router)	The Router performance is mentioned with Scalability . The back-plane for all the	Revised specification may please be referred

		Schedule A2: MPLS Routers, Manageable Switches and Accessories	As Per Para No. D of RDSO Document No. STT/TAN/IP-MPLS/2020 Ver 1.0 or latest. Mounting kit with all necessary accessories , Softwares, Perpetual Licenses etc. Make -Reputed Brand . Model supplied should be the latest one and should have service support upto completion of Codal life and also should support for future Expansion of 40 percent extra throughput in full duplex.	As Per Para No. D of RDSO Document No. STT/TAN/IP-MPLS/2020 Ver 1.0 or latest. Mounting kit with all necessary accessories , Software, Perpetual Licenses etc. Make -Reputed Brand . Model supplied should be the latest one.	OEM's cannot be enhanced without changing the Few modules in the router. For all the OEM's qualify, we request to remove the should support for future Expansion of 40 percent extra throughput in full duplex.	
19	44	RDSO/SPN/TC/65/2021 14.0 (I) Aggregation Switch, 24	Switch should support following SNMP traps or syslog i) Interface UP & Down ii) Optical Power SFP threshold alarms iii) STP Topology Changes and New root bridge iv) LLDP table changes	We request to amend the clause to "Switch should support following SNMP traps or syslog i) Interface UP & Down ii) Optical Power SFP iii) STP Topology Changes and New root bridge iv) LLDP table changes"	Please change the clause for leading OEM to participate	RDSO Specification RDSO/SPN/TC/65/2021 Ver 6 or Latest shall be complied positively

20	44	RDSO/SPN/TC/65/2021 14.0 (II) Layer 2 Switches (24 ports)	Should support spanning-tree Port Fast guard for fast convergence or similar functionality.	Proprietary to one OEM	Please remove as these are not standard switch features.	RDSO Specification RDSO/SPN/TC/65/2021 Ver 6 or Latest shall be complied positively
21	45	RDSO/SPN/TC/65/2021 14.0 (III) Field Switches (8 Ports)	Switch Should Support 8 10/100 BASE-T PoE and 2 SFP 1000 Mbps Uplink ports. Switch Should Support Min. 20 Gbps Switching Capacity and Maximum 64 Byte Packet Forwarding Rate is 14.88 MPPS.	There is mismatch is the performance asked and the interfaces supported. 8 x 10/100/1000 with 2 x SFP port accumulate to 20Gbps (8 Gbps + 2Gbps) x 2 = 20Gbps and 14.8Mpps (20Gbps/ 2 x 1.488). We request to amend the clause to remove the ambiguity.	We request to amend the clause to " Switch Should Support 8 x 10/100/1000 BASE-T PoE and 2 SFP 1000 Mbps Uplink ports"	The specification shall be as Per RDSO Specification RDSO/SPN/TC/65/2021 Ver 6 or Latest
22	46	RDSO/SPN/TC/65/2021	Operating temperature/ Humidity: 0°C to 50°C, 10%-90% non-condensation	We request to amend the clause to 10%-85% non-condensing	We request to amend the clause to	Same range as that of RDSO Specification RDSO/SPN/TC/65/2021

		14.0 (III) Field Switches (8 Ports)			10%-85% non-condensing	Ver 6 or Latest has been mentioned and to be complied
2 3	15 1, 29	3.1.7 Schedule A4 Item 1 : Layer 3 Switch Switches and Accessori es, Page 24	3.1.7 Schedule A4 Item 1 : Layer 3 Switch and Supply and Installation of Layer 3,24 Port Managed Switch with 24 Nos of 10/100/1000 Ethernet Ports SFP + Support with Redundant AC Power Supply, Dedicated Stacking Module 4 x 1 GE SFP Ports for uplink including 4 Nos of 1 GE SFP BX SM Modules, as per Specification given. Mounting Kit with all necessary accessories. Inspection RDSO	There is mismatch in specification asked as per page no 151, 29 and RDSO spec. We request to have a common specs (RDSO/SPN/TC/83/202 0) for Layer 3 Switches. Please confirm.	There is mismatch in specification asked as per page no 151, 29 and RDSO spec. We request to have a common specs (RDSO/SPN/TC/83/2 020) for Layer 3 Switches. Please confirm.	RDSO/SPN/TC/83/2020) shall be followed for Layer 3 Switches
2 4	14 8 an d 14 9	3.1.5.11 Leaf switch specificat ion	3.1.5.11 Leaf switch specification 3.1.5.12 Spine Switch	The specifications are restricting major OEM to comply. Hence we request to consider the enclosed specs for leading OEM to participate.		Modified specifications may please be referred .

		3.1.5.12 Spine Switch				
2 5	26	6.0 Public Procure ment (Preferen ce to Make in India), Order 2017	1.Letter issued by Department of Industrial Promotion and Policy (DIPP) (now renamed as the Department for Promotion of Industry and Internal Trade (DPIIT)) under the Ministry of Commerce and Industry regarding PPP-MII policy issued vide their order No. P-45021/2/2017-PP (BE- II) dated 16-09-2020, (as amended from time to time) and Notification of DoT issued vide No. 18-10/2017-IP dated 29.08.2018, 31-08- 2021 (as amended from time to time) shall be applicable for this tender. The format for self certification regarding local content shall be submitted along with the bid without which the offer will be rejected.	We request to have Make in India Policy as a whole and not per unit wise. This will allow leading g OEM to patriciate and offer their solution.	We request to have Make in India Policy as a whole and not per unit wise. This will allow leading g OEM to patriciate and offer their solution.	Compliance to the extant guidelines on Make in India guidelines shall be given by the bidder. Same shall be applicable on the whole value of work ,as the same is indivisible and is a single work.

14. Karel

Sl.No	Page No of Technical specification	Clause No	Description	Query	Suggested Modifications	SWR Remarks
1	27/262	Schedule C4: Gateway and Switches	Item 7 and 8 , Qty of 24 Port FXO and E1 Gateway .	Request you to confirm these gateways has to be co located with proposed New FXS gateway in certain locations		FXO gateways and E1 gateways will be placed separately at respective Exchange locations under concerned divisions of SWR as mentioned. Management of gateways is proposed to be centralized through call manager application Server.
2	27/262	Schedule of Intercom Server and Perpetual License Item no 33 and 24	Upgrading of Existing Bengaluru Aeonix Server with Additional SIP Licenses 80, Sip Trunk License-30 for DRM Intercom to cater for Bengaluru Cant CAO Office. IP Endpoint Licenses to Existing Server Including Technical Support	This clause is contrary to CHAPTER-2: SCOPE OF WORK AND TECHNICAL REQUIREMENTS.Clause 2.0 Introduction sub clause xvi) Para xv applies for TCCS & IP Exchange work also. As per this clause new bidder	The RFP is providing un due advantage to existing PBX vendor . The bidder not only need to forced to purchase license from existing OEM as	The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working

			Charges . Inspection Consignee	shall offer solution to integrate with existing IP PBX. Request you to remove upgradation Part		Can be proposed by the bidder
3				Para xv applies for TCCS & IP Exchange work also. As per this clause new bidder shall offer solution to integrate with existing IP PBX. Request you to remove upgradation Part	Request you to remove upgradation Part as well as Tech support charges. If existing vendor has not paid support charges to OEM, then bidder need to pay support charges for elapsed years as per any OEM's Support policy	The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working Can be proposed by the bidder
4	86 of 262	2.2.5 communication Server	Also the UC call manager application should be of OEM make and should	This clause will allow the Asterisk Based solution shall be offered by the		Will be deleted

		capabilities Clause 1	support open source or freeware software	bidders . Request you to remove this clause as it is not reliable for such large critical communication requirements		
5	87 of 262	2.2.5 communication Server capabilities Clause 7	Media gateway should continue to work independently in case of Network Connectivity failure. Once the Media gateway works in survival mode, it should provide all standards	While GW is working in self survivable mode , the GW should provide the all Telephony features mentioned in detailed specification of Clause no 3.3.9.9. (Page 216/262)		Yes, all features shall work in self survival mode too
6	87 of 262	2.2.5 communication Server capabilities Clause 12	12. The IP distributed architecture with Intelligent Branch Solutions should allow the connection of Remote sites /Buildings by a cost effective IP	Request you to confirm central management means , the Gateways and IP Phones should be configured and Managed centrally. In case of self survivable mode there should not be	Suggest you to add additional line that “In case of self survivable mode , there should not be any manual program of	Self Survivable mode means it should work as independent exchange like intercom as mentioned in the tender ,in case of link failure between server and gateway . “There should not be any manual programming of individual gateway,in case of self

				any manual program of Individual gateway	Individual gateway."	survival mode " has since been added .
7	87 of 262	2.2.5 communication Server capabilities Clause 19	Integration of speech and data for multimedia workflow applications	Kindly confirm the type of work flow applications to be integrated. Also , integration thorough should be through CTI / CSTA or API protocol		CTI/CSTA or API Protocol
8	88 of 262	2.2.5 communication Server capabilities Clause 27	The Server should be integrated with Existing Exchanges and gateways for Seamless Communication	Request you to confirm what is the protocol to be used for such integration like PRI / IP. Also request to confirm that if any hardware like PRI or IP card of existing system is to be supplied by the Bidder. If so kindly share the qty and type and include these changes in the BOM / schedule		Integration to TDM exchange is planned through PRI and gateways through LAN .No extra hardware is required to be supplied.

9	Page 88 of 262	2.2.6 Location of Gateways to connect analog phone to SIP Exchange	2.2.6.1 UBL Division SI No 10 96 FXS Gateway – 12 Nos 48 Port Gateway – 6 Nos 24 Port Gateway -1 Nos	Request you to confirm if all these gateways are to be connected in single location or multiple locations. Also request you to confirm, in single location will there multiple gateways to be stacked (For example in Hospete and Bellary Jn , need to install 2 nos of 96 Port FXS Gateways)		List of Locations and Qty of Gateways, Division wise , station wise is enclosed in scope of work chapter 2 in tender document. For major stations like Hubballi, Bangalore, Mysuru and important junction stations , gateways will be provided at different buildings in the same city/town ,however in single building two or more gateways will also be stacked.
CHAPTER- 3: Detailed Technical Specification of Schedule items						
Sub-Work C: VOIP Based TCCS & SIP EXCHANGE						
1	205/262	3.3.5.1 Standards and guidelines that have to be met	The OEM of IP PBX / bidder should have ISO 9001:2015, ISO 14001, ISO 45001 & ISO 90003, ISO 27001 certification or	Request you to give relaxation for OEM / Bidder can meet any three of requested certificates		The said clause has been revised making only compliance to TEC/ GR/SW/PBX-005/01/SEP-16 or latest mandatory ,

			equivalent in all the company's activities.			in the modified tender document .
2			The OEM offered unified communication and call manager application must have valid trademark registration certificate as per Govt. of India trademark act 1999, Section 23, rule No. 62(1	This is a restrictive clause for certain OEM. Request you to remove this clause		TEC/ GR/SW/PBX-005/01/SEP-16 or latest only is mandatory . Same will be issued in corrigendum
3			Hardware of the offered IP Telephony Exchange of server-Gateway architecture with redundancy system should be from same OEM or compatible, IP telephony system Software, IP/SIP Phones, Media Gateways, Auto attendance, Help Desk and voice mail should be preferably of same	The requested features of Help Desk is of one particular OEM . Not all the bidders can meet this. Pls allow us to quote 3rd Party solution who can offer much more features	Help Desk from same OEM can be removed	It is mentioned as preferably of the same OEM or Compatible. So compatible 3rd party solutions can also be proposed .

			OEM of IP Telephony Exchange			
4			At Bengaluru a new SIP server has to be installed and 8 exchanges have to be connected on PRI by retaining TDM Exchange at SBC and TDM exchange has to be connected through gateway to New SIP Server.	As per the proposed new architecture Bidder need to supply separate E1 Gateway. In case of Link to server with E1 Gateway is failed, then connectivity to SBC exchange will be lost.	The suggestion is FXO/FXS / PRI all should be from same universal slot gateway	Same will be connected through PRI Gateway, which is already catered in the tender.
5			At Mysore Aeonix system Tadiran Make is already installed. The new resources licenses to be added i.e. User licenses, Mobility and SIP trunks licenses etc. in the same Tadiran Aeonix system installed. If any other OEM/vendor wants to give a complete new system, can offer at no additional cost and	This clause is contrary to CHAPTER-2: SCOPE OF WORK AND TECHNICAL REQUIREMENTS. Clause 2.0 Introduction sub clause xvi) Para xv applies for TCCS & IP Exchange work also. As per above clause new bidder shall offer solution to		The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing

			supply subject to without compromising any of the existing system features and performance required	integrate with existing IP PBX.		SIP server with seamless working Can be proposed by the bidder
6		3.3.5.3 System Architecture	System software shall allow independent shutdown of each unit/card. During the demounting and mounting of extension or trunk cards, no other unit/card shall be shut down (hot swapping		Our comments: If some OEM's are offering Gateway not designed by them or 3rd Party GW under their name, then this feature will not work.	This is applicable for E1 gateway, FXO and FXS gateway. During modification of any of these cards ,rest of system shall not be affected .While the system is ON and working ,it shall be possible to change cards.
7	208 of 262	3.3.5.7 Security Features & System Administration	The system network should be centrally administered and maintained from an appropriately equipped network management system apart from the centrally performed operational tasks which could be performed	As per this condition , we understand that at no point of time including self survivable mode, no programming of individual gateway at the site is required. If so , kindly request you		It should be centrally monitored through NMS and provision of programming of individual gateway at site also shall be available.

			using onsite operating terminals	to clearly mention this .		
8		3.3.5.8 Help Desk Specifications/Complain Management	The proposed solution must be embedded within the platform, not installed on a separate server and should be from the same OEM of the telephony system	This entire specification is restrictive for one OEM. Request you to allow us to quote 3 rd party solution		Third party solution is also allowed and same will be issued in corrigendum.
9			The same set of business and routing rules can be applied to voice , emails, and faxes if required	This is restrictive for one particular OEM . Request you to remove this. Or allow us to quote 3 rd Party solution		Third party solution is also allowed and same will be issued in corrigendum.
10			The help desk must support multi-layer routing including Priority, Skill Based, Statistical, Business Rules, and Customer Defined Values	This is a call centre feature. Request you to remove the same		This feature has been made optional. Modified specification with the same may please be referred

11			The supervisor must be able to see the status of help desk agents in real-time in his PC like logout, busy, free, Release, non ACD etc. in graphical form in pie chart / bar chart.	This is a call centre feature. Request you to remove the same.		This feature has been made optional. Modified specification with the same may please be referred
12			<p>Historical Reports – must be able to collect all information from call entry to call termination. Call profile details for internal investigation purposes should be part of the contact centre solution.</p> <ul style="list-style-type: none"> ● The help desk solution must have an embedded Management Information System (MIS) suite that monitors all help desk activities, generating 	This entire is specification is restrictive for one OEM. Request you to allow us to quote 3 rd party solution		Third party solution is also allowed and same will be issued in corrigendum.

			reports that summarize the past performance of the system over a given time period, and providing statistical analysis of the help desk within a specified period. Real-time and historical reports			
13	Page 209/262	3.3.5.9 Telephony Minimum Features should be available		Request you to confirm all these features should work , in case FXS gateway is isolated and working in self survivable mode when connection to server is lost		Minimum features should be available in self survivability mode
14	Page 211/262	3.3.9 Schedule C3 Item 28-32 :Specificati ons for intercom Communic	The Server offered should be equipped for 16/24 subscriber Analog Extensions and 100 IP Extensions and 125 or more Party	Request you to confirm , if we need to supply these apart from the licenses asked as per the schedule of the items		This sentence will be deleted as same is not applicable to SIP exchanges

		ation (SIP) services and Licenses Communication (SIP) services and Licenses	Audio Conference License			
15		3.3.9.6 Distributed Architecture over IP Network	b) The proposed solution must enable part of the cluster to be hosted in a public or private cloud.	Request you to confirm if SWR is planning to Host its communication solution in public cloud like azure, AWS etc. if not this clause can be removed.		This is future requirement of SWR, the system should support mentioned feature from day-1. SWR will decide and implement the same whenever needed
16	Page 217 /262	3.3.10 Schedule C3 Item.No 33 & 34: Specifications for Upgradation of	The existing server should be upgraded with additional 100 IP licenses and 30 SIP trunk licenses to cater for intercom provision to construction officers in Bengaluru Cantonment . The server should be	In this RFP , for VSS solution Bidders are allowed to integrate with the existing system. But it is discrimination for other PBX vendors . Request you to allow us to quote separate solution	If any other OEM/vendor wants to give a complete new system, can offer at no additional cost and supply subject to without compromising any of the existing	The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of 1.either upgrading the existing SIP exchange or

		Aeonix server	reprogrammed accordingly	with integration to existing vendor.	system features and performance required	2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working Can be proposed by the bidder
17	Page 218 of 262	3.3.13 Schedule C4 Item No 1: Specifications for 96 Port FXS Gateway		This gateway specification is of more of Newrock Model Mx120G , a Gateway From China. Pls confirm if SWR can accept the solution from the OEM which don't have the design and service capability of these gateways , just white labelling gateways from China.	Suggest you to add a clause that , the OEM should give an undertaking that , they will provide the support for Gateway and IP Phones next 10 Years . This should be signed by their corporate HQ	Mentioned specifications are minimum requirements. There is no specific OEM make / Model mentioned in the tender. Acceptance of Gateway hardware is subject to fully technical compliance as per tender specification. OEM authorization/undertaking for support is already asked for Gateway hardware, IP Phones and other items for 8 years(maintenance and AMC). Hence No change is

						considered and , tender terms prevail.
18				The above query is applicable for all the other GW like 24 FXS, 8 FXS and 2 E1 / PRI Gateway Request you to allow us to quote the Gateway that have slot capability to install FXS, FXO. PRI or E&M cards which will provide complete set of features during self survivable mode even if one or more gateways are installed in one location	These specifications are for a single OEM	Mentioned specifications are minimum requirements. There is no specific OEM make / Model mentioned in the tender. Acceptance of Gateway hardware is subject to fully technical compliance as per tender specification. OEM authorization/undertaking for support is already asked for Gateway hardware, IP Phones and other items for 8 years(maintenance and AMC). No change, tender terms prevail.
19	Page 224 /262	3.3.20.2 Emergency Room Communication Console	If the SIP camera is connected on the same LAN network, it should have the ability to view the video (of the location) from a camera to the Dispatcher	Request you to remove this clause as this RFP has full pledged VSS Solution		Will be omitted

			screen and create an alarm			
20			The conference must be controlled by a user defined as Operator from the web based GUI. The operator should have 2 phones to effectively manage the conference. Both phones should be controlled by the web based GUI.	This is restrictive for only one vendor. Kindly remove this clause		This sentence will be modified as "the conference must be controlled by a user defined as Operator from the web based GUI."
21			Configurable Background – Change the background of the Dispatcher screen from the Application	This is restrictive for only one vendor. Kindly remove this clause		Will be omitted

15. L & T

Sr. No.	Section	Page No.	Clause No.	Clause Header	Clause details as in RFP	Query/ Clarification Required	SWR Remarks
1	STANDARD SPECIAL CONDITIONS OF CONTRACT 10. Eligibility Criteria :	Page 28 of 54	10.1		<p><u>10.1 Technical Eligibility Criteria:</u></p> <p>(a) The tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:</p> <p>Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or One similar work each costing not less than the amount equal to 60% of advertised value of the tender.</p> <p>(b) (i) In case of tenders for composite works (e.g. works involving more than one distinct component, such as Civil Engineering works, S&T works,</p>	We understand that bidder need to meet either 10.1 (a) or 10.1 (b). Kindly confirm.	Since this is composite work , eligibility criteria as mentioned under clause no. 10.1 (b) shall be complied.

					<p>Electrical works, OHE works etc. and in the case of major bridges – substructure, superstructure etc.), tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited: Three similar works each costing not less than the amount equal to 30% of advertised value of each component of tender, or Two similar works each costing not less than the amount equal to 40% of advertised value of each component of tender, or One similar work each costing not less than the amount equal to 60% of advertised value of each component of tender.</p>		
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2	STANDARD SPECIAL CONDITIONS OF CONTRACT	Page 10.1	10.1	<p><u>10.1 Technical Eligibility Criteria:</u></p> <p>(a) The tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:</p> <p>Three similar works each costing not less than the amount equal to 30% of advertised value of the tender,</p> <p>or</p> <p>Two similar works each costing not less than the amount equal to 40% of advertised value of the tender,</p> <p>or</p> <p>One similar work each costing not less than the amount equal to 60% of advertised value of the tender.</p> <p>(b) (i) In case of tenders for composite works (e.g. works involving more than one distinct component, such as Civil Engineering works, S&T works, Electrical works, OHE works etc. and in the case of major bridges – substructure, superstructure etc.),</p>	<p>Kindly amend clause as below:</p> <p><u>10.1 Technical Eligibility Criteria:</u></p> <p>(a) The tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:</p> <p>Three similar works each project costing not less than the amount equal to 30% of advertised value of the tender,</p> <p>or</p> <p>Two similar works each project costing not less than the amount equal to 40% of advertised value of the tender,</p> <p>or</p> <p>One similar work each project costing not less than the amount equal to 60% of advertised value of the tender.</p> <p>(b) (i) In case of tenders for composite works (e.g. works involving more than one distinct component, such as Civil Engineering works, S&T works,</p>	<p>All terms and conditions of tenders and contracts are guided by the Indian Railways standard General Conditions of Contract (GCC-July 2020) .</p>
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				<p>tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:</p> <p>Three similar works each costing not less than the amount equal to 30% of advertised value of each component of tender, or</p> <p>Two similar works each costing not less than the amount equal to 40% of advertised value of each component of tender, or</p> <p>One similar work each costing not less than the amount equal to 60% of advertised value of each component of tender.</p>	<p>Electrical works, OHE works etc. and in the case of major bridges – substructure, superstructure etc.), tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:</p> <p>Three similar works each costing not less than the amount equal to 30% of advertised value of each component project value of tender, or</p> <p>Two similar works each costing not less than the amount equal to 40% of advertised value of each component project value of tender, or</p> <p>One similar work each costing not less than the amount equal to 60% of advertised value of each component project value of tender.</p>	
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3	STANDARD SPECIAL CONDITIONS OF CONTRACT	Paragraph 28 of 54	10.1	<p><u>10.1 Technical Eligibility Criteria:</u></p> <p>(a) The tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:</p> <p>Three similar works each costing not less than the amount equal to 30% of advertised value of the tender,</p> <p>or</p> <p>Two similar works each costing not less than the amount equal to 40% of advertised value of the tender,</p> <p>or</p> <p>One similar work each costing not less than the amount equal to 60% of advertised value of the tender.</p> <p>(b) (i) In case of tenders for composite works (e.g. works involving more than one distinct component, such as Civil Engineering works, S&T works, Electrical works, OHE works etc. and in the case of major bridges – substructure, superstructure etc.),</p>	<p>We understand that the bidder need to submit project experience as below:</p> <p>1. the combined value of IP-MPLS network, Video Surveillance System and VOIP TCCS /SIP Exchanges should be more than 60% of advertised value of the tender for One Similar work</p> <p>or</p> <p>2. the combined value of IP-MPLS network, Video Surveillance System and VOIP TCCS /SIP Exchanges should be more than 40% of advertised value of the tender for Two Similar work</p> <p>or</p> <p>3. the combined value of IP-MPLS network, Video Surveillance System and VOIP TCCS /SIP Exchanges should be more than 30% of advertised value of the tender for Three Similar work.</p> <p>Kindly confirm.</p>	<p>Bidder shall meet</p> <p>clause no. 10.1 (b) (i) of special conditions of contract as per similar nature of work as defined for all 3 components individually i.e. 1. IP-MPLS Network, 2. Video Surveillance System, 3. VOIP based TCCS/SIP Exchange.</p>
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				<p>tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:</p> <p>Three similar works each costing not less than the amount equal to 30% of advertised value of each component of tender, or</p> <p>Two similar works each costing not less than the amount equal to 40% of advertised value of each component of tender, or</p> <p>One similar work each costing not less than the amount equal to 60% of advertised value of each component of tender.</p>		
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4	STANDARD SPECIAL CONDITIONS OF CONTRACT 10. Eligibility Criteria :	Paragraph 10	10		Note for b(i): Separate completed works of minimum required values for each component shall also be considered for fulfillment of technical eligibility criteria.	<p>We understand that bidder can submit separate projects for IP-MPLS network, Video Surveillance System and VOIP TCCS /SIP Exchanges "One similar work each costing not less than the amount equal to 60% of advertised value of each component of tender" clause.</p> <p>i.e. One Project of more than 60% of advertised value of each component of tender for IP-MPLS network</p> <p>One Project of more than 60% of advertised value of each component of tender for Video Surveillance System</p> <p>One Project of more than 60% of advertised value of each component of tender for VOIP TCCS /SIP Exchanges.</p> <p>Kindly confirm</p>	Tenderer shall comply clause no. 10.1 (b) (i) of special conditions of contract for the similar nature of work defined for all 3 components individually i.e. 1. IP-MPLS Network, 2. Video Surveillance System, 3. VOIP based TCCS/SIP Exchange.
5	General Conditions of Contract	Paragraph 8	3		3. A sum of ₹ _____ has already been deposited online as Earnest Money. Full value of the Earnest Money shall stand forfeited without prejudice to any other right or	As per clause no. 7.0 Earnest Money Deposit of Special Conditions in page no. Page 28 of 54 bidder need to submit the Bid security declaration as per Annexure - 1, therefore bidder need	As per clause no. 7.0 of Special Conditions, bidder need to submit the Bid security declaration as per Annexure-1. Where the provision of the Special condition of contract

	ANNEX URE - I TENDE R FORM (First Sheet)				<p>remedies in case my/our Tender is accepted and if:</p> <p>(a) I/We do not submit the Performance Guarantee within the time specified in the Tender document;</p> <p>(b) I/We do not execute the contract documents within seven days after receipt of notice issued by the Railway that such documents are ready; and</p> <p>(c) I/We do not commence the work within fifteen days after receipt of orders to that effect.</p>	not to fill the EMD amount. Kindly remove/modify the clause	(SCC) are at variance with the IRS General Condition of Contract (IRSGCC-2020) including correction slips and other documents, special conditions shall prevail as per clause no. 1 Special Condition of Contract page 06 of 54.
6	General Condi tions of Contra ct	P a g e 8	5		5. We are a 100% Govt. owned PSUs and hence exempted from payment of Earnest Money.	As per clause no. 7.0 Earnest Money Deposit of Special Conditions in page no. Page 28 of 54 for private bidders also have to submit the Bid security declaration as per Annexure - 1. Kindly remove the clause.	As per clause no. 7.0, bidder needs to submit the Bid security declaration as per Annexure-1.
	ANNEX URE - I TENDE						

	R FORM (First Sheet)						
7	General Condi- tions of Contract ANNEX URE - I (Contd. ...) TENDE R FORM (Secon d Sheet)	P a g e 1 0	A n n e x u r e I		ANNEXURE - I (Contd. ...) TENDER FORM (Second Sheet)	We understand that only ANNEXURE - I - TENDER FORM (First Sheet) is to be submitted with the bid and ANNEXURE - I (Contd. ...) TENDER FORM (Second Sheet) no need to submitted as it includes only instruction to bidders and also both parties need to sign the same. Kindly confirm.	Annexure enclosed in Special Conditions of Contract shall only be signed and submitted.
8	General Condi- tions of Contract	P a g e	A n n e x		ANNEXURE - I (Contd. ...) TENDER FORM (Third Sheet)	We understand that only ANNEXURE - I - TENDER FORM (First Sheet) is to be submitted with the bid and ANNEXURE - I (Contd. ...) TENDER FORM (Third Sheet) no need to submitted as	Annexure enclosed in Special Conditions of Contract shall only be signed and submitted.

	ANNEXURE - I (Contd. ...) TENDER FORM (Third Sheet)	28	ure I			Columns 1 to 5 shall be filled by the office of the Authority inviting tender. Kindly confirm.	
9	General Conditions of Contract ANNEXURE - I TENDER FORM (First Sheet)	Page 8	6		6. We are a Labour Cooperative Society and our Registration No. is withand hence required to deposit only 50% of Earnest Money.	As per clause no. 7.0 Earnest Money Deposit of Special Conditions in page no. Page 28 of 54 bidder need to submit the Bid security declaration as per Annexure - 1, therefore this clause is not applicable for any of the bidder. Kindly remove the clause	As per clause no. 7.0 of Special Conditions, bidder needs to submit the Bid security declaration in the format of Annexure-1.
10	General Conditions of	Page	Ann		Indian Railways as amended/corrected upto latest correction slips, copies	Kindly provide the details is required to fill in the blanks.	Details of Correction slips are uploaded along with tender.

	Contract ANNEX URE - I (Contd. ...)	e 1 0	e x u r e I		of which can be seen in the office of _____ or obtained from the office of the Chief Engineer, _____ Railway on payment of prescribed charges		
1 1	General Conditions of Contract ANNEX URE - I (Contd. ...)	P a g e 1 1	6		6. Earnest Money: (a) The tender must be accompanied by a sum of ₹ _____ as Earnest Money deposited in cash through e-payment gateway or as mentioned in tender documents, failing which the tender shall not be considered. Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as 'Startups' shall be exempted from payment of Earnest Money on submission of Registration Certificate issued by appropriate authority.	Kindly delete this clause as EMD declaration only required for submission.	As per clause no. 7.0, bidders need to submit the Bid security declaration as per Annexure-1.

1 2	General	G e n e r a l	G e n e r a l		General	In most of the formats EMD details is required to fill, but as per the tender only EMD declaration has to be submitted. Kindly update all the formats wherever the EMD clauses are mentioned.	As per clause no. 7.0, bidders need to submit the Bid security declaration as per Annexure-1.
1 3	General Conditions of Contract ANNEXURE - I (Contd. ...)Explanation for clause 10 including clause 10.1 to 10.5 - Eligibility Criteria	P a g e 1 4	A n n e x u r e I		If a work is physically completed and completion certificate to this extent is issued by the concerned organization but final bill is pending, such work shall be considered for fulfillment of credentials.	Sometimes customer will provide Go-live certificate instead of completion certificate, hence we understand that Go-live certificate also be accepted as a completion certificate.	Completion certificate , duly indicating the value of work completed , portion of work pertaining sub work for which credential is being claimed etc., only can be considered .

14	ANNEXURE – VI TENDERER'S CREDENTIALS (BID CAPACITY)	Page 36	ANNEXURE – VI	N= Number of years prescribed for completion of work for which bids has been invited.	We understand that Completion Period of work is 12 months (i.e. 1 Year) and it not includes Maintenance Period. Hence value of the 'N' will be 1. Kindly confirm.	Yes
15	STANDARD SPECIAL CONDITIONS OF CONTRACT 10. Eligibility Criteria :	Page 30 of 54	10	Financial Eligibility Criteria: The tenderer must have received contractual payments in the previous three financial years and the current financial year up to the date of inviting of tender, at least 150% of the advertised value of the tender. The tenderers shall submit Certificates to this effect which may be an attested Certificate from the concerned department / client or Audited Balance Sheet duly certified by the Chartered Accountant/Certificate from Chartered Accountant duly supported by Audited Balance Sheet. Note for 10.2: Client certificate from other than Govt Organization should	We understand that bidder need to submit Chartered Accountant Certificate and Audited Financial Statement for Average Annual Turnover certificate.	The said Standard Special Conditions of Contract categorically describe the certificates to be submitted. Same may please be referred.

					be duly supported by Form 16A/26AS generated through TRACES of Income Tax Department of India.		
16	General	General	General		General	We understand that "completed work" means bidder has been successfully implemented / commissioned the project and the same under the DLP or O&M stage. Kindly confirm.	Completed work means completed in all aspects, commissioned and is working.
17	(e) Company registered under Companies Act 2013:	Part 3 of 5	(ii)		(iii) A copy of Authorization/Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender on behalf of the company and create liability against the company.	The RFP does not contain a format for Power of Attorney. We understand that bidder can submit a copy of general Power of Attorney for Authorised Signatory. Kindly confirm.	Power of Attorney for Authorized Signatory can be submitted in any format
18	General	General	General		General	We understand that the bid should be submitted on on the e-Tendering Portal (www.ireps.gov.in) and no hardcopy submission. Kindly confirm	Yes,Hard Copy/manual tender will not be accepted. Bids have to be submitted in IREPS only. Last date for submission of bids has now been extended upto 3 rd Dec.2021

19	Standard Special Conditions of Contract	4 of 54	1	Table	Last Date - Upto 15:00hrs on 12.11.2021	In NIT it is mentioned as 15.11.2021. We understand the Last date of Submission is 15.11.2021. Please confirm	Yes, Last Date of bid submission was 15.11.2021. The same is now further extended to 03.12.2021, based on some requests received in
20	Standard Special Conditions of Contract	4 of 54	1	Table	Completion Period of work - 12 months	Kindly request you to ammend the clause as follows "Completion Period of Work - 18 months"	As the project is being taken up as a pilot project and progress of same is being monitored at highest level. As such, increasing completion period can not be considered.
21	Standard Special Conditions of Contract	4 of 54	1	Table	Participation of Joint Venture	Please clarify the maximum number of Joint Venture allowed for this tender.	Please refer Clause no. 17.2 of Special Conditions of contract
22	Standard Special Conditions of	6 of 54	2.2	SPECIAL CONDITIONS OF	Tenderer shall necessarily mention Make and Model Number proposed to be supplied for certain specified items	We understand that the Bidder can quote multiple Make and Model which is complying to the Technical Specificaitons. Also, the Make and Model number is required only for the	No. The bidder shall offer only one make and model for the items while bidding and it is required for the mentioned items only.

	Contract			CONTRACT	in the schedule i.e. Routers, Switches, Cameras, Servers, Gateways	mentioned items (i.e) - Routers, Switches, Cameras, Servers, Gateways. For other Passive / active components , Make and Model is not required. Please confirm.	
23	Standard Special Conditions of Contract	6 of 54	2.3	COMPLETION PERIOD:	COMPLETION PERIOD: The entire work shall be completed within the period of TWELVE Months from the date of issue of the letter of award.	Request you to amend the clause as follows COMPLETION PERIOD: The entire work shall be completed within the period of " EIGHTEEN " Months from the date of issue of the letter of award.	Please refer to remarks of item no. 20 above
24	Standard Special Conditions of Contract	6 of 54	2.3	QUANTITY OF WORK , SPARE S & OPTIONAL ITEMS	The schedule of work mentions the quantities of various items required to be installed and commissioned. It should be clearly noted that the item and the quantities mentioned have been worked out by railways as per their requirement	we understand that the SCHEDULE of BoQ (Bill of Quantities) as per price schedule are tentative and bidder need to quote strictly as per the BoQ and the evaluation shall be done on the same. If any increase/decrease in the BoQ/SoR/Non-SoR during the project implementation, Quantities shall be adjusted and paid accordingly to the Contractor on mutual agreed price, please confirm.	Yes, bidder has to quote as per BoQ uploaded in IREPS. Evaluation will be done on the same. Variation ,if necessary will be operated and paid as per GCC Rules.

25	Standard Special Conditions of Contract	6 of 54	4	AGREEMENT	The Contract Agreement shall be entered into by Railway only after submission of valid Performance Guarantee by the Contractor.	Kindly Request you to share the DRAFT AGREEMENT which needs to be signed post award.	Draft agreement will be shared after award of work /issue of Letter of Acceptance with Successful tenderer
26	SCC Inspection & Supervision of Installation , Testing ,& Commissioning	8 of 54	1. 2	Inspection/Factory Acceptance Test	Inspection will be carried by RDSO/RITES/Consignee. RDSO will inspect the items for which RDSO specifications are referred . For other items the inspection will be carried out by the Railway or its authorized agency i.e. RITES or any third party test from approved labs.	We understand the INSPECTION / FAT shall be carried out by RDSO/ RITES/Consignee at respective warehouse of the Bidders.	Inspection will be carried out at respective warehouses of the bidder/OEM and in some cases inspection is carried out in RDSO premises.
27	SCC Inspection & Supervision of Installation,Testing ,&	9 of 54	1. 2 (f)	Inspection/Factory Acceptance Test	A detailed time schedule for these activities shall be submitted by the bidder to Purchaser/Engineer to enable their representatives to be associated with the job.	We understand that the Detailed Time Schedule for the associated activities shall be submitted by the Bidder post Signing of Contract Agreement. Please confirm	Time Schedule shall be submitted after issue of LOA.

	Commissioning						
28	SCC Inspection & Supervision of Installation, Testing, & Commissioning	954	1.2(f)	Inspection/Factory Acceptance Test	Bidder shall supply all installation materials required for proper installation of the equipment. These shall include but not be limited to, all connectors, interbay and inter equipment cables, power supply and earthing cables and connectors, power distribution boxes, anchoring bolts, nuts, screws, washers, main distribution frames, audio distribution frames, voice frequency cables, junction boxes etc	We understand that the required quantities of Installation materials are captured in the SCHEDULE OF BOQ. During the project execution, If any increase/decrease in the BoQ/SoR/Non-SoR during the project implementation, Quantities shall be adjusted and paid accordingly to the Contractor on mutual agreed price, please confirm.	For all schedule items where supply installation and commissioning is mentioned, all the accessories as mentioned in this clause, required for installation and commissioning for the equipments shall be supplied by the contractor free of cost . No separate payment can be made for the same
29	SCC Inspection & Supervision of Installation, Testing, & Commi	1054	1.5	Trial Run/Field Trials	Upon conclusion of the site acceptance testing the bidder shall keep the facilities commissioned for one month for 'TRIAL RUN/FIELD TRIALS'.	We understand that the TRAIL RUN / FIELD RUN is over and above the 12 months of the project implementation period. Request you to confirm the TRAIL RUNS can be demonstrated in batches of stations.	Trial run/Field run will start immediately after SAT and it can be demonstrated in batches. PAC will be issued after trial run of the last station/equipment commissioned in this project.

	ssionin g						
30	SCC Inspecti on & Supervi sion of Installat ion , Testing & Commi ssionin g	1 0 5 4	1. 5	Trial Run/Fi eld Trials	<p>If the system fails to reach the guaranteed performance even after the</p> <p>second trial run, the Purchaser shall be free to take any action as he deems fit against the bidder and to bring the system to the guaranteed performance with the help of a third party at the expense of the bidder.</p>	<p>Kindly request you to amend the clause as follows</p> <p>"If the system fails to reach the guaranteed performance even after the second trial run purely atributable due to bidders supplied item, the bidder shall be given a period 60 days to rectify the failure. the Purchaser shall be free to take any action as he deems fit against the bidder and to bring the system to the guaranteed performance with the help of a third party at the expense of the bidder subjec to Total Contract Value"</p>	<p>Agreed. If the system fails to reach the guaranteed performance even after the second trial run purely attributable due to bidders supplied item, the Purchaser shall be free to take any action as he deems fit against the bidder and to bring the system to the guaranteed performance with the help of a third party at the expense of the bidder.</p> <p>The same will be corrected in corrigendum</p>
31	SCC Inspecti on & Supervi sion of Installat ion , Testing	1 1 5 4	1. 7. 1	Maint enanc e Spare s	<p>The bidder shall warrant that spare parts for the system would be available for a minimum of 8(3 Year Maintenance and 5 Year AMC) years after issue of PAC for IT setup at Data Center- Disaster Recovery.</p>	<p>We understand the bidder's obligation for this tender end after the maintenance period (i.e) 36 months from the date of PAC. AMC of 5 yrs is not the bidders scope. Kindly Confirm.</p>	<p>Bidder has to enter agreement with Railways for 5 Years AMC, after completion of maintenance period to 36 months</p>

	,& Commi ssionin g						
3 2	SCC Inspecti on & Supervi sion of Installat ion , Testing ,& Commi ssionin g	1 2 5 4	1. 1 0. 2	Timeli nes for Traini ng and Devel opme nt	The training course shall be conducted at the OEM premises from where the respective equipment/subsystems are manufactured/ offered/assembled or at full fledged training facilities	Kindly request you to amend the clause as follows "The training course shall be conducted at the OEM premises from where the respective equipment/subsystems are manufactured/ offered/assembled or at full fledged training facilities of the Cusomer"	Noted and same will be corrected in Corrigendum.
3 3	SCC -Mainte nance	1 4 of 5 4	2. 1	Maint enanc e suppo rt	36 months Maintenance Supervision between issue of last PAC and FAC.	We understand the Maintenance period shall start immediately of the respective stages / stations for which the PAC was issued. Kindly confirm	Maintenance period will start after the last commissioning and final PAC issued.

34	SCC - Phase-wise Delivery/Implementation timelines	16 of 54	3	Phase-wise Delivery/Implementation timelines	<div>Video Surveillance System(VSS)</div> <table><thead><tr><th>Phase</th><th>Completion Target</th><th>Deliverable</th><th>Timeline (D= Date of Issue of LOA) (Existing)</th><th>Timeline (D= Date of Issue of LOA) (Proposed)</th></tr></thead><tbody><tr><td rowspan="4">I.</td><td rowspan="4">Stations & associated RPF Thana/ Post</td><td>Approval of Plans for 14 A & B category stations</td><td>D + 15 Days</td><td>D + 30 Days</td></tr><tr><td>Approval of Plans at first batch of 107 D & E category stations</td><td>D + 35 Days</td><td>D + 60 Days</td></tr><tr><td>Approval of Plans at second batch of 107 D & E category stations</td><td>D + 45 Days</td><td>D + 90 Days</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td>Supply of all material other than Camera, Servers, Switches & UPS</td><td></td><td>D + 45 Days</td><td>D + 120 Days</td></tr><tr><td></td><td>Supply of CCTV Cameras, Servers and Switches</td><td></td><td>D + 60 Days</td><td>D + 150 Days</td></tr><tr><td rowspan="6">II.</td><td rowspan="6">Completion of Installation, Testing and Commissioning of VSS at all stations</td><td>Installation, Testing and commissioning of Cameras, Servers and power supply at 14 A & B category station and installation of monitoring units at RPF Posts</td><td>D + 75 Days</td><td>D + 240 Days</td></tr><tr><td>Installation, Testing and commissioning of Cameras, Servers and power supply at first batch of 107 D & E category station and installation of monitoring units at RPF Posts</td><td>D + 90 Days</td><td>D + 300 Days</td></tr><tr><td>Installation and commissioning of Video Wall, Work station, power supply at Divisional and Zonal CCC (Security Control Command Centre) at Hubballi, Bangalore and Mysore division</td><td>D + 90 Days</td><td>D + 300 Days</td></tr><tr><td>Installation, Testing and commissioning of Cameras, Servers and power supply at Remaining 107 D & E category station and installation of monitoring units at RPF Posts</td><td>D + 180 Days</td><td>D + 360 Days</td></tr><tr><td>Integration of New VSS Infra with existing VSS at Station,CCC,Divisional & Zonal Security control</td><td>D + 180 Days</td><td>D + 360 Days</td></tr><tr><td></td><td></td><td></td></tr></tbody></table>	Phase	Completion Target	Deliverable	Timeline (D= Date of Issue of LOA) (Existing)	Timeline (D= Date of Issue of LOA) (Proposed)	I.	Stations & associated RPF Thana/ Post	Approval of Plans for 14 A & B category stations	D + 15 Days	D + 30 Days	Approval of Plans at first batch of 107 D & E category stations	D + 35 Days	D + 60 Days	Approval of Plans at second batch of 107 D & E category stations	D + 45 Days	D + 90 Days					Supply of all material other than Camera, Servers, Switches & UPS		D + 45 Days	D + 120 Days		Supply of CCTV Cameras, Servers and Switches		D + 60 Days	D + 150 Days	II.	Completion of Installation, Testing and Commissioning of VSS at all stations	Installation, Testing and commissioning of Cameras, Servers and power supply at 14 A & B category station and installation of monitoring units at RPF Posts	D + 75 Days	D + 240 Days	Installation, Testing and commissioning of Cameras, Servers and power supply at first batch of 107 D & E category station and installation of monitoring units at RPF Posts	D + 90 Days	D + 300 Days	Installation and commissioning of Video Wall, Work station, power supply at Divisional and Zonal CCC (Security Control Command Centre) at Hubballi, Bangalore and Mysore division	D + 90 Days	D + 300 Days	Installation, Testing and commissioning of Cameras, Servers and power supply at Remaining 107 D & E category station and installation of monitoring units at RPF Posts	D + 180 Days	D + 360 Days	Integration of New VSS Infra with existing VSS at Station,CCC,Divisional & Zonal Security control	D + 180 Days	D + 360 Days				Request you to revise Timelines as below	Timelines mentioned in the tender can't be changed now ,given the importance of project.
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36	SCC - Phase-wise Delivery/Implementation timelines	18 of 54	3.3	Phase-wise Delivery/Implementation timelines	VoIP Based TCCS	Request you to revise Timelines as below	Timelines are decided as per importance of project																																								
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37	SCC - Phase-wise Delivery/Implementation timelines	18 of 54	3.4	Phase-wise Delivery/Implementation timelines	SIP Exchanges	Request you to revise Timelines as below	Timelines mentioned in the tender can't be changed now ,given the importance of project.																																								
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		Commissioning All the Gateways and IP Phones at offices	D + 300 Days	D + 500 Days																																											

38	SCC - Phase-wise Delivery/Implementation timelines	18 of 54	3.5	Phase-wise Delivery/Implementation timelines	Data Center and Disaster Recovery	Request you to revise Timelines as below	Timelines are decided as per importance of project																												
					<table><thead><tr><th>Phase</th><th>Completion Target</th><th>Deliverable</th><th>Timeline (D= Date of issue of LOA) (Existing)</th><th>Timeline (D= Date of issue of LOA) (Proposed)</th></tr></thead><tbody><tr><td rowspan="3">I.</td><td>Data Center and Disaster Recovery</td><td>Fixing of Racks and wiring</td><td>D + 60 Days</td><td>D + 150 Days</td></tr><tr><td>Supply of all material other than Servers, Switches, & UPS</td><td></td><td>D + 45 Days</td><td>D + 120 Days</td></tr><tr><td>Supply of Routers, Servers and Switches</td><td></td><td>D + 60 Days</td><td>D + 150 Days</td></tr><tr><td rowspan="2">II.</td><td rowspan="2">Completion of Installation, Testing and Commissioning</td><td>Installation, Testing and commissioning of Servers, routers, switches, power supply, Fire and alarm detection, Firewall and installation of monitoring units at DC</td><td>D + 90 Days</td><td>D + 300 Days</td></tr><tr><td>Installation, Testing and commissioning of Servers, router, switches and power supply, Fire and alarm detection, Firewall and installation of monitoring units at DR .</td><td>D + 100 Days</td><td>D + 330 Days</td></tr></tbody></table>			Phase	Completion Target	Deliverable	Timeline (D= Date of issue of LOA) (Existing)	Timeline (D= Date of issue of LOA) (Proposed)	I.	Data Center and Disaster Recovery	Fixing of Racks and wiring	D + 60 Days	D + 150 Days	Supply of all material other than Servers, Switches, & UPS		D + 45 Days	D + 120 Days	Supply of Routers, Servers and Switches		D + 60 Days	D + 150 Days	II.	Completion of Installation, Testing and Commissioning	Installation, Testing and commissioning of Servers, routers, switches, power supply, Fire and alarm detection, Firewall and installation of monitoring units at DC	D + 90 Days	D + 300 Days	Installation, Testing and commissioning of Servers, router, switches and power supply, Fire and alarm detection, Firewall and installation of monitoring units at DR .	D + 100 Days	D + 330 Days		
Phase	Completion Target	Deliverable	Timeline (D= Date of issue of LOA) (Existing)	Timeline (D= Date of issue of LOA) (Proposed)																															
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39	SCC - Phase-wise Delivery/Implementation timelines	16 of 54	3.1 / 3.2 / 3.3 / 3.4 / 3.5	Phase-wise Delivery/Implementation timelines	(D= Date of issue of LOA)	Request to include the defination of 'D' as below: "D= Date of Signing the contract agreement and submission of PBG along with the upfront site clearance certificate for the locations involving project execution duly signed by the competent authority from the Employer"	No modification. D-Date of issue of Letter of award.																												

40	SCC - Phase-wise Delivery/Implementation timelines	1654	3.1 / 3.2 / 3.3 / 3.4 / 3.5	Phase-wise Delivery/Implementation timelines	All timeline calculations are from the date of issue of LOA.	Request to amend the clause as follows "All timeline calculations are from Signing the contract agreement and submission of PBG along with the upfront site clearance certificate for the locations involving project execution duly signed by the competent authority from the Employer"	No modification. After issue of LOA, PBG to be submitted.
41	SCC - Payment Terms	2054	4.1	Payment Terms for Supply Items:	For hardware supply items, payments will be made for the material supplied in stages. a) 80% payment of the items would be made on receipt and acceptance of material by the consignee duly inspected and on submission of the following documents ,subject to any deductions or recovery which Railway may be entitled to make under the contract:	Due to PANDEMIC and COVID-19 Impact, SI's are facing financial crunch, which is impacting the mobilization of working capital for project requirement. Hence, Kindly request you to release a unadjustable advance of 10% against ABG.	As Per GCC there is no provision of advance payment.

4 2	SCC - Payment Terms	2 1 5 4	4. 2. 1	Paym ent of Servic e Items:	100% payment of items (except those mentioned in paras below) shall be made by Dy CSTE on successful Installation, Testing and Commissioning of the stations/sites .	Request you to amend the clause as follows a) Advance against ABG - 10% of the items b) Against Installation & Commissioning of Items - 80 % of the items on pro-rata basis station wise c) 5 % of the items on pro-rata basis station wise d) 5 % of the items on pro-rata basis Zone wise	As Per General conditions of contract ,there is no provision of advance payment.
4 3				Penalt y	Penalty to be charged on a quarterly basis of annual cost of AMC.	We request include the clause as below for all types of deliverables involving Cameras, Workstations, L-2 Support, Log etc., "Penalty to be charged on a quarterly basis of respective quarterly amount"	Penalty will be charged on quarterly basis of that respective month.
4 4				Penalt y	In addition to the above penalty for breach of the SLA parameters, No payment for the month would be made for the all stations under (in- including stations located at that	Request to modify the clause as below for provisioning at the time of exceptional cases:	As these items are related to train running and effect the train operation, down time is

					particular SSE/T Jurisdiction) where the down time observed would be more than 20% for Availability .	In addition to the above penalty for breach of the SLA parameters, No payment for the month would be made for the all stations under (in- including stations located at that particular SSE/T Jurisdiction) where the down time observed would be more than 30% for Availability .	treated with utmost seriousness and kept as 20%.
4 5		1 6 of 5 4	2. 3	Maint enanc e Super vision	The Contractor's Engineer shall be responsible to identify the fault and advise cor- reactive measures and ensure that defective cards are replenished. The bidder shall ensure that the downtime of the infra installed shall not be more than 4 hours.	Considering the complexity and nominal down-time request to modify the clause as below: The Contractor's Engineer shall be responsible to identify the fault and advise corrective measures and ensure that defective cards are replenished. The bidder shall ensure that the downtime of the infra installed shall not be more than 8 hours.	As these items are related for train running and their failure will affect the train operation, therefore down time is kept is 4 Hrs and increasing the same can't be considered .
4 6				Public Procurement (Preference to Make in India), Order 2017			

4 7		3 8 of 5 4	2 0	FORCE MAJE URE CLAUS E	<p>If at any time, during continuance of this Contract, the performance, whole or part, by either party, of any obligation under this contract shall be prevented or delayed by reason of any war, hostility, act of the public enemy, civil commotion, sabotage, fires, floods, earthquakes, explosions, strikes, epidemics, quarantine, restrictions, lockouts, statute, statutory rules, regulations, order of requisitions issued by any Government Department or Competent Authority or acts of God (here-in- after referred to as event) then</p> <p>provided notice of the happening of any such event is given by either party to the other within twenty one days from the date of occurrence there of neither party shall by reason of such event be entitled to terminate this Contract nor shall either party have any claim for damage against the other in respect of such non-performance or delay in performance</p>	Kindly request you to add "PANDEMIC " in Force Majeure Events	This para mentioned in tender is as per General Conditions of Contract issued by Railway Board and no change can be contemplated.
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48			20.1	Extension of Time in Contracts	<p>Extension of Time in Contracts: Subject to any requirement in the contract as to completion of any portion or portions of the works before completion of the whole, the Contractor shall fully and finally complete the whole of the works comprised in the contract (with such modifications as may be directed under conditions of this contract) by the date entered in the contract or extended date in terms of the following clauses:</p>	<p>We understand the clause " Extension of Time in Contracts" is not only subject of Force Majeure but applicable for overall contract during the execution of the Contract.</p> <p>Hence request you to amend the clause Number with a Separate Clause Number instead of the Sub item of FORCE MAJEURE Clause</p>	This para mentioned in tender is as per General Conditions of Contract issued by Railway Board and no change can be contemplated
49				Extension due to Modification	<p>(i) Extension due to Modification: If any modifications have been ordered which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension of the contracted date of completion may be granted as shall appear to the Engineer to be reasonable in the circumstances, provided moreover that the Contractor shall be responsible for requesting such extension of the date as may be considered necessary as soon as the cause thereof shall arise</p>	<p>Kindly request you to amend the clause as follow</p> <p>(i) Extension due to Modification: If any modifications have been ordered which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension of the contracted date of completion may be granted with suitable Compensation for Extension period as shall appear to the Engineer to be reasonable in the circumstances, provided moreover that</p>	This para mentioned in tender is as per General Conditions of Contract issued by Railway Board and no change can be contemplated

					and in any case not less than one month before the expiry of the date fixed for completion of the works	the Contractor shall be responsible for requesting such extension of the date as may be considered necessary as soon as the cause thereof shall arise and in any case not less than one month before the expiry of the date fixed for completion of the works	
50					<p>(iii) Extension for Delay due to Railways: In the event of any failure or delay by the Railway to hand over the Contractor possession of the lands necessary for the execution of the works or to give the necessary notice to commence the works or to provide the necessary drawings or instructions or any other delay caused by the Railway due to another cause whatsoever, then such failure or delay shall in no way affect or vitiate the contract or alter the character thereof or entitle the Contractor to damages or compensation therefore, but in any such case, the Railway may grant such extension or extensions of the completion date</p> <p>as may be considered reasonable.</p>	<p>Kindly request you to amend the clause as follow</p> <p>(iii) Extension for Delay due to Railways: In the event of any failure or delay by the Railway to hand over the Contractor possession of the lands necessary for the execution of the works or to give the necessary notice to commence the works or to provide the necessary drawings or instructions or any other delay caused by the Railway due to another</p> <p>cause whatsoever, then such failure or delay shall in no way affect or vitiate the contract or alter the character thereof or entitle the Contractor to damages or compensation therefor, but</p>	This para mentioned in tender is as per General Conditions of Contract issued by Railway Board and no change can be contemplated

						in any such case, the Railway may grant such extension or extensions of the completion date with suitable Compensation for Extension period as may be considered reasonable.	
51	Standard Special Conditions of Contract	20	4.0	Payment Terms	c) Remaining 10% payments will be released along with the <u>final Bill</u> .	We understand that the final bill referred here will be payable after completion of Implementation work and maintenance period start. Kindly confirm.	Yes. 10% payment will be made after final completion of work along with the final bill.
52	Standard Special Conditions of Contract	20	4.1.1.1	Payment Terms	10% payment of value of supply items, which could not be installed for want of site readiness, will be made on issue of PAC, as per the decision of Dy CSTE. For spares, 10% will be made after the issue of PAC.	The 10% referred in this clause is of Final bill 10% or the 2nd stage 10% on issue of Provisional Acceptance Certificate (PAC). Please clarify	This payment is referred to the 10 % payment which would have been paid by Railways on issue of provisional acceptance certificate for particular item.

53	Standard Special Conditions of Contract	25	5.5	Penalty		The penalties on quarterly payment mentioned are huge. Kindly revise the	No change. Penalty will be calculated on that particular item.
				SN	Penalty Description		
					Availability of Cameras, Servers & NMS/EMS servers	Penalty to be charged on a quarterly basis of AMC cost for that month.	
			1a.		Above or equal to 98%	No penalty	
					Below 98% to more than or equal to 95%	5%	
					Less than 95%	10%	
				SN	Penalty Description		
					Availability of Cameras, Servers & NMS/EMS servers	Penalty to be charged on a quarterly basis of AMC cost for that month.	
			1a.		Above or equal to 98% No penalty		
					Below 98% to more than or equal to 95%	2%	
					Less than 95%	5%	
54	Standard Special Conditions of Contract	27	6.0	Format for Self Certification regarding Local Content (LC) for Telecom Product Services or Works	Format for Self Certification regarding Local Content (LC) for Telecom Product, Services or Works	We understand that this self certification regarding local content (LC) shall be provided by OEMs / Suppliers. Bidders being an SI (System Integrator) shall ensure the submission of the same from OEMs.	Yes.
55	Standard Special Conditions of	30	10.2	Financial Eligibility	The tenderer must have received contractual payments in the previous three financial years and the current financial year up to the date of inviting	We understand this clause as "the cumulative payments received in last 3 financial Years and the current financial year up to date shall be at least 150% of the advertised value of tender". Kindly Confirm	Yes

	Contract				of tender, at least 150% of the advertised value of the tender.		
56	Standard Special Conditions of Contract	43	33	STORES TO BE SUPPLIED BY CONTRACTOR:	<p>a) All materials mentioned in the schedule of material and works required for the execution of the contract, shall be arranged and supplied by the Contractor as to realize the end objective.</p> <p>b) The material mentioned in the schedule shall be supplied in the stores of the SSE/Stores/S&T/Proj/UBL/SBC/MYS.</p>	<p>We understand that customer will provide space for material storage at 3 divisional office and material shall be taken to respective stations from these 3 locations. Please confirm.</p> <p>Also request you to provide the temporary storage space in each station for a period of 10 days from the date of material receipt at station till installation of equipment as implementation may take few days of time.</p>	Space will be made available in SSE/Stores at Hubli, Bengaluru and Mysuru and materials to be taken to respective stations of Division. Temporary storage will be made available at the station.
57	Standard Special Conditions of Contract	44	37	INSPECTION OF MATERIAL	In case of Consignee inspection, Engineer in-charge of the work or Railway representative nominated by Dy.CSTE/Project/DSTE/P will carry out inspection in the factory /assembling unit /Railway premises. All the inspection charges should be borne by the contractor.	In case of materials supplied in lots, will there be a waive off of inspection for 2nd lot onwards / future lots.	No. Inspection will be done for each lot and there will no waive off of inspection charges, if any.
58	GCC	8	-	Tender Form	A sum of ₹ _____ has already been deposited online as Earnest Money. Full value of the Earnest	As per RFP, EMD is Nil. Whereas as per Tender Form (First sheet) undertaking it	As per clause no. 7.0 Earnest Money Deposit of Special Conditions, bidder need to

				(First Sheet)	<p>Money shall stand forfeited without prejudice to any other right or remedies in case my/our Tender is accepted and if:</p>	<p>is mentioned that tenderer to deposit Earnest Money.</p> <p>We haven't find any revised Tender Form in Special conditions of contract as well.</p> <p>Kindly confirm whether bidder can modify Tender Form format as per applicability??</p>	<p>submit the Bid security declaration as per Annexure-1. Where the provisions of the Special condition of contract (SCC) are at variance with the IRS General Condition of Contract (IRSGCC-2020) including correction slips and other documents, special conditions shall prevail as per clause no. 1 Special Condition of Contract page 06 of 54.</p>
59	GCC	66	46	-	<p>The percentages of labour component, material component, fuel component etc. in various types of Engineering contracts shall be as under:</p>	<p>We understand that the present RFP will not fall under any of the categories mentioned in this clause and Percentages of components are not applicable to this tender. Please confirm.</p>	<p>Not Applicable.</p>
60	Standard Special Conditions of Contract	22 of 54	5.5	Comprehensive Annual Maintenance Contract	<p>Separate agreement for AMC after completion of maintenance period shall be entered with the bidder by Railway. PBG for AMC cost as per GCC 2020 shall be submitted.</p>	<p>Kindly confirm the Value of AMC PBG to be submitted during AMC Period.</p>	<p>PBG will be 3% of the value quoted by the bidder for AMC.</p>

				act (AMC)			
6 1		Technical Specification 65 & 38	2.1.5.2 In the SBC Division	Sub Work :A - IP MPLS (Multi Protocol Label Switching) & AMC	2.1.5.2 In the SBC Division & Schedule A2: S.no 1 & 2 : MPLS Routers, Manageable Switches and Accessories	For SBC division Count of LER and LSR are mismatching with BoQ In BoQ it is mentioned as 70 Nos LER and 3 Nos LSR while count in SWR Tender Part -2 (2.1.5.2 In the SBC division) is 106-LER & 13 LSR. Kindly clarify the number to be supplied. Also , Sl. No. 4 in BOQ (Schedule A2): The E1 card number should be updated according to no. of LERs. in SBC division. Page -38- Annexure I - AMC for IP MPLS (Multi-Protocol Label Switching) If LER and LSR count is updated in BOQ as per above sought clarification, the respective count in AMC also needs to be updated for SBC Division.	Please follow the schedule quantities uploaded in IREPS while quoting in the Tender.
6 2		Technical Specification	Schedule A2:	Sub Work :A - IP MPLS	Schedule A2: S.no 4 to 11 - SFP & Adapter	Items mentioned in BoQ Serial No. 5 to 11 - Kindly confirm if these items are requested as spare for the respective division. Kindly provide clarity on the use case for these items and the qty.	Yes These items are spare for LER Routers.

		atio n 5	S.n o 4 to 11	(Multi Protoc ol Label Switch ing)			
6 3		Tech nica l Spe cific atio n 4	Sch ed ule A2 (SL No. 1)	Sub Work :A - IP MPLS (Multi Protoc ol Label Switch ing)	Supply of Standard 19" Rack Mountable LER(Label Edge Router) , IP- MPLS Router with Redundant -48V DC Power Supply, 2 x 10G SFP+ Ports along with 2 Nos of 40 Kms 10G SFP+ LC Modules,	We suggest to have Redundant controller on LER as well	RDSO TAN is to be followed, if OEM/Bidder can provide redundant controller LER, it is accepted.
6 4		Tech nica l Spe cific atio n 6	Sch ed ule A4: Swi tch es- Sl.	Sub Work :A - IP MPLS (Multi Protoc ol	24 Port Layer 3 Switch	Switch count for SBC Division shown 45 while for rest of two Division it is equal to LER. Please share break up as per location	The location of L3 switch is same as that of LER.

			No. 1	Label Switching)			
65		Technical Specification 13	Schedule B3: Next Generation Firewall I Sl. No. 13	Sub-Work B : Video Surveillance System	Supply Installation Testing and Commissioning of Next Generation Firewall NGFW 1+1 HA along with Management software	In the BOQ per division firewall count is mentioned at 1 Nos. , while in the description 1+1 HA is asked. Kindly clarify the number of Firewall device to be supplied per division.	Total Qty required is 3 firewalls in 1+1 HA (Hardware redundant) configuration.
66		General	General	General	General	Kindly share the location(station) wise distribution of all the switches (L2, L3).	L3 Switch will have to be installed along with LER Router.List of Stations for LER is already given in scope of the work. L2 switch will be used at the stations which are mentioned in scope of the work (Chapter 2 of detailed technical specification) under each component of work -VSS,

							VOIP based TCCS and SIP Exchange.
67		Technical Specification 54	2.1.4	Internet Protocol/ Multi Protocol Label Switching Network (IP-MPLS)	IP MPLS Network tentative implementation scheme and migration plan	Please share the details of devices to be deployed in SWR Divisional HQ and Zonal HQ.	Details of LER and LSR -location wise are mentioned in Chapter 2 of detailed technical specification
68		Technical Specification 62	2.1.5	Internet Protocol/ Multi Protocol Label Switch	Annexure-I - List of Stations with LER and LSR details	As per our understanding UBL Division (Hubli has DC and Gadag has DR) ; SBC Division (SBC has DC and BWT has DR) and MYS Division (MYS has DC and HAS has DR). Please clarify the same.	Yes

				ing Netw ork (IP-M PLS)			
69		Technical Specification 54	2.1.4	2.1 Internet Protocol/ Multi Protocol Label Switching Network (IP-M PLS)	IP MPLS Network tentative implementation scheme and migration plan	We understand that all stations in a section are connected in ring topology but it is not evident from the diagram (Proposed MPLS Network diagram of SWR). Please clarify.	Yes, all stations shall be connected in Ring topology wherever feasible.
70		Technical Specification	Schedule B8: Labour and	Sub-Work B : Video Surveillance	Blowing & Drawing of OFC 24F/12F/6F Power Cable and CAT Cable (including crimping) through PVC Conduit already installed.[Detailed Specification in Technical Document]. (Cable Laying)	The count (Mtrs.) in BOQ in the Divisions are - UBL 1,54,200 Mtr ; SBC-15,060 ; MYS-14,990 Mtrs which adds up to 1,84,250 Mtr while the Total Count mentioned is 4,54,700 Mtrs. Kindly clarify.	Corrected total quantity is figuring in modified tender schedule

		atio n 20	Trai ning (Cabl e Tren chin g and dra win g) SL. No. 16	Syste m			
7 1		Tech nica l Spe cific atio n 30	Sch edul e C5: FD MS, U Rac k and Cabl es (Sub- Work C: VOIP Based TCCS & SIP EXCH ANGE	Supply of STP CAT- 6 Cable compliant with latest EIA/TIA-568-C.2 Standard for CAT 6 (CAT 6 STP Cable)	The count (Mtrs.) in BOQ in the Divisions are - UBL 1,683 Mtr ; SBC- 15,150 Mtr ; MYS-11,910 Mtr which adds up to 28,743 Mtr while the Total Count mentioned is 43,895 Mtr. Kindly Clarify.	Corrected total quantity is figuring in modified tender schedule

			SL. NO.- 10)				
7 2		T e c h n i c a l S p e c i f i c a t i o n 3 1	Sch edu c e C5: FD MS, U Rac k and Cabl es (SL. NO.- 14)	Sub- Work C: VOIP Based TCCS & SIP EXCH ANGE	Blowing & drawing of OFC 24F/12F/6F Power Cable and CAT Cable (including crimping) through PVC Conduit/Duct/DWC/GI Pipe already installed.	The count (Mtrs.) in BOQ in the Divisions are - UBL 1,000 Mtr ; SBC- 8,200 Mtr ; MYS-6,600 Mtr which adds up to 15,800 Mtr while the Total Count mentioned is 24,800 Mtr. Kindly Clarify.	Corrected total quantity is figuring in modified tender schedule
7 3		Tech nica l Spe cific	Sch edu l e C8 C: Lab	Sub- Work C:	35 MM PVC Pipe	The count (Mtrs.) in BOQ in the Divisions are - UBL 1,290 Mtr ; SBC- 9,700 Mtr ; MYS-4,600 Mtr which adds	Corrected total quantity is figuring in modified tender schedule

		atio n 33	our and Trai ning	VOIP Based TCCS & SIP EXCH ANGE		up to 15,590 Mtr while the Total Count mentioned is 27,200 Mtr. Kindly Clarify.	
7 4		Tech nica l Spe cific atio n 33	Schedu le C8 Lab our and Trai ning	Sub- Work C: VOIP Based TCCS & SIP EXCH ANGE	Cable Laying	The count (Mtrs.) in BOQ in the Divisions are - UBL 1,223 Mtr ; SBC- 12,950 Mtr ; MYS-11,310 Mtr which adds up to 25,483 Mtr while the Total Count mentioned is 36,495 Mtr. Kindly Clarify.	Corrected total quantity is figuring in modified tender schedule
7 5		Tech nica l Spe cific atio n 58 & 131	2.1. 4 IP MPLS Net wor k tent ativ e impl	Diagra m	Diagram on pg. 58	<p>The Data Center at GDG , BWT and HAS stations are shown to have NG Firewall in the diagram.</p> <p>From clause 2.4.15 (General Parameters), pg. 131 , NG Firewall (in1+1 HA configuration) is required in each DC at UBL , SBC & MYS.</p> <p>Kindly clarify if firewall has to be deployed in HA(1+1) in DR (i.e GDG,</p>	As per the schedule item, only one firewall shall be supplied for each division. The hardware for firewall in each division shall be supplied with 1+1 redundancy in which one shall be installed in DC and other to be installed in DR.

			ementation on scheme and migration plan & 2.4.15 (General Parameters)		BWT & HAS) also . If yes, kindly update the supply and AMC quantity in SOR.	
76		Technical Specification B3: Next Generation Firmware	Schedule B : Video Surveillance	Sub-Work : Supply , survey and installation of Wireless Transmitter and Receiver for Video Cameras along with all accessories. As per RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Inspection RDSO.	Kindly share the details of the complete Wireless Transmitter and receiver setup. Kindly clarify if Wireless Access points along with WLC is also required.	Please refer clause no.15.0 of RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 for details. Yes required.

		12	all Sl. No. 12	Syste m			
7 7		Gen eral			General	Overall Systems Architecture/Station Level Systems Architecture to be included to have a better visibility.	Tentative system architecture at different levels is available in chapter 2 of detailed technical specification.
7 8		Gen eral			General	Tentative cable lengths to be mentioned	Tentative cable length is mentioned in schedule
7 9		Gen eral			General	External and internal interface to be specified between Telecom/Signal/Civil /E&M	Query is not clear.
8 0		Gen eral			General	Qty of minimum spare ports to be mentioned for Network switches	Number of switches catered for in schedule is as per site requirement duly incorporating spare ports.
8 1		Gen eral			General	Interface Scope Matrix is required among Telecom , Civil and E&M contractors	Query is not clear.
8 2		Ge ner al			General	Details required of the interface pre-requisites with eDrishti Portal of Indian Railways	Query is not clear.

83		General			General	Details required for web and mobile app for access of video clips and images by authorized users	Please refer clause no.18.5 of RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 for details.
84		General			General	Perimeter areas to be covered under surveillance to be defined by SWR for all the locations	Details given in chapter 2 of detailed technical specification.
85		Technical Specification 53	2.1.3	NMS & NOC Architecture	Backup management	Kindly provide the backup capacity required for all server data and backup retention period details with YoY data growth.	Backup capacity and backup retention period shall be provided based on the hardware configuration of NMS server, as mentioned in clause no.F 6.4 of RDSO STT/TAN/IP-MPLS/2020 ver. 1.0
86		Technical Specification 105	2.4	Video Surveillance System	General	Please let us know whether we can opt for virtualisation for all types of servers - NMS,VMS,VAS,FRS,Communication Servers.	No. Please follow RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0

87		Technical Specification 86	2.2.5	Communication Server capabilities	General	We understand that the Database replication is across DC and DR Sites, please share the required RPO & RTO values for database replication.	Bidder has to decide RPO and RTO values duly ensuring that there is no compromise on functionality of DC and DR.
88		Technical Specification 206	3.3.5.3	System Architecture	The Redundancy Architecture should be Active – Active mode so that the server system should be secured from any attack / threat from the network ensuring the High Availability of Communication Services	Please clarify whether the active-active cluster mode is within DC or between DC & DR sites for SIP Servers. In case it is active-active across DC & DR sites, then we understand it is active-passive within DC & DR sites.	Active-active between DC-DR
89		Technical Specification	3.3.5.4	System Architecture	General	Kindly confirm whether DR Servers to be in High Availability.	No

		20 6					
9 0		Tec hni cal Spe cifi cati on 10 7	2. 4. 3. 5	Sche me at Data Centr e	Failover FRS server and VAS Server with n+1 arrangement will be provided.	Please confirm if we can go for automatic or manual failover of FRS Server. In case of automatic failover please confirm if we can go for DRM Tool or to be provided with system OEM.	Failover server is actually a redundant server in N+1 configuration which will take over the functionality in case main server fails at station/RPF post.

L & T query -2

Sr. No.	Page No.	Clause No.	Clause Header	Clause details as in RFP	Query/ Clarification Required	SWR Remarks
1	Page No. 5, Detailed Technical Spec	CHAPTER-1 SCHEDULE OF ITEMS,	Sub Work :A - IP MPLS (Multi Protocol	1. Supply, installation, Testing and Commissioning of Network Management System (NMS) inclusive of Software, Hardware and Perpetual Licenses for Minimum 4500 Network	Total qty. is mentioned as 2 (1 for UBL and 1 for SBC), please confirm our understanding that	Quantity will be revised and corrected in Corrigendum. NMS is proposed for the entire SWR (5400

		QUANTITIES & RATES (SOQ)	Label Switching), Schedule A3: Servers, NMS and Workstations	Elements including MPLS Router, L3 Switches, L2 Switches, UPS, Gateways and other network elements with SNMP support [Detailed Specification in Technical Document] Inspection RDSO.	NMS is required one for each division, hence total qty. to be updated as 3 nos. Also please confirm "minimum 4500 nodes" to be read as "minimum 1500 nodes" as it pertains to per division.	nodes) with each division having 1800 nodes ,with 1+1 redundant server , at each Divisional DC & DR and headquarters. (HQ-02, UBL-02, SBC-02 and MYS 02 Servers)
2	Page No. 5, Detailed Technical Spec	CHAPTER-1 SCHEDULE OF ITEMS, QUANTITIES & RATES (SOQ)	Sub Work :A - IP MPLS (Multi Protocol Label Switching), Schedule A3: Servers, NMS and Workstations	1. Supply, installation, Testing and Commissioning of Network Management System (NMS) inclusive of Software, Hardware and Perpetual Licenses for Minimum 4500 Network Elements including MPLS Router, L3 Switches, L2 Switches, UPS, Gateways and other network elements with SNMP support [Detailed Specification in Technical Document] Inspection RDSO.	This is a UNMS functionality which is provided by NMS OEM. Please confirm if this line item under Sub-Work-A, to be supplied by IP-MPLS OEM or NMS OEM.	UNMS is used for monitoring of Devices connected in the Network which supports the protocol of SNMP,MIB etc. Details are given in the technical specification.
3	Page No. 6, Detailed Technical Spec	CHAPTER-1 SCHEDULE OF ITEMS,	Sub Work :A - IP MPLS (Multi	2. Supply and Installation of Server Based Network Management System inclusive of Hardware and Software for Network Elements including Switches ,	Please clarify "item no. 16 above" as referred in the clause? Does this refer to item	Yes

		QUANTITIES & RATES (SOQ)	Protocol Label Switching), Schedule A3: Servers, NMS and Workstations	Servers, etc. of Multiple makes at Data Centre(DC & DR). Inspection RDSO. This item shall be operated along with item No.16 above. Detailed Specification in Technical Document enclosed.	no. 1 under Schedule A3: Servers, NMS and Workstations?	
4	Page No. 5, Detailed Technical Specification	CHAPTER-1 SCHEDULE OF ITEMS, QUANTITIES & RATES (SOQ)	Sub Work :A - IP MPLS (Multi Protocol Label Switching), Schedule A3: Servers, NMS and Workstations	1. Supply, installation, Testing and Commissioning of Network Management System (NMS) inclusive of Software, Hardware and Perpetual Licenses for Minimum 4500 Network Elements including MPLS Router, L3 Switches, L2 Switches, UPS, Gateways and other network elements with SNMP support [Detailed Specification in Technical Document] Inspection RDSO.	Please confirm if 4500 nodes is inclusive of the existing nodes to be managed.	The number of nodes mentioned in the detailed technical specification is inclusive of existing nodes and to be monitored from the new NMS.
5	Page No. 141, Detailed Technical Specification	Sub-Work A: MPLS Routers and Accessories	3.1.5 Schedule A3 Item 1 & 2 : NETWORK	v) One Mobile app on android/IOS based Platform for event notification to be given.	Please mention the number of users of Mobile App.	Minimum 100 users for entire SWR, same will be reflected in

			MANAGE MENT SYSTEM			corrected tender document .
6	Page No. 39, DetailedTec hnicalSpec	CHAPTER-1 SCHEDULE OF ITEMS, QUANTITIES & RATES (SOQ)	1.3 Comprehe nsive Annual Maintenan ce Contract(A MC) -, Annexure I - AMC for IP MPLS (Multi-Prot ocol Label Switching)	AMC for Element Management System (EMS) inclusive of Software and Perpetual Licenses for Minimum 750 Network Elements including MPLS Router, L3 Switches.	This line item is not available in SOR, please add the same, also please confirm if this pertains to MPLS EMS to be provided from MPLS OEM.	Item will be deleted.
7	Page No. 35, DetailedTec hnicalSpec	CHAPTER-1 SCHEDULE OF ITEMS, QUANTITIES & RATES (SOQ)	1.2: General Instruction to Bidders during participati on.	The supply of items at the project store of Senior Section Engineer at Hubballi/Bengaluru/Mysuru shall be done in a phased manner strictly in line with the progress of the work. Successful bidder is required to propose project progress and planning of supply of related material in consultation with the Railway. Bidders shall submit the Supply and	Please confirm this applies to hardware equipment at project stores only, or also software?	Applies to all the line items in the schedule.

				Inspection plan along with destination(s) for delivery to the Railway after approval of Dy CSTE/Project. The bidder will arrange for supply and inspection of material as per approved plan and payment of items shall be released as per supply plan. Any material supplied more than required at the site will be paid as per the progress of the work.		
8	Page No. 5, Detailed Technical Specification	CHAPTER-1 SCHEDULE OF ITEMS, QUANTITIES & RATES (SOQ)	Sub Work :A - IP MPLS (Multi Protocol Label Switching), Schedule A3: Servers, NMS and Workstations	1. Supply, installation, Testing and Commissioning of Network Management System (NMS) inclusive of Software, Hardware and Perpetual Licenses for Minimum 4500 Network Elements including MPLS Router, L3 Switches, L2 Switches, UPS, Gateways and other network elements with SNMP support [Detailed Specification in Technical Document] Inspection RDSO.	We find no separate NMS listed under Sub-Work B, VSS, hence please confirm our understanding that this NMS item is envisaged to cover VSS devices and equipment also.	UNMS of 5400 Network Elements caters for the VSS Network also.
9	Page No. 6, Detailed Technical Specification	CHAPTER-1 SCHEDULE OF ITEMS,	Sub Work :A - IP MPLS (Multi	2. Supply and Installation of Server Based Network Management System inclusive of Hardware and Software for Network Elements including Switches ,	Qty against this item is mentioned as 3 lot (1 lot per division) whereas in Annexure I	Correct quantity of this item is 1 and same is figuring in

		QUANTITIES & RATES (SOQ)	Protocol Label Switching), Schedule A3: Servers, NMS and Workstations	Servers, etc. of Multiple makes at Data Centre(DC & DR). Inspection RDSO. This item shall be operated along with item No.16 above. Detailed Specification in Technical Document enclosed.	- AMC for IP MPLS (Multi-Protocol Label Switching), the qty. against this corresponding item is mentioned as 6 Lot (2 per division), please clarify which definition of qty. shall prevail.	modified tender document
10	Page No. 6, Detailed Technical Spec	CHAPTER-1 SCHEDULE OF ITEMS, QUANTITIES & RATES (SOQ)	Sub Work :A - IP MPLS (Multi Protocol Label Switching), Schedule A3: Servers, NMS and Workstations	2. Supply and Installation of Server Based Network Management System inclusive of Hardware and Software for Network Elements including Switches , Servers, etc. of Multiple makes at Data Centre(DC & DR). Inspection RDSO. This item shall be operated along with item No.16 above. Detailed Specification in Technical Document enclosed.	Please clarify the use-case for this particular line item, as we already have under Sub-Work A, MPLS EMS for 750 nodes (as per Page 39), and UNMS for 4500 nodes (Page 5).	Corrected total quantity is figuring in modified tender schedule
11	Page 35, Detailed Technical Spec	CHAPTER-1 SCHEDULE OF ITEMS,	1.2: General Instruction to Bidders	Hardware and all related accessories of any equipment shall be of the same make. Preferably Software shall also be supplied of the same make of	Please clarify that this clause is not applicable to UNMS (under Sub-Work A)	Not applicable to UNMS/NMS

		QUANTITIES & RATES (SOQ)	during participation.	Hardware. Offers with particulars of Make & model of different makes for Hardwares and related Accessories and software (if applicable as described above) of same equipment is likely to be summarily rejected. Bidder has to offer make, model and series against each Schedule Item. Offers without particulars of Make & Model are liable to be REJECTED. This clause applies for Routers and Switches, Cameras, servers, Gateways.	which may be of make different from Routers, Switches, Cameras, Servers etc.	
12	Page 35, Detailed Technical Spec	CHAPTER-1 SCHEDULE OF ITEMS, QUANTITIES & RATES (SOQ)	1.2: General Instruction to Bidders during participation.	The bidder is required to supply the NMS & EMS Server which should be compliant and work/support with all makes of Network Devices deployed with the use of protocols and latest tools including all hardware and software in a centralized setup in the Railway Data centers in DC and DR configuration. The NMS & EMS monitoring services for IP MPLS, VoIP based TCCS (including existing TCCS infra), SIP Based Exchange(including existing Exchange infra) & VSS (including existing VSS infra) and other existing infra under the region will be	Please confirm our understanding that UNMS shall be compliant and work/support with all makes of Network devices deployed and shall also cover VSS, whereas EMS shall be from OEM supplying MPLS, TCCS equipment.	Yes, NMS server should be compliant and work/support with all makes of network devices and EMS for respective OEM i.e MPLS, TCCS, Exchange.

				provided from the centralized setup through the clients installed at various locations.		
13	Page 44, Detailed Technical Specifications	CHAPTER-2: SCOPE OF WORK AND TECHNICAL REQUIREMENTS	2.0 Introduction	Edge Data Centre is planned for distributed storage and computing, to enhance availability and low latency. All servers running critical applications shall have the load balancing and fail over capability and shall be located at two separate locations.	Please confirm that servers running critical applications refers to the centralized servers at DC and DR.	Yes
14	Page 45, Detailed Technical Specifications	CHAPTER-2: SCOPE OF WORK AND TECHNICAL REQUIREMENTS	2.0 Introduction	viii) Integration of CCC application with existing VMS, proposed VMS, VA and EMS at API/SDK and application level with hardware software and licences.	Please clarify which EMS is referred here, there is no EMS mentioned under Sub-Work B, does this refer to the UNMS/NMS mentioned under Sub-Work A covering 4500 nodes?	This item is related to integration at Command Control Center with existing VMS and New VMS application not related to NMS/UNMS.
15	Page 45, Detailed Technical Specifications	CHAPTER-2: SCOPE OF WORK AND TECHNICAL	2.0 Introduction	ix) Integration of TCCS application with existing TCCS and EMS at API/SDK and application level. x) Integration and Augmentation of IP Exchange application with existing SIP	Please clarify if the EMS mentioned in the clause refers to any existing EMS or	Integration of existing TCCS and EMS to proposed TCCS NMS / TCCS VoIP NMS.

		REQUIREMENTS		based Exchange and EMS at API/SDK and application level.	proposed TCCS NMS / TCCS VoIP NMS.	
16	Page 130, Detailed Technical Spec	CHAPTER-2: SCOPE OF WORK AND TECHNICAL REQUIREMENTS	2.4.15 General Parameters	EMS will be installed at DC and DR for monitoring the network of IP MPLS & NMS for Equipment installed/ planned to be installed at Railway Stations, OFC Room, DC, DR, Office, Exchange etc. This centralized EMS will be common for all the stations under scope of work (including for existing infra).	Please clarify that IP-MPLS EMS shall monitor the proposed IP-MPLS nodes with Day 1 licences for 750 nodes, whereas UNMS shall cater 4500 nodes on day1 including the existing infra.	Yes
17	Page 137, Detailed Technical Spec	CHAPTER- 3: Detailed Technical Specification of Schedule items	Schedule A3: Servers, NMS and Workstations	Active and standby server to be supplied at 2 different locations, for main location and another as standby system in physically separated location in all three Divisions and one at HQ i.e. total 8 servers at 4 locations in 1+1 configuration to be supplied.	As each division has it's own DC-DR in addition to Zonal DC and Zonal DR, please clarify this refers to 8 servers in 8 locations (4 DC + 4 DR) with HA across DC-DR (or) 16 servers in 8 locations with local HA (1+1 configuration)?	Only one each DC and DR for 3 divisions and at Zonal 1+1 servers to be installed.

18	Page 137, Detailed Technical Specification	CHAPTER- 3: Detailed Technical Specification of Schedule items	Schedule A3: Servers, NMS and Workstations	Each Rack Mountable NMS Server should have a minimum 2 x 10 Core Intel Xeon CPU or higher and 256 GB DRAM or higher and 4 x 1TB hard disk or higher, Licensed Windows/Linux OS and application software with RAID 1 Configuration installation along with controller card, Redundant Power Supply, Dual NIC Card of 1G or higher, Monitor 24 inch or higher, Optical Mouse, KeyBoard, PCI Slots, USB and HDMI Ports Reputed Make AntiVirus with 3 years subscription, etc, along with server genuine licensed OS & NMS/EMS software and all the accessories required for installations and commissioning.	Please note that HDMI port is not a standard feature in rack server. Request to remove this requirement or allow VGA ports in rack server.	As per RDSO Specification given for Servers in VSS to have uniformity.
19	Page 137, Detailed Technical Specification	CHAPTER- 3: Detailed Technical Specification of Schedule items	Schedule A3: Servers, NMS and Workstations	This also includes Supply, installation, commissioning and perpetual licenses for 2 Nos Spine Switch and 4 Nos of Leaf Switches with all the mounts & accessories at each Data Center as per specification enclosed at Para no. 3.1.5 .	Specs for Spine and Leaf Switches is mentioned under 3.1.5 Schedule A3 Item 1 & 2 : NETWORK MANAGEMENT SYSTEM. Request to add these items	It is a bundled solution and cost included in NMS line item.

					separately in SOR, as the OEM providing these items may be different from OEM supplying NMS, Server or Workstation.	
20	Page 137, Detailed Technical Spec	CHAPTER- 3: Detailed Technical Specification of Schedule items	Schedule A3: Servers, NMS and Workstations	This also includes Supply, installation, commissioning and perpetual licenses for 2 Nos Spine Switch and 4 Nos of Leaf Switches with all the mounts & accessories at each Data Center as per specification enclosed at Para no. 3.1.5 .	Please confirm total qty. of spine switch is 16 and total qty. of leaf switch is 32.	6 Spine and 12 leaf switches is the requisite quantity .
21	Page No. 141, Detailed Technical Spec	CHAPTER- 3: Detailed Technical Specification of Schedule items	3.1.5 Schedule A3 Item 1 & 2 : NETWORK MANAGEMENT SYSTEM	iv) Consolidated dashboard of the proposed EMS solution shall be the manager of managers window and capable of receiving events/alerts from multiple monitoring systems including system, network, storage, hardware, and application.	This is a UNMS functionality which is provided by NMS OEM. Please confirm this feature to be provided at UNMS level and not envisaged at the EMS level.	To be provided at UNMS level
22	Page No. 53, Detailed Technical Spec	CHAPTER-2: SCOPE OF WORK AND TECHNICAL	Sub-Work A: MPLS Routers and	2.1.3 NMS & NOC Architecture a) NMS Network monitoring and provisioning system Hardware and Software will be deployed at Divisional HQ locations.	As per page 137, NMS System (Hardware, Software & Perpetual License) at Two Data Centers, Active and	No Change, Tender Terms prevail.

		REQUIREMENTS	Accessories	Zonal HQ, Section HQ will get Workstations to Manage the network of their own area through workstation terminal from the same NMS	standby server to be supplied at 2 different locations, for main location and another as standby system in physically separated location in all three Divisions and one at HQ, please confirm which clause shall prevail.	
23	Page No. 36, Detailed Technical Spec	CHAPTER-1 SCHEDULE OF ITEMS, QUANTITIES & RATES (SOQ)	1.2: General Instruction to Bidders during participation.	In the specification wherever support for a feature has been asked for, it will mean that the feature should be available without the Railway requiring any other hardware/ software/ licenses. Thus, all hardware/software/ licenses required for enabling the support in future shall be included in the offer. Any license fee required to be paid for hardware and software , EMS during the life cycle of the equipment shall be included in the rate quoted by the tenderer. There shall be no post contractual liability of license fee on railways for hardware and software supplied by the tenderer.	Future Scalability upto 6,000 devices is asked in NMS Solution (Hardware Software & Perpetual licenses) whereas on Day1 4500 licences asked. Please clarify that licenses beyond 4500 shall be procured separately as and when required.	Yes. In this work it is 5400 perpetual licenses. Hardware and software should support up 6000 devices, as the system is scalable to cater to future needs

24	Page No. 144, Detailed Technical Specification	CHAPTER- 3: Detailed Technical Specification of Schedule items	3.1.5.5 Service Management (Help Desk) and SLA Management	<p>1. The proposed Helpdesk tool should be Axelos Gold level/Pink Elephant/ Service certified on at least 12 ITIL 2011 or any approved lab by Govt of india processes and complying at least 11 (undertaking on OEM's letterhead to be submitted)of all the ITIL processes that are the most mature way to demonstrate that at least three IT organizations : Incident management, Problem Management, Change Management, Knowledge Management, Service Level Management, Service Asset and Configuration management, Service Catalogue and Request Fulfillment, etc. The certification copy to be submitted/All functionalities should be met or supported.</p>	<p>This is a restrictive clause. Please consider amending to " The proposed Helpdesk tool should be Axelos Gold level/Pink Elephant/ Service certified on at least 5 ITIL 2011 or any approved lab by Govt of india processes and complying at least 11 (undertaking on OEM's letterhead to be submitted)of all the ITIL processes that are the most mature way to demonstrate that at least three IT organizations : Incident management, Problem Management, Change Management, Knowledge Management, Service Level Management,</p>	Noted
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					Service Asset and Configuration management, Service Catalogue and Request Fulfillment, etc. The certification copy to be submitted/All functionalities should be met or supported." to allow greater local participation.	
25	Page No. 147, Detailed Technical Specification	CHAPTER- 3: Detailed Technical Specification of Schedule items	3.1.5.5 Service Management (Help Desk) and SLA Management	6. Should use Industry standard protocols such as WMI, SNMP, JMX, SSH or equivalent to perform discovery without requiring the installation of an agent.	Please note that WMI would be agent based due to the security issues in opening the multiple ports over firewall. This is WMI based limitation and not with EMS OEMs. Hence kindly revise the clause as "6. Should use Industry standard protocols such as WMI, SNMP, JMX, SSH or equivalent to perform	Vendor can give higher configuration.

					discovery with/without requiring the installation of an agent."	
26	Page No. 147, Detailed Technical Specification	CHAPTER- 3: Detailed Technical Specification of Schedule items	3.1.5.5 Service Management (Help Desk) and SLA Management	The system should integrate with Helpdesk / Service desk tool for automated incident logging and also notify alerts or events via e-mail or SMS.	Please confirm that SMS and E-Mail Gateway shall be the scope of Purchaser or Bidder.	That of Bidder.

L & T query 3

S. No	Section	Content in the RFP	Clarification Sought	SWR Remarks
1	STANDARD SPECIAL CONDITIONS OF CONTRACT 10.	Note for Item 10.1: Work experience certificates from private individuals shall not be considered. However, in addition to work experience certificates issued by any Govt. Organisation, work experience certificate issued by Public listed company having average annual turnover of Rs 500 crore and above in last 3 financial years excluding the	Request you to kindly amend the clause as below: Supporting Documents for "10.1 Technical Eligibility Criteria": Option-1: • Work Order or Letter of Intent or Contract Agreement with bill of materials (highlighting the Components for the respective value)	All terms of contract will be guided by the Indian Railways standard General Conditions of Contract (GCC-July 2020) and Special Conditions of

	<p>Eligibility Criteria:</p> <p>current financial year, listed on National Stock Exchange or Bombay Stock Exchange, incorporated/registered at least 5 years prior to the date of opening of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates.</p> <p>In case tenderer submits work experience certificate issued by public listed company, the tenderer shall also submit along with work experience certificate, the relevant copy of work order, bill of quantities, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final/last bill paid by company in support of above work experience certificate.</p>	<ul style="list-style-type: none"> • Go-Live Certificate or Completion Certificate or Phase Completion Certificate or Partial completion Certificate • Certified Copy from CA stating the Component value. <p><u>Option-2:</u></p> <ul style="list-style-type: none"> • Work Order or Letter of Intent or Contract Agreement with bill of materials (highlighting the Components for the respective value) • Go-Live Certificate or Completion Certificate or Phase Completion Certificate or Partial completion certificate • Certified Copy Company Secretary stating the Component value. <p><u>Option-3:</u></p> <ul style="list-style-type: none"> • Work Order or Letter of Intent or Contract Agreement with bill of materials (highlighting the Components for the respective value) • Go-Live Certificate or Completion Certificate or Phase Completion Certificate or Partial completion certificate • Certified Copy from any one of the Board of Director stating the Component value. 	<p>Contract of the tender.</p> <p>The same cannot be amended.</p>
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16. Nokia

S l. N o	Docum ent Name	Pag e Ref erence	Section No	Cl au se N o/ Sr N o	Clause Reference (Section)	Query	SWR Remarks
1	TECHNICAL SPECIFICATIONS	5	Sub Work :A - IP MPLS (Multi Protocol Label Switching)/ Schedule A2: MPLS Routers, Manageable Switches and Accessories	2	Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) IPMPLS Router with Redundant -48V DC Power Supply, Redundant Controller Card, 8 x 10G SFP+ Ports along with 8 Nos of 40 Kms 10 G SFP+ Modules, 32 E1 card with Adapter and modules along with patch panels, 4x1G Optical SFP Ports with Single Mode Bi-directional Modules and 4 x 1Gbe Copper WAN based interfaces & Modules, 2x	<p>Railways is creating a carrier-grade high speed ethernet based network for supporting the network requirement for next 7-8 years. On the other hand TDM technology is going obsolete and all leading OEMs will recommend to migrate to 10G Ethernet based IP-MPLS Routers for Core/LSR application.</p> <p>For the same reason, RDSO has proposed 2 types of routers - LER & LSR: LER for aggregating TDM interfaces wherever required. LSR for creating the 10G carrier-grade WAN backbone.</p> <p>For SWR, all the wayside stations are equipped with LER (to aggregate TDM interfaces) and all junctions are equipped</p>	Correction in description of LSR will be made as per RDSO STT/TAN/IP-MPLS/2020 Version 1.0

				<p>STM-1(Channelised) along with 2 Nos of SFP(S.1.1) Modules Compatible with Existing STM-1.Non Blocking throughput ,Mounting Kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Inspection RDSO.</p>	<p>with LER (for TDM aggregation) + LSR (10G carrier-grade WAN) combination.</p> <p>Also, LSR Routers capacity is going to be underutilized by putting TDM interface cards. Requesting TDM interfaces on LSR will push the OEMs to propose expensive TDM cards on LSR Routers. This will escalate the overall project cost. Hence, we request you to remove the TDM interface requirement from LSR Routers inline with RDSO guidelines (RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01). And for any kind of TDM interface requirement, there is always an LER available on the station (wayside, junction) to cater the same.</p> <p>Hence, we request to kindly change the clause as follows:</p> <p>"Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) IPMPLS Router with Redundant -48V DC Power Supply, Redundant Controller Card, 8 x 10G SFP+ Ports along with 8 Nos of 40 Kms 10 G SFP+ Modules, 4x1G Optical SFP Ports with Single Mode Bi-directional Modules and 4 x 1Gbe Copper WAN based interfaces & Modules, Non Blocking throughput ,Mounting Kit with all necessary accessories &</p>	
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					Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Inspection RDSO"	
2	TECHNICAL SPECIFICATIONS	4	Sub Work :A - IP MPLS (Multi Protocol Label Switching)/ Schedule A2: MPLS Routers, Manageable Switches and Accessories	1	<p>Supply of Standard 19" Rack Mountable LER(Label Edge Router) , IP-MPLS Router with Redundant -48V DC Power Supply, 2 x 10G SFP+ Ports along with 2 Nos of 40 Kms 10G SFP+ LC Modules, 4 x 1Gbe Optical interface Module along with 4 Nos of 1Gbe Single Mode Bi-directional SFP(10KMs) Modules and 4 x 1Gbe Copper WAN based interfaces & Modules , with Minimum one or more Additional Slot to add any one of the following interfaces : 16 x E1, 32 x E1 , 2 x STM1 (Channelised). Non Blocking throughput Mounting kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No.</p> <p>As per RFP and RDSO guidelines, Modular LER Router should be equipped on Day-1 with multiple interface cards that must support 2 x 10G + 4 x 1G Optical + 4 x 1G interfaces with Copper pluggable modules. There is a probable scope of expansion for E1 interfaces, STM-1 interfaces OR GE interfaces considering future/interim known/unknown network requirements.</p> <p>Moreover, in each zone, there are 10-12 stations which have more than 16 x E1 requirement as on date. Similarly, there would be few such stations having such additional interface requirement over and above the Day-1 interface requirement.</p> <p>In that case, by putting specific phrase like '..with <u>Minimum one</u> or more Additional Slot to add any one of the following interfaces..", you are self-restricting any scope of future/interim expansion requirement. This leaves an advantage to the SI & OEM to quote a chassis which supports only 1 slot. Moreover, such restriction is favoring one particular OEM and a particular model leaving end network with growth restrictions.</p>	Correction in description of LER will be made as per RDSO STT/TAN/IP-MPLS/2020 Version 1.0

					STT/TAN/IP-MPLS/2020 Version 01 or latest. Inspection RDSO	Ensuring that we remain in the same projected budget, we request you to change the clause as follows: "Supply of Standard 19" Rack Mountable LER(Label Edge Router) , IP- MPLS Router with Redundant -48V DC Power Supply, 2 x 10G SFP+ Ports along with 2 Nos of 40 Kms 10G SFP+ LC Modules, 4 x 1Gbe Optical interface Module along with 4 Nos of 1Gbe Single Mode Bi-directional SFP(10KMs) Modules and 4 x 1Gbe Copper WAN based interfaces & Modules , with Additional Slots to add any of the following additional interfaces : 16 x E1, 32 x E1 , 2 x STM1 (Channelised) inline with RDSO guidelines as per LER Max configurations -1/2. Non Blocking throughput Mounting kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Inspection RDSO"	
3	TECHNICAL SPECIFICATIONS	5	Sub Work :A - IP MPLS (Multi Protocol Label Switching)/ Schedule A2: MPLS Routers,	5, 6, 7	2 x 10G Adapter Module with 2 Nos. of 10G SFP+ Modules for above Routers. 8 x 1G Adapter Module without SFP for above Routers.	We understand that all these line-items refer to field replaceable interface cards for modular LER Routers. Also, the intent here is to have a spare-set of LER-Router's interface cards. However, OEMs would be restricted to participate if fixed modality of cards (eg: 8x1G card, 2 x10G card, 2 x STM-1 card) are asked in the SoR item. Different OEMs have	It will be modified to include any combination . Remaining specification shall match with that of RDSO Specification.

			Manageable Switches and Accessories		2 x STM 1 Adapter Module with 2 Nos. of STM-1, 15 km, SFP modules for above Routers.	<p>different modality of cards for fulfilling the same interface requirement.</p> <p>Ideally, the RFP ask should be - for spare-set that encompasses interface cards which cover all the interface requirement for a LER spare. Asking for specific configuration of interface cards will restrict fair competition. Moreover, all these line-items are favoring a particular OEM and particular model.</p> <p>Hence, we request that you propose the spare-set requirement as follows:</p> <p>"Lot - Spare Set for LER Router Interface cards fulfilling following interfaces requirement: (8 x 1G + 2 x 10G + 2 x STM-1) :: Qty = 1 (UBL), 1 (SBC), 1 (MYS)"</p>	
4	TECHNICAL SPECIFICATIONS	5	<p>Sub Work :A - IP MPLS (Multi Protocol Label Switching)/</p> <p>Schedule A2: MPLS Routers, Manageable</p>	5, 6, 7	<p>2 x 10G Adapter Module with 2 Nos. of 10G SFP+ Modules for above Routers.</p> <p>8 x 1G Adapter Module without SFP for above Routers.</p>	<p>We understand that all these line-items refer to field replaceable interface cards for modular LSR Routers. Also, the intent is here to have a spare-set of LSR-Router's interface cards.</p> <p>However, OEMs would be restricted to participate if fixed modality of cards (eg: 8x1G card, 2 x10G card) are asked in the SoR item. Different OEMs have different modality of cards for fulfilling the same interface requirement.</p>	It will be modified to include any combination . Remaining specification shall match with that of RDSO Specification.

			Switches and Accessories			<p>Ideally, the ask should be - for spare-set that encompasses interface cards which cover all the interface requirement for a LSR spare. Asking for specific configuration of interface cards will restrict fair competition. Moreover, all these line-items are favoring a particular OEM and particular model.</p> <p>Hence, we request that you propose the spare-set requirement as follows:</p> <p>"Lot - Spare Set for LSR Router Interface cards fulfilling following interfaces requirement: (8 x 1G + 8 x 10G) :: Qty = 1 (UBL), 1 (SBC), 1 (MYS)"</p>	
5	TECHNICAL SPECIFICATIONS	5	Sub Work :A - IP MPLS (Multi Protocol Label Switching)/ Schedule A2: MPLS Routers, Manageable Switches and Accessories	2	Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) IPMPLS Router with Redundant -48V DC Power Supply, Redundant Controller Card, 8 x 10G SFP+ Ports along with 8 Nos of 40 Kms 10 G SFP+ Modules, 32 E1 card with Adapter and modules along with patch panels, 4x1G Optical SFP Ports with Single Mode Bi-directional Modules and 4 x 1Gbe Copper WAN based interfaces & Modules,	<p>For any given case - at wayside OR at junction, all the TDM connections are getting terminated on LER Routers. This is clearly mentioned in section 2.1.2 Pg#51 of the same document in pts - (9), (10) and also as per RDSO specs.</p> <p>The purpose of LER routers is to aggregate all TDM + ethernet endpoints as well as to provide ethernet WAN connectivity. While the purpose of LSR router is to provide backbone connectivity over high-speed 10G ethernet. Also, at every junction where LSR is placed, an LER is also placed to do the same function.</p>	Correction in description of LSR will be made as per RDSO STT/TAN/IP-MPLS/2020 Version 1.0

					<p>2xSTM-1(Channelised) along with 2 Nos of SFP(S.1.1) Modules Compatible with Existing STM-1.Non Blocking throughput ,Mounting Kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Inspection RDSO.</p>	<p>Incase of higher TDM interface requirement at the wayside or junction, there are multiple upgrade options as per RDSO guidelines:</p> <ol style="list-style-type: none"> 1) Upgrade from LER min Configuration TO LER Max Configuration-I OR LER Max Configuration-II; 2) Addition of one more LER alongwith LSR as per section 2.1.2 Pg#51 of the same document pts - (9), (10) which says: <p><i>"In case the number of TDM ports increase at a wayside, and a new LER router is required to be placed in an MPLS-PoP, then an LSR shall be provided in the PoP and the old LER as well as the new LER should be connected to the LSR. In case an LER is to be added at a junction station, the LER shall be added to the LSR. This is shown in the diagram below":</i></p> <p>LSR Router should be carrier grade router for building the WAN backbone over pure Ethernet, hence TDM interfaces should be requested only on LER.</p> <p>Moreover, requesting legacy & low-speed TDM interfaces on modular LSR router will push OEMs to quote high-speed routers with such interfaces which will escalate the overall project cost. Also, the specs are</p>	
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						<p>favoring particular OEM. Hence, we request to remove the TDM requirement from LSR Router and ammend the clause as follows:</p> <p>"Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) IPMPLS Router with Redundant -48V DC Power Supply, Redundant Controller Card, 8 x 10G SFP+ Ports along with 8 Nos of 40 Kms 10 G SFP+ Modules, 4x1G Optical SFP Ports with Single Mode Bi-directional Modules and 4 x 1Gbe Copper WAN based interfaces & Modules, 2. Non Blocking throughput ,Mounting Kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 01 or latest. Inspection RDSO."</p>	
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17. RCIL

Pre-Bid Queries for IP-MPLS component						
S I . N o	Clause no. & Chapt er no.	Pa ge no .	Sub claus e/ Point no.	Description	Points of clarification required	SWR Remarks
1	Sched ule A2			Supply of Standard 19" Rack Mountable LER(Label Edge Router) , IP- MPLS Router with Redundant -48V DC Power Supply, 2 x 10G SFP+ Ports along with 2 Nos of 40 Kms 10G SFP+ LC Modules, 4 x 1Gbe Optical interface Module along with 4 Nos of 1Gbe Single Mode Bi-directional SFP(10KMs) Modules and 4 x 1Gbe Copper WAN based interfaces & Modules , with Minimum one or more Additional Slot to add any one of the following interfaces : 16 x E1, 32 x E1 , 2 x STM1 (Channelised). Non Blocking throughput Mounting kit with all necessary accessories & Software/Perpetual Licenses.As Per RDSO Document No.	<p>We understand that the modular platform is required to be delivered in non-redundant mode with multiple slots to house E1,STM-1 card. Kindly confirm.</p> <p>We also understand that Pizza Box Router is not allowed as Pizza Box Routers are non-modular while RSDO clause 1.8,page 8 for LER Router specifies FRU (Field Replaceable Unit) functionality of interface card,Fan Tray Unit & controller card.</p>	LER min & LER Max II minimum configuration matching with specification as in technical advisory note of RDSO shall be supplied as per modified description and schedule.

2	Schedule A2			<p>Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) IPMPLS Router with Redundant -48V DC Power Supply, Redundant Controller Card, 8 x 10G SFP+ Ports along with 8 Nos of 40 Kms 10 G SFP+ Modules, 32 E1 card with Adapter and modules along with patch panels, 4x1G Optical SFP Ports with Single Mode Bi-directional Modules and 4 x 1Gbe Copper WAN based interfaces & Modules, 2x STM-1(Channelised) along with 2 Nos of SFP(S.1.1) Modules Compatible with Existing</p> <p>STM-1.Non Blocking throughput</p>	<p>We understand that 32xE1 interfaces and 2xSTM-1 interfaces are required to be delivered at each LSR location. As per RDSO & Tender document, STM-1 & 32xE1 interfaces should be offered using LER Routers only with inter-connectivity to LSR on 10G. Kindly confirm if our understanding is correct.</p>	<p>LSR shall comply with RDSO TAN.</p>
3	<p>RDSO Document No. STT/TAN/IP MPLS /2020 Versio</p>	9		<p>.9 BGP Prefix independent control (EDGE and Core).</p>	<p><i>BGP PIC is meant for Internet Core Routers wherein multi million Routes are required to be taken care of in a Mesh topology with multiple Autonomous Systems participating.</i></p> <p><i>In the Railways network consisting of LER & LSR Routers in a chain or ring, BGP along with OSPF inherently provides the</i></p>	<p>Specification shall be as per RDSO TAN</p>

	n 1.0				<i>resiliency on links. Hence BGP PIC protocol is not applicable in Railways Network Architecture. However, we understand that Router shall alternately support mechanism to preserve BGP peering session. Kindly confirm.</i>	
4	RDSO Document No. STT/TAN/IP MPLS /2020 Version 1.0	9		2.5 Router shall support multi-chassis LAG for aggregation of links across two chassis.	<p>MC-LAG protocols are proprietary which don't interoperate between OEMs.</p> <p>Multi-chassis LAG is one of the mechanisms to support redundancy across chassis. OEMs supports VRRP as a redundancy protocol across chassis. We understand that VRRP is allowed as an alternate protocol to support redundancy across links. Kindly confirm.</p>	Specification shall be as per RDSO TAN
5	RDSO Document No. STT/TAN/IP	9		.7 Router shall support NGMVPN.	<p>NGMVPN is one of the ways to realize Multicast functionality. Multicast Services in the Railways Network can be best realized through IP Multicast. We understand that Routers can offer</p>	Specification shall be as per RDSO TAN

	MPLS /2020 Versio n 1.0				Multicast either through NGMVPN or IP Multicast. Kindly confirm	
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Tender No: SG-SWR-P-MPLS-VSS-EX-TCCS					
Prebid queries VOIP TCCS/SIP Exchange					
Sl. No	Tender Clause No.	Description	Points of clarification required	SWR Remarks	
1	NIT: Clause 4: Special technical Criteria	For composite works (e.g. works involving more than one distinct component, tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited: Three similar works each costing not less than the amount equal to 30% of advertised value of each component of tender, or Two similar works each costing not less than the amount equal to 40% of advertised value of each component of	We understand that the similar work of any one of the three components (But not all the tree components all together) of the tender meets 60% of one work or 40% of two works or 30% of three works. Also the clause says- <i>Successfully completed any of the following</i> <u>For example:</u> If bidder have completed one work of IP MPLS Network with 60%	It is composite tender. All three components individually should be qualified to get technical eligibility (any one condition to be fulfilled example, one work of 60% or two work of 40% or three works of 30%).	

		<p>tender, or One similar work each costing not less than the amount equal to 60% of advertised value of each component of tender. Note: This work involves 3 distinct Components i.e IP MPLS Network (Rs 28,03,14,591.47/-), Video Surveillance System (Rs 35,67,81,178.5/-), VOIP Based TCCS / SIP Exchange (Rs16,83,11,298.54/-) . The Similar nature of work is as below For IP-MPLS network Design, supply, configuration, installation and commissioning of a network with IP based Technology having IP-MPLS backbone spread over geographically dispersed ,remote point of Presence site/locations spanning multiple Cities/Towns along with provision of Network Management System for the entire network For Video Surveillance System Design, supply, configuration, installation and commissioning of IP enabled video surveillance system with video management servers, in Federated and multi-tenant Architecture ,spread over geographically dispersed , remote sites /locations spanning multiple towns/cities</p>	<p>(Rs.48,32,44,241/-) of total advertised value or Two work of IP MPLS Network with 40% (Rs.32,21,62,827/-) of total advertised value or three works of IP MPLS Network with 30% (Rs.24,16,22,121/-) of total advertised value.</p> <p>Please confirm.</p>	
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		For VOIP TCCS /SIP Exchanges Design, supply, configuration, installation and commissioning of IP based telephony by Provision of IP server based IP- PBX /SIP exchanges.		
2	Clause 1.10 Training of Railway Personnel	Continuous online training during installation, maintenance & AMC phase	It is important to define minimum number of batches to be trained with number of days .	Nos of staff/Officer to be trained man/week is mentioned in schedule of each sub work. Batch list will be given after awarding of work.
3	Schedule C3: Servers, Consoles and Licences	Upgrading of Existing Bengaluru Aeonix Server with Additional SIP Licenses-80, Sip Trunk License-30 for DRM Intercom to cater for Bengaluru Cant CAO Office	Can bidder replace existing Aeonix Server for better support in case adequate integration support not received in future as bidder has to maintain for 3 years and AMC for next 5 years..When these servers are installed what is the codal life.	<p>The description of scope of work has since been modified as Upgradation/Integration, so that any one of the solutions of</p> <ol style="list-style-type: none"> 1.either upgrading the existing SIP exchange or 2.using the existing server hardware and loading new software or 3.providing new server and integrating with existing SIP server with seamless working <p>Codal life is 12 Years on age cum condition based. For date of</p>

				installation please refer to Chapter 2 in Detailed Technical Specification.
4	2.0.9.1 Clause by Clause Compliance	In the offer, the bidder shall include statement of clause by clause compliance of the tender document and sufficient documentation such that Railway can validate the compliance statements	Is Clause by clause compliance is required to be certified by the respective OEM of the proposed product.	Yes
5	2.3.1 FIGURE : VOIP BASED TCCS - SCHEMATIC DRAWING	The Architecture is showing DTMF gateway for integrating with existing DTMF circuit	Do we need to consider DTMF gateway during the migration from existing control communication to VOIP TCCS atleast for few months till overall system is stabilises as recommended by RDSO.	No DTMF Gateway is required as it is planned to replace Existing DTMF with VoIP for all the boards of the Division. Existing Control communication working on PD Mux will be kept in parallel until the VoIP TCCS is stabilized.
6	3.3.1 Schedule C2 Item 2 : Specifications for BASIC IP PHONE Entry	16. The IP Phone should be of Same OEM as of Call Server. Third Party IP Phone shall not be accepted	Since Call Server is based on open standard ..We would propose to consider SIP compliant third party IP phone to have more options for Railways in future .	SIP phones should be preferably of the same make of IP-PBX. Modified corrigendum will be issued.

	Level IP Telephone			
7	3.3.3 Schedule C2 Item 4 : Specifications for IP VIDEO PHONE with POE Injector:	The IP Phone preferable should be of Same OEM as of Call Server or compatible should support all features of call server .	Since Call Server is based on open standard ..We would propose to consider SIP compliant third party IP phone to have more options for Railways in future .	SIP phones should be preferably of the same make of IP-PBX. Modified corrigendum will be issued.
8	3.3.5.1 Standards and guidelines that have to be met	At Hubballi Open source SIP Based Exchange is installed. All the way Stations Gateways covered in this work in Hubballi Division shall be integrated with this Server. Same to be connected to all Divisions and other Zonal HeadQuarters	Please specify Open Source SIP Server Name	Coral Server with Debian 10 Software.







18. SVNT

Sl No	Query	Remark/Reply
	Technical	
1	As many of the OEM asked regarding the details of Network switches and the Licenses pertaining to the system for VoIP to be clarified.	For Network Switches and Licenses pertaining to the VOIP, please refer to specifications and scope of work in Tender Document.
2	Most of the OEMs are having products with RDSO compliance but certain features are additional. The same will be intimated in our offer.	As per RDSO Specification additional features are optional or as per site requirement
3	The permissions for site clearance may be approved in total with pre said dates for execution so as to complete the project in stipulated time.	Yes. Permission for site clearance will be arranged by Railways.
	Commercial	
1	Payments against supply of items and submission of Invoice are clear. The actual payment date from the submission of invoice is may be included.	Payment will be arranged as soon as the invoice is raised and the bill is prepared and signed by all concerned .

2	The Estimated value is inclusive of GST. But the GST invoices to be made with Supply & Service part separately. This may be included.	Estimated value is inclusive of GST.
3	For the items quoted for supply, installation & commissioning the Supply part as 80% considered. "Quoted Price" may be added for clarity	Please refer to Payment terms under clause no. 4.0 in SCC.
4	Most the OEMs products Guarantee is from the Invoice date. Shall be made clear for the tender all such warranties are from Commissioning date.	Warranty starts from the date of completion of the work. Not from commissioning date.
5	Testing & Inspection Charges are clear. A table may be added for further clarity the items are to be inspected by RDSO/RITES and the charges to be borne by as mentioned Railways/Contractor.	Inspection Clauses are mentioned in Schedule description of items. Inspection charges raised by RDSO/RITES will be borne by Railways.
	General	
1	The consortium/JV partners forming for the tender is very challenging as the size is very large.	The JV shall be formed as per Clause 17 of SCC.
2	Most of the OEMs in Network switches are unable give their supply delivery time. Without that information it is very difficult to confirm the tender terms of completion.	The timeline given in SCC should be followed.

19. Tadiran Telecom

S r. N o .	Page No.	Ref. Tender Docume nt details	Clau se No.	Existing tender Clause	Point of Query	Proposed Change request.	SWR Remarks
1	83	Technical Specification_2.2. IP based Exchange using SIP Protocol	Para-1	SIP based Exchange shall comply with TEC specification of IP Private Automatic Branch Exchange (IPPABX) TEC/GR/SW/PBX-IP/01/MAR2015,IPPABXwithMEDIAGATEWAYNo.:TEC/GR/SW/PBX-005/01/SEP-16 Signalling gateway No. : TEC/GR/SW/SGW-001/04/DEC-19	There are 2 different clauses for TEC/DoT test approval certificate for SIP based exchanges (Server – Media Architecture) and creating contradictions. Please note as per TEC/DoT authority of Govt. of India for Server & Media Gateway architecture SIP based exchanges the Type test TEC-GR (Generic Requirement) which interfaces are not only tested for ISDN, Digital, PRI but also tested for SIP terminals (IP Phones) and SIP trunks with IPv6. Which is latest as on date today. There is no facility in TEC-IR to test the SIP based	Hence, we request to amend both the clauses as to get the latest system with latest state of the technology approved by TEC/DoT; “The TEC/ DoT test Certificate for offered SIP based Exchanges (Server & Media Gateway based) solution by bidder should be as per latest Type test TEC-GR with GR Specification No. TEC/GR/SW/PBX-005/01/SEP-16.”. The system should be ready tested for IPv4 & IPv6 with both SIP terminals and SIP Trunks from day1 for the particular model of SIP based Exchanges with Server & Media Gateway system quoted.	Bidder should comply with TEC/GR/SW/PBX-005/01/SEP-16 category for IP PBX with Media gateway or latest,as per modified tender document
	205	Technical Specification_3.3.5.1	Para-9	Vendors must submit TEC Compliant approval certificate for GR/IR issued by Telecommunication			

		Standard s and guidelin es that have to be met		<p>Engineering Centre (TEC), Department of Telecommunication, Govt. of India tested with IPv4 & IPv6 for both SIP terminals and SIP Trunks from day1 for the particular model of IP-PBX with Server & Media Gateway system quoted. Notarised copy of the same is required to submit along with the technical bid.</p>	<p>exchanges with SIP trunks and SIP terminals with IPv6. For more details please refer TEC/DoT website at;</p> <p>Website- https://www.tec.gov.in/standards-specifications</p> <p>TEC-GR: Which is specifically introduced for Serve gateway IP PBX systems. Which covers all exhaustive PABX facilities, Features and its</p> <p>Standards/ Specifications</p> <div><div>Show 10 entries</div><div>Search: 60030</div><table><tr><th>S.No.</th><th>Name of Standard</th><th>StandardNumber</th><th>Old Document Number</th><th>Date of Issue</th><th>Standard Type</th><th>Validation</th><th>Division</th><th>Download Standard</th><th>Download TSTP</th></tr><tr><td>470</td><td>IP-PABX with MEDIAGATEWAY</td><td>TEC 60030:2016</td><td>TEC/GR/SW/PBX-005/01/SEP:2016</td><td>01-09-2016</td><td>GR</td><td>Type Approval</td><td>NGS</td><td></td><td></td></tr></table></div>	S.No.	Name of Standard	StandardNumber	Old Document Number	Date of Issue	Standard Type	Validation	Division	Download Standard	Download TSTP	470	IP-PABX with MEDIAGATEWAY	TEC 60030:2016	TEC/GR/SW/PBX-005/01/SEP:2016	01-09-2016	GR	Type Approval	NGS			<p>Notarised copy of the same is required to submit along with the technical bid.</p>
S.No.	Name of Standard	StandardNumber	Old Document Number	Date of Issue	Standard Type	Validation	Division	Download Standard	Download TSTP																	
470	IP-PABX with MEDIAGATEWAY	TEC 60030:2016	TEC/GR/SW/PBX-005/01/SEP:2016	01-09-2016	GR	Type Approval	NGS																			

					<p>TEC-IR is basically issued for - <u>PABX with Interface ISDN</u> <u>BRI-S (Basic rate access) &</u> <u>ISDN PRI.</u> Refer TEC/DoT website - <u>https://www.tec.gov.in/list-of-certifications-issued</u></p> <p>Also it does not includes supports to exhaustive PABX facilities, features and its functionalities.</p>		
2	224	Technical Specification_3.3.20.2 Emergency Room Communication Console	Para-6	<p>The Emergency Room Conference resource Should be from the preferably From the same telephony Call manager system. Solution should have The facility to automatically Dial out to connect up to 30 or more participants in A single conference. System Should also have a 2x30 party Managed conference. It</p>	<p>The mentioned clause with single 30 party dial out conference is very limited where the actual running users are more than 6500 Nos. with 2X30 it can go maximum up to 60 party.</p>	<p>Hence, we request to amend the clause with latest conference facility which normally supported by all the OEM's as;</p> <p>The Emergency room conference communication solution must be embedded within the platform, not installed on a separate server and should be from the same OEM of the telephony system. It should have the facility to automatic dial out to connect up to 120 participants in a single conference. System should also have 125 party managed meet me conference. It</p>	<p>SWR Remarks: This is a minimum SWR requirement and higher features/specification can also be proposed</p>

				<p>Should be possible to further Divide 125 party conference Bridges into any combination Like 12 X 10 party, 6x20 Party etc. if required. The Conference should be secured i.e. the user should enter the password to join the conference</p>		<p>should be possible to further divide 120 party conference bridge into any combination like 10 X 10 party, 5 x 20, 2x30, 60x2 party etc., if required. The meet me conference should be secured means to enter to the conference bridge; the user should enter the password.</p>	
3	26	Schedule C3: Servers, Consoles and Licences	27	Supply of Call/Communication(SIP) Server dual AC and DC power supply [Detailed Specification in Technical Document] Inspection RITES	Industry grade servers comes with either dual AC or Dual DC power supply option only.	Request to amend the clause as; Supply of Call/Communication(SIP) Server dual AC or DC power supply [Detailed Specification in Technical Document] Inspection RITES	Dual DC power supply is needed and same has been reflected in the corrigendum
4	212	Technical Specification_3.3.9Schedule C3 Item	Para-3	The Server offered should be equipped for 16/24 subscriber Analog Extensions and 100 IP Extensions and 125 or more Party Audio Conference License. The	The statement of clause is contradictory with a bill of material mentioned in the tender doc for exchanges. The Server never provides subscriber analog extensions and IP cards. That is seen in	Request to amend the clause- The offered system should provide with Media gateways for 16/24 subscriber Analog Extensions. IP Licenses for 100 IP Extensions and	This sentence will be deleted. Same has been updated in modified tender document

		28-32 :Specific ations for intercom mun ica tion (SIP) services and Licenses		offered system should be expandable by adding necessary Gateway and Licenses to 10000 subscribers without changing or adding the server hardware or by tie lining two or more servers preferably.10000 users should be achieved with the cluster/two or three of servers and documentary proof to be submitted for the same	traditional PCM/TDM EPABX systems only, which are not a part of requirement for this tender.	125 or more Party Audio Conference License. The offered system should be expandable by adding necessary Gateway and Licenses to 10000 subscribers without changing or adding the server hardware or by tie lining two or more servers preferably. 20000 users should be achieved with the cluster/two or three of servers with the same UC application and documentary proof to be submitted for the same.	
5	24	NIT Doc_Spe cial Technica l Criteria	24	For VOIP TCCS /SIP Exchanges Design, supply, configuration, installation and commissioning of IP based telephony by Provision of IP server based IP- PBX /SIP exchanges	We understand the deployment of SIP exchanges at entire SWR is technically most important with complete end to end deployment and its execution within the stipulated time given in the tender. To fulfil all this mentioned requirements both OEM of SIP exchanges and System integrator/bidder must have that capability to supply and execute the work.	In this regards we request tender authority consider and include below clause for OEM & Bidder eligibility criteria as; 1. The OEM of SIP exchanges should be in the industry for manufacturing similar SIP exchanges which asked in the tender from more than last 7 years. Documentary evidence to be submitted with work order copies in the name of	As per Special Conditions of Contract similar nature of work experience has to be submitted to technically qualify . Please refer to para 3.3.5.1 in Chapter 3 DetailedTechnical Specification.

					<p>But in the tender mention clause it is not any specific experience work experience is asked neither from OEM nor from bidder. If we can see on the user-wise requirement part the requirement all including is more than 6000 Users capacity. It is must require to specify for both OEM & bidder to have sufficient experience in deployment of similar capacity systems in any Govt. organisation.</p>	<p>OEM/channel partner to be submitted.</p> <p>2. OEM to submit details on deployment of similar SIP exchanges of capacity of 3500 line (Analog / IP) active / running users atleast 2 references with copies of work order along with a latest performance certificate. The work order directly in the name of OEM / authorised channel partner of same OEM will be accepted. The system should be in running condition from last 2 years. The completion report signed by respective head of Dept. should also to be submitted.</p> <p>3. OEM/Bidder should submit reference of deploying within single order of SIP exchanges with atleast 1500 IP/SIP phones. Documentary evidence in this regards with copy of work order along with latest performance certificate to be submitted. The work order directly in the name of OEM /</p>	
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						authorised channel partner of same OEM will be accepted.	
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20. TCIL Query

With reference similar work requirement under clause no 10.1 "Technical Eligibility Criteria of "Standard Special Conditions of Contract, we understand that single, two or three works of appropriate value executed in any of the three component ie IP-MPLS or Video Surveillance System or VOIP TCCS /SIP Exchanges will suffice the similar work requirement.

We would also like to highlight that similar work requirement consisting of all three components

or any combination thereof will limit only few organizations to be eligible for this important tender and will certainly restrict competition. In view of this, we request you to kindly confirm that our understanding of the similar work requirement for the tender is correct.

SWR Remarks: Separate completed works of minimum required values for each component will be considered for fulfillment of technical eligibility criteria.

21. Tech-Bridge

Sr.No	Document Name	Section Name & Page Number	RFP Points	Clarification/ Changes Required	SWR Remarks
1	TECHNICAL SPECIFICATIONS	3.1.5.5 Service Management (Help Desk) and SLA Management, Page No:144	1 The proposed Helpdesk tool should be Axelos Gold level/Pink Elephant/ Service certified on at least 12 ITIL 2011 or any approved lab by Govt of india processes and complying at least 11 (undertaking on OEM's letterhead to be submitted)of all the ITIL processes that are the most mature way to demonstrate that at least three IT organizations : Incident management, Problem Management, Change Management, Knowledge Management, Service Level Management, Service Asset and Configuration	12 ITIL 2011 Processes Certification is restricting to Limited OEM. Request to you kindly Keep the Certification requirement for 6 Processes, which will ensure wider OEM participation. The Six Processes should be Incident management, Problem Management, Change Management, Service Level Management, Service Asset and Configuration management, Request Fulfillment. Also tool should have Knowledge management, Release and Deployment Management, Service catalog Management features. Justification: The above listed certified processes are mostly required as capability for mature behavior of the ITSM tool. And additional	1 The proposed Helpdesk tool should be Axelos Gold level/Pink Elephant/ Service certified on at least 6 ITIL 2011 or any approved lab by Govt of india processes and complying at least 6 (undertaking on OEM's letterhead to be submitted)of all the ITIL processes that are the most mature way to demonstrate that at least three IT organizations : Incident management, Problem Management, Change Management, Knowledge Management, Service Level Management, Service Asset and Configuration management, Service Catalogue and Request Fulfillment, etc. The certification copy to be submitted/All functionalities should be met or supported.

			management, Service Catalogue and Request Fulfillment, etc. The certification copy to be submitted/All functionalities should be met or supported.	functionalities are also useful addendum capabilities	
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22. WQ INDIA

Sr No	Sub-Work	Page No.	Clause No.	Clause Name	Existing Clause / Content in the RFP	Clarification Sought	SWR Remarks
		199		Make for Server/Network Rack and Smart Rack	Make of Euro/President/HCL/Netrack/Rittel/Legr and or similar)	We request include WQ INDIA Brand	Similar make is mentioned in the clause.
1	A	154	3.1.1.1	Item 10 : 19"42 U H x 800 mm Width X 1200mm Depth Rack	Rack should have Front Transparent Door and Dual Perforated door at Rear.	Front Toughned glass door and Rear hex mesh perforated door is recommended . Also since it is a indoor rack FRONT HEX MESH DOOR IS RECOMMENDED	As per site requirement and visibility of alarms/indicatio

								ns transparent glass required.
2	A	154	3.1.1 1			Rack should have 2 no's of removable side panel with slam latch. With key & lock arrangement. With key & lock arrangement.	Side panels should be in 2 parts due to the depth of the racks 1200mm	In two parts will also be accepted.
3	A	155	3.1.1 1			The Rack unit supported by casters static load of at least 350Kgs and by Levellers should support a static load of at least 750Kgs.	Static load capacity should be minimum 1300kgs as the depth of the racks is 1200mm .	Higher /better specifications will be accepted.
4	A	155	3.1.1 1			Rack should have Server /IT Rack Mount 2 Nos Power Distribution unit, 1Ph, 230V, 8A, 50/60Hz, 2U standard with 8 X Intel Multi Pin 5A, Inlet Plug type 6A Indian Round Pin, 6A Fuse - PDU Rating 1.8KVA/Side or higher feed-1.5Mt/ Black	1200mm depth racks can be mounted with Vertical PDU'S with 32amps capacity with 7.3kva load capacity . It is recommended to have dual PDU'S wit combination of Indian /Universal and IEC sockets	Higher /better specifications will be accepted.
5	B	155	3.1.1 2	Item 11 : 19"42 U H x 600mm Width X 600 mm Depth Rack	Front door	Rack should have front door tough and transparent glass fitted on MS/CRCA sheet on	Front Toughned glass door and Rear hex mesh perforated door is recommended . Also since it is a indoor rack FRONT HEX MESH DOOR IS RECOMMENDED	As per site requirement and visibility of alarms/indicatio ns transparent glass required.

						sides with Lock and key.		
6	B	156	3.1.1 2		Power Distribution Unit (PDU)	Adequate and Redundant power distribution units with electronically controlled circuits for surge and spike protection, MCBs isolated input to ground and output to ground.	EMI/RFI surge protection as per load capacity is recommended .600mm depth racks can be mounted with Vertical PDU'S with 32amps capacity with 7.3kva load capacity . It is recommended to have dual PDU'S wit combination of Indian /Universal and IEC sockets	Higher specifications will be accepted.
7	B	176	3.2.7	Item 7: 19" 9 U H x 600mm Width X 600mm Depth Rack (Wall/Pole Mounted)	Front door	Rack should have front door tough and transparent glass fitted on MS/CRCA sheet on sides with Lock and key.	Instead of Glass door MS Door is recommended as Plan Metal Door as requirement calls for IP54	As per site requirement and visibility of alarms/indicatio ns transparent glass required.
8	B	176	3.2.7		Fan module	Compact Fan Module of 90 CFM working on 230VAC 2 Nos.with each	It is required to mention the life of the fans with running hours as 35000 running hours which is as per industry standards . By mentioning this point it will be	Higher specifications will be accepted.

						Rack properly fitted at top of rack.	made mandatory to supply the best product to Railways . Also as the fans will be placed below the top cover which is open from top there are chances of dust/water & rodents entry to cabinets from Fans slots , it is recommended to have a small canopy to cover the fan area so that no foreign bodies will get access to enter the cabinet from fans vent slots	
9	B	176	3.2.7			OEM should have a valid ISO 9001 certification on the date of opening of bid.	Certificates of ISO 9001, 14001, 27001, 45001, UL, CE RoHS Compliant	Minimum standard certification has been indicated and , higher than same can be proposed
10	B	176	3.2.7			Rack should be minimum IP54 certified. Rack should also comply with EIA 310/DIN 41494 standards.	It is known that the racks will be placed indoors on the platforms or the foot over bridges hence it is recommended to use MS door instead of Glass door on the front to avoid vandalism	As per site requirement and visibility of alarms/indications transparent glass required.

11	B	177	3.2.8		Front Door	Rack should have front door tough and transparent glass fitted on MS/CRCA sheet on sides with Lock and key.	Instead of Glass door MS Door is recommended as Plan Metal Door as requirement calls for IP54	As per site requirement and to provide visibility for alarms/indications transparent glass required.
12	B	177	3.2.8		Fan Module	Compact fan module of 90 CFM working on 230VAC 2nos.with each rack properly fitted at top of rack.	It is required to mention the life of the fans with running hours as 35000 running hours which is as per industry standards . By mentioning this point it will be made mandatory to supply the best product to Railways . Also as the fans will be placed below the top cover which is open from top there are chances of dust/water & rodents entry to cabinets from Fans slots , it is recommended to have a small canopy to cover the fan area so that no foreign bodies will get access to enter the cabinet from fans vent slots	Higher specifications will be accepted.
13	B	177	3.2.8	Item 8: 19" 6 U H x 350mm Width X 600mm Depth	"INDIAN RAILWAYS LOGO along with Year" in bold and easily recognizable fonts should be written at the front top of the rack preferably in black or blue		Certificates of ISO 9001, 14001, 27001, 45001, UL, CE RoHS Compliant	Minimum standard certification has been indicated

				Rack (Wall Mounted)	color. OEM should have a valid ISO 9001 certification on the date of opening of bid.		and , higher than same can be proposed
14	B	177	3.2.8		Rack should be minimum IP54 certified. Rack should also comply with EIA 310/DIN 41494 standards.	It is known that the racks will be placed indoors on the platforms or the foot over bridges hence it is recommended to use MS door instead of Glass door on the front to avoid vandalism	As per site requirement and to provide visibility for alarms/indications, transparent glass is required.
15	B	177	3.2.9	Item 9: Server and Networks Racks with Accessories and PDU	A) Server and Networks Racks with Accessories and PDU		
16	B	177	3.2.9		Frame, 800 W x 2000 H x 1200 D,Front Glass Door with comfort handle with lock insert (130 Degree Hinges)with Rear sheet steel Double door(130 Degree Hinges) with Door vertical and Horizontal Door Stiffener with comfort handle (8611070) with lock insert 3524E, Top cover with cutout with cover plate for cable entry,bottom cover with gland plates for cable entry, 19" angles 2 pairs on 4 nos of cable troughs front and	Front convex type doors is recommended which can provide large space in the front for cold air and aesthetically it looks good , more over the user can have a full 800mm wide visibility from the front side . Four point locking system is recommended .	Catered as per site requirement. Better specification is also acceptable

					rear, 6 nos of punched sections. with a Levelling Feet pack of 4.		
17	B	178	3.2.9		DK-TS Frame, 800W x 2000H x 300D with 6 nos of 23x 73 punched sections depthwise, Top cover Plain. Bottom cover with cutout and cover plate for cable entry. RAL 7035 TS plinth 800Wx100Hx300D ,Ral 7022 SK Vertical Shielding - 2nos	DK -TS frames is pertaining to an OEM make hence it is required to remove the same and mention only the sizes of the racks .	Incorporated
18	B	178	3.2.9		DK-TS Frame, 300W x 2000H x 300D, Top cover Plain. Bottom cover plain. RAL 7035 TS plinth 300Wx100Hx300D ,	DK -TS frames is pertaining to an OEM make hence it is required to remove the same and mention only the sizes of the racks .	Incorporated
19	B	178	3.2.9		Vertical PDU, 32A, Single Phase, C13 Sockets - 16nos, C19 Sockets - 4nos, 32A DP MCB with cover, Power cord of 6sqmm x 3 core cable with pin type lugs.	Vertical PDU with C13 (36) and C19 (6) is recommended .	It is a minimum requirement at site, better specification is acceptable.
20	B	178	3.2.9		B) Zero U Cooling Unit with Piping and Low side works		
21	B	178	3.2.9		External Condensing Unit (ODU) - 10kW	External cooling unit of 10.5kw is recommended as 10.5KW makes it 3tr capacity . Customer to specify	It is a minimum requirement at site, better

						if any redundancy is required to consider.	specification is acceptable.
22	B	178	3.2.9		Low Side Work for Air-conditioning unit including copper piping & installation of 15 mtr with refrigerant charge, cabling, stand and other low side accessories (cable trough & cabling)	Low side piping work to be considered for minimum 25 metres due to various site conditions . It is recommended to mention the same .	It is a minimum requirement at site, better specification is acceptable.
23	B	178	3.2.9		C) CMC III monitoring system		
24	B	178	3.2.9		CMC III Processing Unit	CMC model no is pertaining to a BRAND as the required calls for environment monitoring systems hence it is recommended to specify as EMS unit which is a common name	Incorporated