

Corrigendum No. 2**Date : 29.09.2021**

IREPS E-Tender Notice No:WR_WORKSHOPS_WIFI Dated 03.09.2021

Name of the Work : "Supply, Installation and Commissioning of Wi-Fi in 5 Workshop of Western Railway"

Corrigendum No. 2 is proposed herewith ad details below:

Clause No/Page No.	As per Tender/CorrigendumNo.1	To be read as
Item of Work Sr. No. 28 (Page No 15) of Tender Document.	Supply of access switch Type C with 4 port10G SFP+ ports and 24 port 1G SFP ports (DLINK DGS-3000-28XS)	Supply of access switch Type C with 4 port10G SFP+ ports and 24 port 1G SFP ports Specification of Item/SOR as per Annexure-A
Item of Work Sr. No. 29 (Page No 15) of Tender Document.	Switch L2 Managed with 8x10/100 mbps (POE) & 2 nos SFP ports	Switch L2 Managed with 8x10/100 mbps (POE) & 2 nos SFP ports Specification of Item/SOR as per Annexure-B
Open E-Tender Notice: a) Closing date for Submission of E-Bids	Up to 15:00 hrs of 04.10.2021 (online)	Up to 15:00 hrs of 14.10.2021 (online)
Open E-Tender Notice: b) Date of opening of E-Bids	Up to 15:30 hrs. of 04.10.2021 (online)	Up to 15:30 hrs. of 14.10.2021 (online)
	Last Date of Submission of Offer (Online) Date: 04.10.2021 Time: 15:00 hours	Last Date of Submission of Offer (Online) Date: 14.10.2021 Time: 15:00 hours
	Date of Opening of Tender (Online) Date: 04.10.2021 Time: 15:30 hours	Date of Opening of Tender (Online) Date: 14.10.2021 Time: 15:30 hours

All other terms and conditions of the Tender remains the same.

(Rajendra Malakar)
Joint General Manager/WR/RailTel
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Annexure-A

SOR Item No-28 Access switch Type C with 4 port10G SFP+ ports and 24 port 1G SFP ports.	
S. No.	Technical Description
1	Should have 24 ports SFP Based Gigabit ports.
2	Should have support for 4 ports SFP+ Based Gigabit ports.
3	Should have at min 120 Gbps switching fabric.
4	Packet forwarding rates 90 million PPS
5	Should support at min 16K entries in the MAC table.
6	Should Support minimum 4K VLANs
7	Switch should support following VLAN and VLAN features Port-based VLAN MAC-based VLAN VLAN Trunking
8	Should support Radius and TACACS + Switch.
9	Should have AC and DC power supply arrangement inbuilt as given below in chassis: AC Power Supply 100 to 240 V AC with 50 DC Power Supply -48V. (Nominal). Switch should have flexibility to be powered on either by AC or DC Supply
10	Should support Dual Firmware Images.
11	The Switch should have 802.3ad and 802.1AX Link Aggregation Up to Max. 5 groups per device 8 Gigabit ports per group
12	Should support Optical Transceiver Digital Diagnostic Monitoring for All SFP ports of 1G and 10G
13	Should support port mirroring and jumbo frame 9K
14	Should support following for min. 64 Groups : IGMP Snooping IGMP v1/v2/v3 awareness Snooping IGMP Snooping Queried.
15	Should support spanning-tree loop avoidance mechanism related to Root,BPDU , port non-STP role or similar functionalities.

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S. No.	Technical Description
16	<p>Should support following security features viz. Web Management (HTTPS) Broadcast/Multicast/Unicast Storm Control DoS Attack Prevention</p> <p>The LAN Switch should have the capability to support access list based on IPv4/v6 address Protocol type VLAN-ID MAC-ID</p> <p>The Switch should support minimum 700 Ingress Access Control Entries</p> <p>The Switch should support SSHv2 SNMPv3; SNMP over IPv6 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions</p> <p>It should support port security to secure the access to an access or trunk port based on MAC address and it should be minimum 60 MAC-ID per Port and support IP-MAC-Port binding</p>
17	<p>L3 features</p> <p>The switch should support Max 4 IP Interfaces ARP Proxy IPv6 Neighbor Discovery (ND)ii The switch should support minimum 4 Nos of static IPV6 and IPV4 routes.</p>
18	<p>Switch should support following SNMP traps or syslog. Interface UP & Down. Optical power SFP threshold alarms. STP Topology Changes and New root bridge. LLDP table changes. Threshold alarms for Temperature.</p>
19	<p>Switch should comply to following Temperature performance parameters Storage Temperature - minus 20 to 70 degree C (-4 to 158 degree F)</p>
20	<p>It shall support MAC address notification to allow administrators to be notified of users added to or removed from the network.</p>
21	<p>The switch shall be designed for continuous operations.</p>
22	<p>IPv6/v4-L3 and IPv6-Multicast functionalities/features for Switches are desired but not mandatory.</p>
23	<p>Switch should support Flex Link features from day one.</p>
24	<p>Safety Requirement : Switch should have safety Certificate of UL.</p>
25	<p>Electromagnetic Compatibility (EMC) Requirements:- Switch should have EMC Certificate of CE and FCC.</p>

SOR Item No-28 Access switch Type C with 4 port10G SFP+ ports and 24 port 1G SFP ports.	
S. No.	Technical Description
26	<p>Management Features:</p> <p>The L2 switch shall support a console port or auxiliary/Ethernet port for the purpose of local and remote configuration and diagnostics.</p> <p>It should support SNMPv1 v2c v3 CLI-based management console to provide detailed out-of-band management.</p> <p>Switch shall support traffic monitoring</p> <p>It should have RMON software agent to support four RMON groups for enhanced traffic management monitoring and analysis.</p> <p>It should support TFTP to reduce the cost of administering software upgrades by downloading from a centralized location also it should Support FTP.</p> <p>It should support DHCP server screening and client filtering</p> <p>It should support Network Timing Protocol (NTP/SNTP) to provide an accurate and consistent timestamp to all intranet switches.</p> <p>It shall support configuration rollback to replace current configuration with any saved configuration file.</p> <p>The L2 switch shall support built in power diagnostics system to detect hardware failures. MIBs for management of switches should be provided.</p>
27	IPv6 feature should be available from day 1.
28	<p>Qualitative Requirements:</p> <p>The equipment shall be manufactured in accordance with the international standards ISO 9000:2008 or later for which the manufacturer shall be duly accredited. A quality plan describing the quality assurance system followed by the manufacturer shall be required to be submitted.</p> <p>The MTBF (Mean Time Between Failure) and MTTR (Mean Time To Repair) predicted and observed values shall be furnished along with calculations by the manufacturer.</p>
29	<p>Switch should support following Metro Ethernet Features</p> <p>Q in Q Double VLAN (Q-in-Q) Port-based Q-in-Q and VLAN Translation</p> <p>Loopback Detection</p> <p>The operating system of the Switches category/series/family should be MEF-9/14 or CE (Carrier Ethernet) compliant.</p> <p>802.1D STP</p> <p>802.1w RSTP</p> <p>802.1s MSTP</p> <p>802.3ad: Link Aggregation Control Protocol (LACP)</p>
30	<p>Miscellaneous</p> <p>OEM should have its own Service Centre in all the Metro Cities (Class X) in India. Service center details to be shared along with address and contact no along with GST no.</p> <p>UL, CE and FCC Certification is not required for PMA. However, they have to produce certificate from standard lab approved/ authorized by Govt. of India that their product are equivalent to ULCE and FCC and meets all standard and specification of ULCE and FCC.</p>

SOR Item No-28 Access switch Type C with 4 port10G SFP+ ports and 24 port 1G SFP ports.	
S. No.	Technical Description
31	<p>ADDITIONAL FEATURES SUPPORTED</p> <p>Switch must support Zero Touch Deployment feature so that it can automatically obtain IP address and configuration file from remote server.</p> <p>Switch should comply to RoHS 6.</p> <p>Switch should support loop detection mechanism based on VLAN.</p> <p>Switch should support following-</p> <p>Static Route:</p> <ol style="list-style-type: none"> 1. Supports max 60 static IPv4 routes 2. Supports max 30 static IPv6 routes <p>Dynamic VLAN Assignment.</p> <p>Switch must support audit logs for all activities carried out on the system like user logins, failed access attempts with source.</p> <p>Compliance statement of OEM letterhead with Cross Reference docs of above features MANDATORY to be submitted.</p> <p>OEM must provide Tech Support no during working hours 10AM-6 PM.</p> <p>OEM must provide Escalation Matrix of Telephone Numbers for Service Support.</p>

Annexure-B

SOR Item No-29 Switch L2 Managed with 8x10/100 mbps (POE) & 2 nos SFP ports		
Sr. No.	Parameter	Description
1	Type of Switch	Layer 2 Switch with full IPv6 support along with IPV4 & Dual Stack configurable. Non Blocking Architecture
		a. 1000Base-T: 8 Nos
		b. 1G SFP Ports: 2 Nos.
		c. Each port must have a dedicated LED for system status and for individual port status
3	Switching capacity	24 Gbps or better, non-blocking
4	Forwarding performance	18 Mpps or better
5	Power Supply	Universal Power Supply (Provision to power on wither with AC (240V) or DC (48V) Supply)
6	Console Port	Available
7	MAC Address Table Size	min. 16000 entries
8	Operating Temprature Range (Degree C)	0°C to +50°C
9	Operating Humidity (RH) (%)	5% to 90% (non condensing)
10	IPv6 Compliance	It should be IPv6 Compliant and should be capable of working on IPv6 without any additional hardware/software
11	Features	a) Supports 9 KB Jumbo frames. b) 4000 VLANs (802.1Q), VLAN tagging. c) Supports at least 8 Spanning Tree Groups/Instances. d) IEEE (802.1D)STP, RSTP(802.1w), MSTP (802.1s). e) IEEE 802.3ad LACP- Link Aggregation. f) IEEE 802.1AB LLDP. g) Support for Multicast, IGMPV1/V2, IGMP V3 Snooping. h) IEEE 802.1p prioritization, DiffServ/COS. i) Broadcast and Multicast Suppression. j) ACLs/filters. k) Support for Rate limiting/Queue Shaping. l) Dynamic VLAN Assignment. m) DHCP Client, DHCP Relay for IPv4 and IPv6. n) NTP (IPv4 and v6) o) Configuration backup and restoration p) Port Mirroring q) MLD snooping r) ERPS

SOR Item No-29 Switch L2 Managed with 8x10/100 mbps (POE) & 2 nos SFP ports		
Sr. No.	Parameter	Description
12		a) Console Management Port on the front panel. b) Zero Touch Provisioning c) Web Based Management through EMS/NMS. d) SMMP V1,V2 and V3 Support. e) SSH V2 Support. f) Telnet Support , TFTP, FTP, SCP and SFTP client. g) Port Mirroring. h) Industry Standard CLI with built in Scripting tool/Event Scheduler. i) TACACS+ support and facility to log user commands over Syslog/Accounting j) Dying Gasp for Switch down event detection k) TWAMP support l) RMON m) TACACS Accounting
13	Quality of Service	a) IEEE 802.1p Priority. b) Diff. Serv Marking /TOS/Classification/remarking c) 8 Nos. QOS Queues per Port d) Shaping and Policing
14	Security Feature	a) 802.1x: Port security, Single and Multiple Authentications, MAB b) RADIUS / TACACS+ Authentication support c) MAC limiting per Interface/Port d) SSH Remote Login e) HTTPs f) SNMPV3 g) MAC lockdown, MAC notification h) ACL - L2/L3/L4, IPv4 & v6 i) DHCP snooping, DAI, IPv6 ND Inspection
15	Form Factor	19 inch Rack Mountable using clamps