एक्ज़िम बैंक
EXIM BANK
भारतीय निर्यात-आयात बैंक
EXPORT-IMPORT BANK OF INDIA

INFORMATION TECHNOLOGY

March 30, 2020

Corrigendum – 02

Sub: Clarifications on Pre-Bid Meeting held on March 13, 2020 and extension of bid submission date

E-Tender Reference No.	EXIM/RFP/2019-20/080
E-Tender For:	Data Centre Design and Construction for Export-Import Bank of India

With reference to queries received by bidder during the pre-bid meeting held on March 13, 2020, the clarifications by the Bank are as follows:

Page No	Clause	Clause in RFP Technical specification	Query Raised bidders	Change Required (Yes / No)	Clarification
Page No.16. Serial No.3.1.2	In-Row closed loop Air-Conditioning	Inbuilt Heater and Humidifier to cater IT load up to 20kW	Humidifier is not required.	No	Heater & Humidifier is required as this is in-row system & critical servers are hosted in it. External ambience fresh air is not used much.
Page No.18. Serial No.3.9.4	Other features	Rack based Critical Component's for Integrated Server Racks system (Rack, Cooling, Rack PDUs, UPS and monitoring system) must be from single OEM for Seamless Integration & better Service Supports	It should be Rack, Cooling, Rack PDU and monitoring from Single OEM. Exclude UPS from single OEM list.	No	Single OEM should be there for critical equipment for seamless service and support.
Page No.24. Serial No.3.11.2	In-row cooling Direct Expansion / Cooling Circuits	One refrigeration circuit, incorporating a high efficiency, fully hermetic variable capacity compressor with crankcase heater, safety valve, filter drier, moisture indicating sight glass, liquid line solenoid valve and an externally equalized expansion valve	Please make it hermetic variable / Inverter scroll compressor	Yes	Hermetic variable / Inverter scroll compressor

Page No.25. Serial No.3.11. 2.4	In-row cooling Air Filtration	The filter cells are made of two deep pleated 4" filters rated MERV8 following ASHRAE 52.2 (45% by ASHRAE 52.1) or G4 following EN779, located within the cabinet, and accessible from the rear of the unit. Frame of the filter shall be made of galvanized steel. • Clogged filter alarm must be available for standard.	Not required for closed loop cooling, please remove this point, if it is dusty environment then filters are recommended	No	Filters are always required & recommended in Air Conditioning system. Also the smart rack doors are open to environmental dust during maintenance. Filter of different grade can be given.
Page No.25. Serial No.3.11. 2.4	In-row cooling Touch Panel	Air conditioning models should be controlled by microprocessor-based controller with Touch Panel. It can be programmed to control the function of every device within the unit via I/O.	Please make it touch panel / button operated	Yes	Bidder may provide touch panel / button operated.
Page No.26. Serial No.3.11. 2.6	In-row cooling Touch Panel	Clogged filter, Customer input (No 4 inputs)	This point can be removed if filter is removed above	No	Filters are always required & recommended in Air Conditioning system. Also the smart rack doors are open to environmental dust during maintenance. Filter of different grade can be given.
Page No.27. Serial No.3.11. 2.7	Monitoring	There should be SNMP and HTTP/Web-management capability for enhanced communications and control of HPM systems.	Please elaborate the requirement of HPM	Yes	There should be SNMP and HTTP/Web-management capability for enhanced communication. HPM is not required. Typo error.
Page No.27. Serial No.3.11. 2.7	Monitoring	A provision can also be made to make the monitoring possible on the mobile phones.	Please make it mobile phone or browser based	Yes	May be accessible through mobile app or browser.

Page No.28. Serial No.3.11. 2.9	Additional Features – Humidifier	The unit is fitted with a canister type steam humidifier suitable for use with water of varying degrees of hardness, provided that the water is not treated or demineralized (Conductivity range 125-500mS/cm).	Please remove canister type	Yes	The unit may be fitted with a canister or electrode type steam humidifier suitable for use with water of varying degrees of hardness, provided that the water is not treated or demineralized (Conductivity range 125-500mS/cm).
Serial No.3.2.1	On-Line Double Conversion IGBT based PWM Inverter	On-Line Double Conversion IGBT based PWM Inverter	Now days all UPS are comes with IGBT based Inverter, as per latest technology we will suggest you consider for IGBT based Rectifier & IGBT based Inverter with built Isolation Transformer for Galvanic isolation.	No	IGBT inverter with inbuilt isolation transformer is enough considering the requirement.
Serial No.3.9.4	On-Line Double Conversion IGBT based PWM Inverter	Rack based Critical Component's for Integrated Server Racks system (Rack, Cooling, Rack PDUs, UPS and monitoring system) must be from single OEM for Seamless Integration & better Service Supports	We are Mfg of Online UPS, no other products we mfg. how we will compete with this point.	No	Single OEM should be there for critical equipment for seamless service and support.
Serial No.3.2.1	On-Line Double Conversion IGBT based PWM Inverter	Supply, installation, testing and commissioning of true online, double conversion, high efficiency, and high-power factor Uninterruptible Power Systems (UPS) rated at 60 kVA with battery backup support for combined 30minutes on full load. UPS & the backup batteries should be supplied with the necessary arrangements for external mounting.	Backup should be 30 min on each UPS considering full capacity load. Individual 30 min Backup. (VAH = 12 Volt x Battery AH capacity x No of batteries)	Yes	Supply, installation, testing and commissioning of true online, double conversion, high efficiency, and high-power factor Uninterruptible Power Systems (UPS) rated at 60 kVA with battery backup support for combined 60minutes (each UPS 30mins backup) on full load. UPS & the backup batteries should be supplied with the necessary arrangements for external mounting.

Serial No.3.10.2	On-Line Double Conversion IGBT based PWM Inverter	Configuration: 2x60 kVA (True online, IGBT Inverter based, Dual Conversion)	2x60 kVA (True online, IGBT based RECTIFIER & INVERTER, Dual Conversion)	No	IGBT inverter with inbuilt isolation transformer is enough considering the requirement.
Serial No.3.10.3.1	On-Line Double Conversion IGBT based PWM Inverter	Delivery at site, unloading, handling, installation of complete system including interconnection from the UPS system to batteries and to input/output panels switches.	As a UPS OEM we provide Rack & Accessories (Battery Interconnection Cables, Connecting Lugs, Battery Rack, UPS to Battery cable upto 5 Mtr. etc. From Input panel to UPS input Breaker & UPS output Breaker to Output Panel cable will not be in our scope.	No	End to End scope of I&C of UPS & Battery is in Bidders Scope.
Serial No.3.10.3.1	On-Line Double Conversion IGBT based PWM Inverter	Scope includes battery bank connections and providing safety barriers for all busbars and cable connection leads on battery racks.	We are providing BUSBAR for Battery to Battery connections to on & above 100KVA UPS rating, below 100KVA UPS battery connections we used Copper / UNINYVIN cable.	No	End to End scope of I&C of UPS & Battery is in Bidders Scope.
Serial No.3.10.3.2	On-Line Double Conversion IGBT based PWM Inverter	Power distribution panels	Not in our scope, Electrical vendor need to consider this point.	No	End to End scope of I&C of UPS & Battery is in Bidders Scope.
Serial No.3.10.4.5	On-Line Double Conversion IGBT based PWM Inverter	Battery Parameters	Need to add VAH parameter to compare all bidders on same platform along with Battery calculations. For avoiding misleading in Battery AH rating. (VAH = 12 Volt x Battery AH capacity x No of batteries)	No	Battery backup already asked for 60mins combined backup. Bidders must share battery calculation sheet during technical submission.

Serial No.3.10.4.5	On-Line Double Conversion IGBT based PWM Inverter	LIST OF APPROVED MAKES	We request you to add FUJI ELECTRIC Name in Make list of UPS to compete this opportunity.	No	We encourage single OEM who is manufacturing all critical equipment.

Queries and clarification regarding PART C – NETWORKING SWITCHES, Core Switch Technical Specifications are below. Queries are highlighted in the Cells and remarks by the Bank is mentioned against it:

Core Switch Technical Specifications

Technical Specifications	Pre-bid query	Banks' Response
OEM Capabilities		
The OEM suggested should be a part of the Leaders quadrant of 2019 Gartner (Report) Magic Quadrant for Data Center Networking		
Switch Hardware features and performance		
Switch should have minimum 48* 1/10G SFP and 12* 40G uplink ports	Should be 40/100Gig	It's already having 12 QSFP's.
Switch should have minium switching capacity of 4.8Tbps		
Switch should have minimum throughput of 1.8 Bpps		
Switch should have max 2RU form factor		
Switch should have minimum packet buffer size of 16MB	May be changed to 40MB.	Ok. Minimum Buffer size should be 40 MB
Switch should support Hot swappable redundant power supply and Fans		
Layer-2 Specifications		
Should should support 802.1Q based 3000 VLAN's (Minimum)		
Should support spanning tree protocols such as RSTP,MSTP		
Should support static and dynamic VxLAN		
Should support IGMP protocol		
Layer-3 Specifications		
Switch should support policy based routing		
Switch should support Equal cost multipath		
Switch should support IPv4 routing protocols static routes, RIP, RIPv2, OSPF, BGP		
Switch should support static route, RIP, OSPF and BGP for IPv6		
High Availability		

Switch should have mechanism which can combine two switches in single virtual switch with separate data plane, control plane but single management plane.		
Switch should support VRRP protocol		
Switch should support hot swapable redundant power supply		
Switch should provide hitless failover during upgrades		
Quality of Service		
Switch should support Strict priority queuing, weighted round robin		
Switch should support 802.1p standard		
Manageability		
Switch should support SNMPv1,v2 and v3 protocols		
Should support sFlow		
Switch should support Local and remote port mirroring i.e. RSPAN, ERSPAN		
Switch should support RMON capability		
Security		
Switch should support Radius and TACACS+ protocols		
Switch should support IEEE 802.1x based authentication		
Should support ACL that can filter packet based on Layer-2 to Layer-4 fields		
Should support protocols such as RA guardr and ND snooping		

TOR Switch Technical Specifications

Technical Specifications	Pre-bid query	Banks' Response
OEM Capabilities		
The OEM suggested should be a part of the Leaders quadrant of 2019 Gartner (Report) Magic Quadrant for Data centre Networking		
Switch Hardware features and performance		
Switch should have minimum 48 * 1/10G Base-T ports and 6* 40G ports	Should be 40/100Gig	NO. It's already having 6 QSFP's
Switch should have minimum switching capacity up to 1.4Tbps		
Switch should support Hot swappable redundant power supply		
Switch should have packet buffer size of minimum 12MB	May be changed to 40MB.	Ok. Minimum Buffer size should be 40 MB.
Switch should provide up to 3 microsecond latency for 10GbE		
Switch should have 1RU form factor		
Layer-2 Switching		

Should support 802.1Q based 4094 VLAN's	May be changed to minimum 3000 VLANs as per Core.	Should support 802.1Q based minimum 3000 VLAN's.
Switch should support congestion management technologies such as IEEE 802.3x		
Switch should support IGMP snooping v1/v2/v3, PIM snooping, MLD snooping v1/v2/v3 and IPv6 PIM snooping		
Switch should provide full DHCP snooping functionality		
Layer-3 Specifications		
Should support connectivity fault management i.e IEEE 802.1AG that can be used for fast fault detection and recovery		
Should support ECMP		
Should support static routes, RIP, OSPF and BGP		
Should support static , OSPFv3 and BGP for IPv6		
Should have mechanism to reduce convergence time for routing protocols such as BFD or equivalent		
High Availability		
Switch should support technology by which multiple switches acts as single virtual switch with single IP for management for TOR or spine/leaf deployment		
Should support minimum 8 switches in single virtual stack.	There is no concept of stack in Datacentre switches.	Either virtual stack or Any other redundancy Method.
Should support patch installation and new services features installation without rebooting the equipment		
Switch should support hitless software upgrade in high availability		
Data Center features		
Switch should support reversible Airflow mechanism		
Switch should support Jumbo frames sizes up to 9,000 bytes		
Switch should support Data Center Bridging protocols		
Quality Of Service		
Should support classification based on DSCP field, MAC address, IP protocol type, port number		
Should support Strict priority queuing, weighted round robin and weighted fair queuing		
Manageability		
Should support sFlow		
Should have separate out of band management port, console port		
Switch should support SNMPv1,v2 and v3 protocols		
Switch should support various DevOps tools such as Puppet,Chef,YANG		

Switch should support Local and remote port mirroring i.e. RSPAN, ERSPAN		
Security		
Switch should support Radius and TACACS+ protocols		
Switch should support IEEE 802.1x based authentication		
Should support ACL that can filter packet based on Layer-2 to Layer-4 fields		
Should support protocols such as RA guardr and ND snooping		

Extension of Bid submission Date

The revised schedule is as follows:

Document Downloading End Date	**April 21, 2020 at 4:00 PM**
Last Date and Time for Submission	**April 22, 2020 at 4:00 PM**
Opening of Tender	**April 22, 2020 at 5:00 PM**