Corrigendum 04: Dated 19/06/2020 for Tender No: CRP20E001 Tender Dated: 20-05-2020

Selection of an Experienced IT-Networking Partner For IT Infrastructure Implementation for ERP and other Future Digital Initiatives at NMDC Locations.

Supplier Name & Address:	
Phone No. & Email Id	

CLARIFICATION TO TECHNICAL QUERIES - 2

S. No	Item	RFP Clause	CLARIFICATION	REVISED CLAUSE	Compliance (Yes / No)
1	Disk Drive Support	Offered storage shall support various SSD capacities drives starting from 400GB onwards	400GB Disks are obsolete and are not available in the current models. So requesting you to change this clause to "Offered storage shall support various SSD capacities drives starting from 960GB onwards"	Offered storage shall support various SSD capacities drives 400GB or higher	
2	Raid Support, Virtualization & No. of Volumes	Offered Storage Subsystem shall support Raid level 1, 5, 6 and 10.	Our Enterprise Storage supports Raid-5 and Raid-6 only, Kindly consider changing this clause to "Offered Storage Subsystem shall support Raid level 5 & 6."	Offered Storage Subsystem shall support Raid level 1, 5, 6 and 10. Meeting Raid Level 5 and 6 is mandatory	
3	Host Ports and Back-end Ports	• Offered storage shall have a minimum of 16 SAS lanes running at 12Gbps speed and shall be scalable to 32 SAS lanes without any controller change.	Our SAS backend based enterprise storage has 6Gbps backend bandwidth, therefore we request you to look for equivalent backend bandwidth without any compromise around performance and modify this clause to "Offered storage shall have a minimum of 192Gbps Backend Bandwidth running at 6/12Gbps speed and shall be scalable to 384Gbps Bandwidth with Addition of Controller."	Offered storage shall have a minimum of 16 SAS/PCIe lanes running at 12Gbps per SAS lane or 8Gbps per PCIe lane and shall be scalable to 32 SAS/PCIe lanes without any controller change.	

		CLARIFICATION TO TECHNICAL QUERIES - 2			
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4	Performance and Quality of Service	• Shall have the capability to use more than 30 drives per array group or raid group for better performance. • Offered storage array shall support the quality of service for critical applications so that appropriate and required response time can be defined for application logical units at storage. It shall be possible to define different service/response time for different application logical units. • Quality of service engine shall allow us to define a minimum and the maximum cap for required IOPS / bandwidth for a given logical unit of the application running at the storage array. • It shall be possible to change the quality of service Response time ((In both milliseconds as well as Sub-milliseconds), IOPS, bandwidth specification on the basis of real-time.	Different OEMs have different implementation of QoS feature, the current language is proprietary to Hpe's implementation of QoS. Kindly change the language to "• Shall have the capability to use more than 30 drives per array group or raid group for better performance. • QoS should allow limiting IOPS and Throughput for non-Critical Hosts in order to prioritize IO for critical hosts"	• Shall have the capability to use more than 30 drives per array group or raid group for better performance. • Offered storage array shall support the quality of service for critical applications so that appropriate and required response time can be defined for application logical units at storage. It shall be possible to define different service/response time for different application logical units. • Quality of service engine shall allow defining minimum and the maximum cap for required IOPS / bandwidth for a given logical units of the application running at the storage array. • It shall be possible to change the quality of service Response time ((In both milliseconds as well as Sub-milliseconds), IOPS, bandwidth specification on the basis of real-time. • Meeting QoS parameters IOPS and Throughput is mandatory	

			CLARIFICATION TO TECHNICAL QUERIES - 2		
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5	Corrigendum 2: Point: 167 Storage for DC & DR Converge/Unified Storage- Clause #2 , Page No.135	Refer Sizing sheet for Capacity required for DC &DR • DC Storage capacity should be offered with 85 TB usable capacity using RAIDSwith each drive Capacity not exceeding 4 TB SSD. • DR Storage capacity should be offered with 48 TB usable capacity using RAIDS with each drive capacity not exceeding 4 TB SSD. • All drives shall be offered with 5 years Comprehensive warranty. • Offered Array shall be scalable to more than 280 numbers of SSD drives from day 1 at the time of bidding with proposed configuration, without clustering/ federation/ additional controllers in the future. • Offered Storage array shall support at-least 500TB Usable capacity for file operations.	Request you to please clarify the RAIDS as RAID-5 has mentioned in RFP. Like to bring to your notice that RAIDS represents Multiple Raid Levels like 0, 1, 10, 5, 6.	RAIDS to be read as RAID-5	
6		Backup methodology from storage to Disk-based backup appliance.	As the NMDC would be using Virtualisation for ERP environment, we request you to check and confirm NMDC requires Direct Backup functionality from Storage to Backup Appliance without any backup Software. And is so the license for the required functionality to be considered from Day1, as the same is not mentioned in the RFP Specifications.	Offered storage array should support direct backup from storage to Disk-based backup appliance without any additional third-party software. Any OEM license required should be provided from Day-1.	

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			CLARIFICATION TO TECHNICAL QUERIES - 2		
7		PQC Criteria pertaining to Work order citation	With reference to the above mentioned RFP, we would like to mention that in this tender the DC & DR are part of colocation and SI has no role other than hosting in any of their or others' data center, hence the execution of 24 crores worth DC/DR the component in any order would be irrelevant as complete DC/DR is in colocation in this case	Following DC/DR components shall be considered for arriving at the value DC/DR work towards eligibility. • Supply and Installation of All IT Software and Hardware Components (Servers, Databases, all Networking components including cabling, All Security components (Firewalls, IPS, Load Balancer, IDC, etc), Storage (SAN, NAS, Tape Library, etc), EMS/NMS, OS, Virtualisation, software, and others) required at DC/DR • All Cloud Services as Cloud services provider including public cloud, private cloud, co-location, etc • Managed Services part of DC/DR.	
8	Point No: 2, Sub Clause (Page No: 8)	(i) The establishment of DC/DR, Fire-walls, and Managed Services.	(i) The establishment of DC/DR, (Servers, Storage, Network Switches, Operating System, Virtualization software, Load Balancers, EMS), Fire-walls, and Managed Services.	As replied at Serial No 7 above	
	INDOOR RACKS				
9		IP Rating for Indoor Rack	IP20	Indoor Rack to be IP20 or above and outdoor Rack IP55 or above	
				No of 24U Outdoor Rack - 153	
				No of 24U Indoor Rack - 227	
	OUTDOOR RACKS	IP55 rated or above			
10		The rack should support a static load of at least 750 KGs on Casters and Levellers	Outdoor Racks are with Base Frame as they would be Anchored to the Floor and Castors & Levellers are not required.	Castors & Levellers are not required for Outdoor Racks	
11		Racks should have a tough glass front door and steel sheet, split rear door.	Outdoor Racks as standard goes with Metal Plain Doors with Filter and Hood. Glass door in outdoor will involve security threat	Glassdoor shall provide monitoring LED status	

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			CLARIFICATION TO TECHNICAL QUERIES - 2		
	OFC Laying				
12	a) Excavation/ digging/ Trench Depth	1.65 Mtr	1 Mtr is sufficient for the given NMDC existing site condition since it their own campus not a public place.	Trench depth for cable laying to be 1 meter	
13	b) Refilling with warning tape, sand, and bricks	it's required as per RFP	Refilling with warning tape also can be done, sand & brick may not be required at given site condition.	Soil to be backfilled, however, if horizontal drilling machine is used this will not be relevant	
14	c) Supply of HDPE pipe duct	40 mm Size as per RFP	Different sizes can be considered 25 / 40/60 mm	HDPE pipe size to be as per RFP. However not more than two runs of OFC cable to be run In single Pipe	
15	d) Laying of HDPE Pipe	Revised Quantity - 324000 Mtrs as per RFP Specs of additional Spare duct		Length to be as per BOQ. No spare HDPE pipe to be laid. Payment shall be as per actual quantity used	
	P2P Radio Links (for Workshop @ Bacheli)				
16			The Description of 5Ghz PTP Radio Link is proprietary of one OEM	5Ghz band is not proprietary to any OEM. As per RFP both 2.4 and 5 GHz bands are allowed, however throughput of 300mbps to be ensured.	
17			Why is Power Supply 30W 56V required?, kindly share deployment use case as the description of Power Supply is proprietary of one OEM	Please use 30W 56V only as a metric to ensure Power consumption from UPS.	
18			Whether the Antenna for Remote Radio be Integrated or External	Both are allowed. This point has been already addressed in Corrigendum-1	
19			What is the Antenna Gain required	As specified in Corrigendum-1 radio transmit power should be >=27db and antenna gain >=23db with a net gain of 50db or more and <=56db as per WPC regulatory compliance	

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			CLARIFICATION TO TECHNICAL QUERIES - 2		
	P2P Links for Mine Coverage				
20			Aggregated Throughput is not mentioned	It should be 300Mbps or More in 40Mhz channel width.	
				This point has been already addressed in Corrigendum-1	
21			Average Link Distance is not mentioned	The link may be required up to 15km. This point has been already addressed in Corrigendum-1	
22			What is the application Voice, Data, Video or only Voice and Data or Only Data	The application will be for Voice, Video, and DATA. This point has been already addressed in Corrigendum-1	
23			The Description of 5Ghz PTP Radio Link is proprietary of one OEM	5Ghz band is not proprietary to any OEM. As per RFP both 2.4 and 5 GHz bands are allowed, however throughput of 300mbps to be ensured.	
24			Why is Power Supply 30W 56V required?, kindly share deployment use case as the description of Power Supply is proprietary of one OEM	Please use 30W 56V only as a metric to ensure Power consumption from UPS	
25			1 PPS GPS Sync Generator description is proprietary of one OEM, kindly clarify the deployment use case of this with each P2P Radio	This is not proprietary. For interference control kindly consider 1 PPS GPS / Better to run the solution in an outdoor environment.	
26			Why is Power Supply 15W 30V required?, kindly share deployment use case as the description of Power Supply is proprietary of one OEM	This power supply is for Wifi Access point and should be as per solution offered and meet the IEEE 802.3af standard.	

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27			Why 23dBi Gain is asked for, Typically Point to Point Radio Links are deployed for long haul applications hence, the External Antenna asked for should be 29dBi or better	As specified in Corrigendum-1 radio transmit power should be >=27db and antenna gain >=23db with a net gain of 50db or more and <=56db as per WPC regulatory compliance.	
	PMP Radio				
28			Kindly clarify the distribution of bandwidth as you have requested PMP Radio with 300Mbps throughput	It should be 300Mbps or more in 40Mhz channel width.	
29			What is the application Voice, Data, Video or only Voice and Data or Only Data	The application will be for Voice, Video, and DATA. Already mentioned in Corrigendum-1	
30			Tx Power is not mentioned	Tx power should be >= 27db	
31			Antenna gain 120 deg Sector Antenna asked for to operate in Single Polarised or Dual Polarised Mode not mentioned in the Tender specifications	A dual-polarized mode is preferred. Already mentioned in Corrigendum-1	
32			Why 23dBi Gain is asked for, at a typical link distance of 10Kms for PMP, the External Antenna asked for should be 29dBi or better	As specified in Corrigendum-1 radio transmit power should be >=27db and antenna gain >=23db with a net gain of 50db or more and <=56db as per WPC regulatory compliance.	
	Remote Radio for PMP				
33			Aggregated Throughput is not mentioned	It should be 300Mbps or more in 40Mhz channel width. Already mentioned in Corrigendum-1	
34			What is the application Voice, Data, Video or only Voice and Data or Only Data	The application will be for Voice, Video, and DATA. Already mentioned in Corrigendum-1	

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			CLARIFICATION TO TECHNICAL QUERIES - 2		
35			Technical Specifications are not mentioned	Radio should be carrier class Radio (based on non-Wi-Fi Chipset) with 27dB or better Tx power, 2x2 OFDM delivering 300Mbps or more throughput with 40Mhz channel width. Should be IP66 or better with -20 to +60degree temperature support and ruggedized, should have Gigabit Eth port, channel size 5, 10,15,20, 30, 40 MHz, MTU 1700Byte, FIPS-197 128/256-bit AES IPv4/IPv6 (dual-stack), Telnet, FTP, SNMPv2c, v3. should support Govt Regulations as per GSR-1048(E). safety standards - UL 60950	
36			Whether the Antenna for Remote Radio be Integrated or External	Both are allowed. This point has been already addressed in Corrigendum-1	
37			What is the Antenna Gain required	As specified in Corrigendum-1 radio transmit power should be >=27db and antenna gain >=23db with a net gain of 50db or more and <=56db as per WPC regulatory compliance.	