S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
1	Page No 78/clause No R/sub clause 16/TECHNICAL SPECIFICATIONS AT RCB (IT EQ)/Server Node-7	CPU - Server should be configure with 4 x Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor or better	We recommend either to change to 8 x Intel processor or 6240L to take benefit of more than 4TB memmory in the server.			Server should be configure with 4 x Intel Xeon-Gold 6240L (2.8GHz/16-core/150W) Processor or better
2	Server	CPU :- Server should be configure with 4 x Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor or better	We recommend either to change to 8 x Intel processor or 6240L to take benefit of more than 4TB memmory in the server			Server should be configured with 4 x 128GB DDR4-2933 RAM or 24 x 32GB DDR4-2933 RAM. Server scalability should be up to 4TB & 48 DIMM slots.
3	Node -1	Memory	Server should be configured with 32 x 128GB DDR4-2933 RAM Server scalability should be at least 6TB, 48 DIMM Slots.	Intel Xeon 6242 proc can support max upto 1 TB RAM hence with 4 sockets max RAM provided can be 4 TB only hence request you to change clause as "Server should be configured with either 32 x 128GB DDR4-2933 RAM or server should be configured with 4 x Intel Xeon-Gold 6240M (2.6GHz/18-core/150W)/8260M Processor or higher and Server should be configured with 32 x 128GB DDR4-2933 RAM Server scalability should be at least 6TB, 48 DIMM Slots"		Server should be configure with 4 x Intel Xeon-Gold 6240L (2.8GHz/16-core/150W) Processor or better
4	Node-2	Power Supply	Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	Flex slot platinum PS is OEM specific hence request you to amend the clause as "Platinum rated dual redundant Power supply		Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supply
5	Node-4	Power Supply	Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	Flex slot platinum PS is OEM specific hence request you to amend the clause as "Platinum rated dual redundant Power supply		Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supply
6	Node-5	Power Supply	Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	Flex slot platinum PS is OEM specific hence request you to amend the clause as "Platinum rated dual redundant Power supply		Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supply
7	Node-6	Power Supply	Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	Flex slot platinum PS is OEM specific hence request you to amend the clause as "Platinum rated dual redundant Power supply		Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supply
8	Server (Node-1)	Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	Supported particular OEM specification and restricting the competition, request to change to - Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply			Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supply
9		Intel C621 Chipset	Intel C621 Chipset or higher			Intel C621 Chipset or higher
10	Server (Node -2)	Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	Supported particular OEM specification and restricting the competition, request to change to - Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply			Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supply
11		Intel C621 Chipset	Intel C621 Chipset or higher			Intel C621 Chipset or higher
12		Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	Supported particular OEM specification and restricting the competition, request to change to - Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply			Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supply
13	Server	Server Management	The Dashboard minimum should display a health summary of the following:	What is meant by appliance kindly remove if not required hence request you to amend the clause as " The Dashboard minimum should display a health summary of the following: •Server Profiles •Server Hardware		The Dashboard minimum should display a health summary of the following: • Server Profiles • Server Hardware
14	Infiniband (IB) Mellanox Quantum HDR Edge Switch	The system shall operate without degradation of performance between 0°c and 53°c	Requets for change - The system shall operate without degradation of performance between 0°c and 40c			Acceptable
15	Switches :- (Infiniband (IB) Mellanox Quantum HDR Edge Switch)	The system shall operate without degradation of performance between 0°c and 53°c	Switch support 0 to 40°c, change it to " The system shall operate without degradation of performance between 0°c and 40°c"			The system shall operate without degradation of performance between 0°c and 40°c
16	General		Please share the Room dimension of the proposed DC area (Also please share the layout in CAD format)			Same has been explained during Site visit.
17	Page 73/RACKS SPECIFICATIONS	Front door with toughened glass with electromagnetic handle with nine digit electronic keypad system.	Request you to please amend as : Front door for all racks should be with toughened glass with electromagnetic locks & common biometic access control system			Rack front door with electromagnetic handle with digit electronic keypad system
18	General		Provide the details of the available feeder for the DC area			please refer site survey
19	Page-101, Point-7	The OEM should give 2-days System Administration training to a group of RCB & NIC personnel on installed hardware (Compute / storage / interconnect), operating system, installed system software and development tools including API. The training must be arranged at RCB & NIC offices.	Will RCB / NIC provide training infrastructure, such as classroom with desks/chairs, projector, whiteboard, power backup, Internet, etc, along with lunch and tea/coffee & snacks (refreshments) for participants?			Yes, training room and other basic desire facilities wil be arranged
20	Misc.		The installation/ integration should be done by OEM engineers only. OEM should submit engineer's details such as engineer name, employee code, total years of experience in PFS, and number of PFS installations carried out by that particular engineer on their letter head. A copy of installation report must be enclosed with the technical bid.	We request that this clause be modified as The installation/ integration should be done by OEM engineers/OEM Certified Partner Engineers only.		For Storage should be installed by OEM engineers
21	Page 21	8.4 Warranty/ Guarantee	X. The bidder must ensure that execution team is certified for all type of IT equipment's configuration and installation as per technical specifications asked for.	As OEM installation is asked we request to delete this clause.		For Storage should be installed by OEM engineers

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
22	Page-101, Point-7	The OEM should give 2-days System Administration training to a group of RCB & NIC personnel on installed hardware (Compute / storage / interconnect), operating system, installed system software and development tools including API. The training must be arranged at RCB & NIC offices.	Can the 'System Administration' training of OEM be the same as that required in the 5-day training scope mentioned on page-32 of the RFP, or are they different?			Yes, both the trainings are different
23	Generic	**For Scope of Work**		The Uplink/downlink to connect the network will be provided till Data Center unit by NIC/RCB IT team. Please Clarify.		Yes
24	Page 22	SCOPE WILL COVERS THE FOLLOWING	Training to the staff on various aspects in monitoring and maintaining the IBDC	**Please Clarify Following:** Training required form OEM or Bidder Please specify training domains claearly. No. of participants and location of training. (RCB premise or bidder premise)		Training must be provided by OEM or OEM Certified engineers at client location only. Details will be provided after award of work
25	Page 55	**A. INFRASTRUCRE EQUIEMENT** **Detailed Scope & Specification of Civil Work**	The Intelligent Integrated Infrastructure essentially includes internal redundant or backup power supplies....RAW power supply and earthing in the server room will be provided by the customer	Please clarify the following: How many **Entry & Exit door in the Data Center.** Will the door in the Data Center will be Fireproof. What is the **distance between the Data Center & space provided for the outdoor unit of PAC.** **Please clarify** that RCB will provsion the Dual RAW Power till the LT electrical main panel for d**ata centre, NOC and UPS room.** **Which t**ype of Earthing required for DC & is sufficeint space is available for earthing.		This will be as per desire certification in the tender document Already shown into site survey Yes, the same must be followed desire certification asked the same must be followed desire certification asked
26	Page 10	8.4 Warranty/ Guarantee	**8.4.2.** To run the Data Centre efficiently, round the clock (24*7*365 days) onsite manpower support shall be provided by the OEM having expertise in server's, storage's, network infra, cooling system, electrical equipment's support and maintenance etc. The manpower should have at least 5 years' of experience for handling similar/large IT infrastructure needs to be provided by the contractor/ bidder during the warranty period. Relevant experience certificates must be submitted to the Centre.	As per our understanding of the RFP document,(24*7*365 days) onsite manpower support woude be for 5 Years. **Kindly Clarify**		The onsite support should be provided as per SLA document mentioned into the tender document
27	Generic	**For Scope of Work**		**Please Clarify is the networking cables** already laid or SI have to layout the network cables **for 50 Network points.** If SI have to then **how the cables will be laid** - false Flooring or via fall celling?		Network cabling will be under scope of the SI.
28	2.8/pg. 5	"Any bidder from a country which shares a land border with India will be eligible to bid only if the bidder is registered with the Competent Authority and the bidder should be in compliance with the F. No. 6/18/2019-PPD dated 23rd July 2020 of Department of Expenditure, Ministry of Finance, Government of India and certificate to be submitted as per ANNEXURE-XVII (Certificate for tender)." We understand this applies to Bidder and require input from team." We will provide Tape Backup Software queries as we received from Backup software OEM.				OM No.F. No. 6/18/2019-PPD dated 23rd July 2020 of Department of Expenditure, Ministry of Finance, Government of India and certificate to be submitted as per ANNEXURE-XVII (Certificate for tender) must be followed for qualifying for this tender. **Without this techncial bid will be rejetced.**
29	2.17/pg. 6	End of Life: Bidder should submit a document endorsing that the quoted components / items are new, latest and not nearing end of life or end of support from OEM in next 5 years applicable from the date of acceptance.	We submit that EoSL certification period should be for 5 years from date of submission of bid as date of accentance may change due to unforseen circumstances.			Change in the T&Cs are not required since validity of the bid is only 180 days
30	9.11/pg. 13; 12.2/ pg. 15; 16.3/ pg. 17	Risk Purchase	(1) We submit that Bidder should be given a cure-period of at least 30 days as 5 days is not a reasonable time for rectification of defects. (2) We submit that Risk Purchase should be capped at 10% of the value of affected goods and services. (3) We submit that since Bidder is entitled to LDs for delay in execution, the contract should only be cancelled after the max LD limit has been exhausted.			1) No Change For point no. 2 & 3, changes not required
31	8.12/pg. 11; 12.0/pg. 15; Annexure-XIV(3)/pg. 118	Compensation for Delay: 12.1 Time is the essence of the contract. The time allowed for the work shall be strictly followed. If the supplier fails to complete the work on or before the stipulated date, then a compensation for delay of work @ 1.5% per month of tender value of work to be computed on per day basis provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the Tender awarded value of work. The decision of Client about the delay shall final and binding. 12.2 If the contractor after award of work fails to deliver any item / part of the work within the time period allowed, RCB reserves the right to remove that particular component from the scope of main contractor and get it done through some alternative resources at the cost of main contractor.	(1) We request that LD should be @ 1.5% of the vlaue of delayed goods and services per month and should be capped at 10% of the value of delayed goods and services. (2) Kindly clarify that any disputes regarding imposition of LDs shall be resolved through dispute resolution process. (3) We request deletion of Cl. 12.2 since RCB is already entitled to LD as compensation.			Tender terms can not be changed as these are in accordance with manual for procurement of Goods 2017, GoI, MOF
32	14.1/pg. 15	The Centre and/or its nominated representative(s) will, inspect and/or test the work / material to confirm their conformity to the tender specification at no extra cost to the Centre......	We understand this Clause to mean that Bidder shall not charge any extra expense for testing. However, the cost of hiring the Inspection Authority/testing agency shall be borne by RCB. Please confirm this understanding.			Changes not required

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
33	16/pg. 17	Guarantee: The contractor shall guarantee that all the material and components supplied and installed by him shall be free from defects, due to faulty material or workmanship. 16.2 Any change from original specifications and any shortcomings found in the materials as specified shall be removed at no extra cost. The contractor shall provide the necessary personnel and tools for fulfilling the above guarantee. 16.3 If the defects are not removed within a reasonable time, the RCB may arrange to do at the contractor's risk and cost, without prejudice to any other rights.	(1) IT products are supplied with warranty against defects in material or workmanship. Kindly replace the word "Guarantee" with "Warranty". (2) We submit that warranty for each site should commence from the date of handing over the complete installations at the relevant sites in line with Clause 29(11). (3) Kindly clarify that Risk Purchase under Cl. 16.3 shall be capped at 10% of the value of affected goods.			(1) The installation will be cosnider as free from defects and if it fails to function after successful installation, it will be replaced as per warranty. (2) As single work order will be issued so, dates will be referred from the date of issue of work order only. (3) Separate cost not related to LD Clause
34	18/pg. 17	Termination	(1) Kindly clarify that RCB shall invoke termination under Clauses 18.1 and 18.2 in case of any default listed under Clause 18.3. (2) Kindly clarify that termination for delay in execution shall only be invoked after the LD cap of 10% is exhausted. (3) Kindly clarify that any disputes regarding termination shall be resolved through mutually agreed dispute resolution process. (4) Kindly clarify that Risk Purchase under sub-clause (x) is subject to the cap under Clause 9.11.			Changes not required
35	Annexure-XII/pg. 116	LITIGATION DETAILS (COURT CASES/ARBITRATION)	It will not be possible for Bidder to list all litigations pending against it. Instead we propose that Bidder will submit a delcaration confirming that it has no litigation pending against it which will have a materially adverse impact on its ability to perform its obligations under this Tender.			Agreed
36	Page No.4/clause 1	NOTICE INVITING TENDER/Tender Closing Date & Time: 21.09.2020, 1500 Hrs.	Due to covide-19 crisis, We request you to kindly extend this bid submission date by 4 weeks from corrigendum.			Agreed and recommended
37	Page 9/ clause 8/ Sub clause 8.2	Completion period of work: Sixteen (16) Weeks from date of issue of work order.	We request you to kindly provide 20-24 weeks completion period of work from date of issue of work order			Completion period of work: twenty two (22) Weeks from date of issue of work order.
38	Page no 5/ clause no 2/subclause no 2.8/ PRE QUALIFICATION CRITERIA	Any bidder from a country which shares a land border with India will be eligible to bid only if the bidder is registered with the Competent Authority and the bidder should be in compliance with the. F. No. 6/18/2019-PPD dated 23rd July 2020 of Department of Expenditure, Ministry of Finance, Government of India and certificate to be submitted as per ANNEXURE-XVII (Certificate for tender).	We understand that this clause is for bidder only?			OM No.F. No. 6/18/2019-PPD dated 23rd July 2020 of Department of Expenditure, Ministry of Finance, Government of India and certificate to be submitted as per ANNEXURE-XVII (Certificate for tender) must be followed for qualifying for this tender. **Without this techncial bid will be rejetced.**
39	Page No. 8/ clause No. 5/sub clause 5.10	EMD Fee are exempted for MSME/ NSIC vendors etc. however tender processing fee has to be paid by all the vendors as this fee is being charged by the Online Portal service provider directly.	We would request you to please clarify the criteria for calcification as "MSME". As we understand that as per the govt. notification only the Bidder who are manufacturers of the proposed/ supplied component will qualify for MSME exemption. This exemption will not be valid for System Integrator for supply of components.			Govt. of India Guidelines related to MSME needs to be strictly followed
40	Earnest Money deposit (EMD)	The bidder will be required to deposit the Earnest Money Deposit (EMD) for an amount of Rupees Ninety (90) Lakh (In INR) through online portal.	Request you to please consider Earnest Money Deposit (EMD) in a form of Bank Guaranty (BG)			Yes possible
41	Relaxation	MSME relaxation clause not mentioned in the tender	We are registered and recognised MSME and Startups please consider and add the "Prior Experiences – Prior Turnover Criteria and EMD" relaxation point.			Please refer para 5.10 of tender document.
42	Node - 9	Memory Protection	Advanced ECC with multi-bit error protection, Online spare,mirrored memory and fast fault tolerance	Kindly clarify if only support for Memory protection features is required		Advanced ECC with multi-bit error protection, online spare/spare-bank memory, mirrored memory and fast fault tolerance or Rank Sparing
43	Page 9	Delivery Period / Completion period	8.2 Completion period of work: Sixteen (16) Weeks from date of issue of work order.	As per RFP **the scope of work is very vast** along with lot of civil work & more. Hence we request to RCB authority to ammend & extend the **completion period for 22 weeks.**		No change
44		RHEL Licenses	Please clarify on the RHEL License requirement , no of licenses required, Is it required for compute nodes as well as workstations then the licenses will be different.			All server nodes should be supplied with RHEL licenses. RHEL is not required for workstations. Workstations to be supplied with Windows-10 Pro (64bit)
45	Tape Library	optional : Library shall offer optional WORM support and embedded AES 256 bit encryption	Please remove AES 256 bit encryption.			optional : Library shall offer optional WORM support and embedded AES 256 bit encryption
46	25.1	OEM supported or managed by OEM or equivalent features Cluster Management Software (CMS) suit should be offered for provisioning and managing all the compute nodes in the Cluster.	Master node and login node input is missing from the config. Do we have to make one of the node as Master/login node?			Accepted, no. of nodes has been increased for Node-4 & Node-9. master node may be designated from the available nodes as per requisite specification for the respective sites.
47	Page 24	Note: At NIC Bhubaneswar, the existing Rack's dimension is 600mmX1000mm. The devices should be supplied with C13/C14 power cables to connect to the PDU of racks.	Kindly provision for 800mm x 1200mm racks, since especially for Storage components, we will need 800mm x 1200mm racks. Also kindly advise the Power and cooling limits per rack which is going to be provided.			If the Storage solution is incompatible with the existing RACKs, then new RACKs (max. up to 2 no.) must be provided at NIC data centre. and no limitation of RACKS for RCB.
48	7	The OEM should give 2-days System Administration training to a group of RCB & NIC personnel on installed hardware (Compute/storage/interconnect), operating system, installed system software and development tools including API. The training must be arranged at RCB & NIC offices.	Ok, 2 days training on single site or 2 days taining on both site.			Both the site 2 days each
49	Power Supply P/n -97	500W wide-ranging, active Power Factor Correction, 90%	Power supply to run the given specification vary from OEM to OEM.			500W wide-ranging, active Power Factor Correction, 90% or equivalent
50	Expansion Slot P/n-97	1 PCIe Gen 3 x16; 2 PCIe 3 x1 (x4 open ended connector)	with this specifications, WS can offer only 2 PCIe ports,	Request you to please change this to two PCIe ports		1 PCIe Gen 3 x16; 2 PCIe 2 x1 (x4 open ended connector)

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
51	Expansion Slot P/n-97	1 PCIe 3 x4 (x16 connector); 2 M.2 PCIe 3 x4;	Need clarity on Number of PCIe ports required			1 PCIe 3 x4 (x16 connector); 2 M.2 PCIe 3 x4; 2 PCIe ports
52	Tape Library Expandability P/n -40	Tape Library expandability- Minimum 80 Cartridge slots and shall be scalable to more than 500 slots within the same library and add up to 6 Expansion Library Modules.	we request you to change the slots scalability to 280. 500 slots restricts the competition to specific limited OEM			Tape Library Expandability- Minimum 80 Cartridge slots and shall be scalable to 280 slots or more within the same library and add up to 6 Expansion Library Modules.
53	Tape Drives Slot populated P/n-40	Tape Drives Slot populated- Tape Library shall be configured with 6 x FC LTO-8 drive scalable to minimum of 40 drives	we request to change the drive scalability to 21. 40 drives restricts the competition to specific limited OEM			Tape Drives Slot populated- Tape Library shall be configured with 6 x FC LTO-8 drive scalable to minimum of 20 drives
54	Misc. P/n-40	The proposed data cartridges should be configured with case/cov	Please clarify case/cov			Mentioned in the tender document, may be read as Case / Cover
55	Page 40 / Cleaning Cartridge	Accessories:- 80 LTO-8 cartridges and Barcode Label Pack & reader	Requesting RCB , to please include 5 Nos of Universal Cleaning cartridges , for Better Upkeep and Cleaning of the LTO Drives. Bidder to Ensure the LTO Drives are AUTO/MANUALLY Cleaned periodically. Please change clause into "80 LTO-8 cartridges +5 Universal cleaning cartridges and Barcode Label Pack & reader"			At least 5 no. of Universal Cleaning cartridges have to be provided
56	Page 40 / Cleaning Cartridge	2. 80 LTO-8 cartridges and Barcode Label Pack & reader	Do also provide 5 Nos of Universal Cleaning cartridges , for Better conditions and Cleaning of the LTO8 FC Drives.	2.] Pls Revise it as : 80 LTO-8 cartridges , 5 Universal cleaning cartridges and Barcode Label Pack & reader		At least 5 no. of Universal Cleaning cartridges
57	Transfer Rate (TB/hour) P/N - 40	Transfer Rate (TB/hour)- Native Transfer rates of up to 300 MB/s per LTO-8 Tape Drive native. Library shall conform to the Data rate matching technique for higher reliability	Please remove " Library shall conform to the Data rate matching technique for higher reliability", as weare using LTO8 from renowned OEM and LTO8 branded drive has speed of 300MB/s			Transfer Rate (TB/hour)- Native Transfer rates of up to 300 MB/s per LTO-8 Tape Drive native. Library should preferably conform to the Data rate matching technique for higher reliability
58	Misc. P/n-40	Tape Drive Architecture in the Library shall conform to INCITS/T10 SCSI-3 standard or newer standard	Please remove this clause as this is specific to few OEMs			Tape Drive Architecture in the Library should preferably conform to INCITS/T10 SCSI-3 standard or newer standard
59	Misc. P/n-40	Library shall be provided with a hardware device like USB key, separate appliance etc. to keep all the encrypted keys in a redundant fashion	USB Key Methodology is known as Library Managed Encryption (USB or LME) is OEM specific and makes the Encryption Solution HW dependent in future , Hence Requesting RCB to also Include Worldwide , better Industry standard -Application Managed Encryption (AME) , thus the Encryption is LTO based, but Key management is more Granular , Safer , and Application (ISV) managed -to keep all the encrypted keys in a redundant fashion. Please change the clause into "The offered solution , Library shall be provided with a hardware device like USB key, separate appliance , Application Managed Encryption (AME) etc. i.e. The offered solution must be industry standards methods like LME or AME to keep all the encrypted keys in a redundant fashion"			Library shall be provided with a hardware device like USB key , separate appliance , Application Managed Encryption (AME) etc. i.e. The offered solution must be industry standards methods like USB / LME or AME to keep all the encrypted keys in a redundant fashion
60	Misc. P/n-40		Hence , Requesting RCB to also Include Better International standard - Application Managed Encryption (AME) , thus the Encryption is LTO based, But Key management is Application (ISV) managed and more Granular , Safer , and - to keep all the encrypted keys in a redundant fashion.	The Offered Solution , Library shall be provided with a hardware device like USB key, Separate appliance , or Application Manged Encryption (AME) etc. ie The offered solution must be industry standards methods like LME or AME to keep all the encrypted keys in a redundant fashion.		Library shall be provided with a hardware device like USB key , separate appliance , Application Managed Encryption (AME) etc. i.e. The offered solution must be industry standards methods like USB / LME or AME to keep all the encrypted keys in a redundant fashion
61	Page 42 - Technical specifications for Storage (4.5PB) - Standard File System features - Point 8	Offered storage solution must be able to aggregate up to 8x 100 Gbps InfiniBand network connections from single computing server without needing to mount separate file system per network port. Proof of network aggregation with relevant benchmarks must be submitted.	It is requested to explain this clause in more details. Is it asking for 8 IB ports from each client node? If so, it is requested to remove this clause as so many ports are not recommended for client to storage connectivity and it increases the IB adapter & switch cost. Also, Lustre single client performance, both I/O and Lustre Networking performance, will not scale with network aggregation.			Offered storage solution must be able to aggregate up to 8x 100 Gbps InfiniBand network connections to the IB Switch without needing to mount separate file system per network port. Proof of network aggregation with relevant benchmarks must be submitted
62	Page 89 - Technical specifications for Storage (1 PB) - Aggregate Performance Requirements - Point 2	Same flash storage must also deliver aggregate IOPS performance of 1 Million random reads and 0.1 Million random writes with 4KB I/O size with benchmark tools and configuration mentioned below.	It is requested to remove this clause as there is no flash storage requirement at this site. The ask is only for SAS-NLSAS based 1PB PFS. If the same clause has to be moved to Bhubaneswar site specs, it is requested to specify which particular benchmark to be used for IOPS . There are different benchmarks available to derive the IOPS and the results may vary from vendor to vendor. Our suggestion is to use IOR for both IOPS and Throughput (GB/s).			Storage must also deliver aggregate IOPS performance of 1 Million random reads and 0.1 Million random writes with 4KB I/O size with benchmark tools and configuration mentioned below.
63	P/n- 43	Warranty Support	Entire storage solution with Next Business Day parts delivery. All software & firmware upgrades and updates for storage array, parallel file system and monitoring & management components must be freely available to customer without any additional cost during warranty period.		Request RCB to please clarify support level for both Hardware and file system to be quoted. For Eg, 24X7 online support and Next Business day parts delivery. Also confirm if the installation is required to be done by the OEM engineers as same has been asked in the technical specification of RCB (IT EQ)	Point is already clear
64	P/n-87	Parallel File System	Only OEM commercially supported IBM GPFS or OEM supported Lustre to be quoted		We recommend RCB to kindly consider ask for the latest version of both file system. Latest Version of Lustre is 2.12 and IBM GPFD is V5, as Latest versions has longer support, features and , bug-fixes and performance fine-tunes.	Latest version of OEM commercially supported IBM GPFS or OEM supported Lustre to be quoted

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
65	23/ TECHNICAL SPECIFICATIONS AT NIC BHUBANESWAR DATA CENTER/ 8/ 44	Management & Monitoring	If the proposed storage system is composed of a number of external servers for various services, the storage management system software must be able to monitor and manage these servers, with at least centralized boot/shutdown capability. If additional software is required to manage these external servers, tenderers shall provide that software with enough licenses for the storage system. Please describe the functions and mechanisms of the required software.	This clause ensure that only Single OEM solutions are been quoted and it is competition limiting clause.	We request you to modify this clause and read it as *"If the proposed storage system is composed of a number of system a single management software should be able to manage all storages, external servers for various services, the storage management system software must be able to monitor and manage these servers, with at least centralized boot/shutdown capability. If additional software is required to manage these external servers, tenderers shall provide that software with enough licenses for the storage system. Please describe the functions and mechanisms of the required software , Bidder should propose EMS to manage all components of the solutions"*	Detailed description has already mentioned in the tender document
66	24/ TECHNICAL SPECIFICATIONS AT REGIONAL CENTER FOR BIOTECHNOLOGY, FARIDABAD / 19/ 90	Management & Monitoring	If the proposed storage system is composed of a number of external servers for various services, the storage management system software must be able to monitor and manage these servers, with at least centralized boot/shutdown capability. If additional software is required to manage these external servers, tenderers shall provide that software with enough licenses for the storage system. Please describe the functions and mechanisms of the required software.	This clause ensure that only Single OEM solutions are been quoted and it is competition limiting clause.	We request you to modify this clause and read it as *"If the proposed storage system is composed of a number of system a single management software should be able to manage all storages, external servers for various services, the storage management system software must be able to monitor and manage these servers, with at least centralized boot/shutdown capability. If additional software is required to manage these external servers, tenderers shall provide that software with enough licenses for the storage system. Please describe the functions and mechanisms of the required software , Bidder should propose EMS to manage all components of the solutions"*	Detailed description has already mentioned in the tender document. There is no change.
67	Storage P/n-41	Connectivity- Storage solution must offer minimum 8 ports or higher of RDMA capable 100Gbps InfiniBand ports (capable of operating with HDR InfiniBand specifications). Additionally, there must be minimum 1 port of 1Gbps Ethernet per storage controller for management and monitoring. Metadata information network path must be separate from the data movement network paths.	Different PFS solution have different architecture and advantage. GPFS has distributed Metadata architecture. It is scalable as the capacity increases. RCB has defined the performance and GPFS will meet the performance.we request to remove, Metadata information network path must be separate from the data movement network paths.			Both GPFS & Luster are highly mature & large scale parallel file systems. While they are owned by Individual vendors, the larger OEMs have in-house practices & support to manage the large scale deployments. Very few are using BeeGFS in India, none is using this File system in HPC.
68	Storage P/n-41	Parallel File System	Only OEM commercially supported IBM GPFS or OEM supported Lustre to be quoted	This is competition limiting clause. Currently Lustre is owned by DDN and GPFS is owned by IBM. As per the cluase only these OEM would be able to provide solution, through bidders. There are other PFS like BGFS and OEM which build their solution on GPFS and/or Lustre would not be able to qualify. Hence we request you to please modify this competition limiting clause.	We request you to change this clause and read it as *"Only OEM commercially supported IBM GPFS or OEM supported Lustre or BeeGFS to be quoted "*	Both GPFS & Luster are highly mature & large scale parallel file systems. While they are owned by Individual vendors, the larger OEMs have in-house practices & support to manage the large scale deployments. BeeGFS is completely open source and the support and skills are limited and it is still not a proven and mature File system in HPC space.
69	Storage P/n-41	Parallel File System	Only OEM commercially supported IBM GPFS or OEM supported Lustre to be quoted	This is competition limiting clause. Currently Lustre is owned by DDN and GPFS is owned by IBM. As per the cluase only these OEM would be able to provide solution, through bidders. There are other PFS like BGFS and OEM which build their solution on GPFS and/or Lustre would not be able to qualify. Hence we request you to please modify this competition limiting clause.	We request you to change this clause and read it as *"Only OEM commercially supported IBM GPFS or OEM supported Lustre or BeeGFS to be quoted "*	Both GPFS & Luster are highly mature & large scale parallel file systems. While they are owned by Individual vendors, the larger OEMs have in-house practices & support to manage the large scale deployments. BeeGFS is completely open source and the support and skills are limited and it is still not a proven and mature File system in HPC space.
70	Storage P/n-41	Only OEM commercially supported IBM GPFS or OEM supported Lustre to be quoted	We request NIC to kindly consider other PFS flavours like BeeGFS which offer competitive scalability , performance and RAS features as compared to other PFS like Lustre and GPFS. BeeGFS is the leading parallel cluster file system, developed with a strong focus on performance and designed for very easy installation and management specifically for I/O intensive workloads. BeeGFS powers over 17% of the worlds fastest PFS installations with 7 entries in the top IO500.org list. Similarly, Dell's contribution is close to 17% of the worlds fastest PFS installation with over 7 enteries in the top IO500.org list The Top IO500.org is maintained by Virtual Institute for I/O (VI4IO. Goals of the Virtual Institute for I/O (VI4IO) are 1. Provide a platform for I/O researchers and enthusiasts for exchanging information 2. Foster training and international collaboration in the field of high-performance I/O 3. Track and encourage the deployment of large storage systems by hosting information about high-performance storage systems			Both GPFS & Luster are highly mature & large scale parallel file systems. While they are owned by Individual vendors, the larger OEMs have in-house practices & support to manage the large scale deployments. BeeGFS is completely open source and the support and skills are limited and it is still not a proven and mature File system in HPC space.

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
71	Storage Page-87	Parallel file system	Only OEM commercially supported IBM GPFS or OEM supported Lustre to be quoted			Both GPFS & Luster are highly mature & large scale parallel file systems. While they are owned by Individual vendors, the larger OEMs have in-house practices & support to manage the large scale deployments. BeeGFS is completely open source and the support and skills are limited and it is still not a proven and mature File system in HPC space.
72	Page 43 - Technical specifications for Storage (4.5PB) - Benchmarking Tools - Point 4	Bidder (OEM) should run the benchmark on 32 node PFS clients over 100G EDR	The total PFS client in the solution are less than 32. Hence it is requested to limit the benchmark run to 16.			Bidder (OEM) should run the benchmark on 20 node PFS clients over 100G EDR
73	23/ TECHNICAL SPECIFICATIONS AT NIC BHUBANESWAR DATA CENTER/ 8/ 43	Benchmarking tools	4) Bidder (OEM) should run the benchmark on 32 node PFS clients over 100G EDR	It may not be possible to have 32 Nodes for PFS clients in LAB. HPC benchmark can be extrapolated and hence we request you to reduce the number of client to 8.	Please modify this clause and read it as **"4) Bidder (OEM) should run the benchmark on 32 8 node PFS clients over 100G EDR"**	Bidder (OEM) should run the benchmark on 20 node PFS clients over 100G EDR
74	Aggregate Performance Requirements Storage (1 PB) P/n-89	Aggregate Performance Requirements :- 1)To deliver minimum sustained write performance of 25 GB/s 2) Same flash storage must also deliver aggregate IOPS performance of 1 Million random reads and 0.1 Million random writes with 4KB I/O size with benchmark tools and configuration mentioned below. 3) File creation capacity of minimum 80,000 files per second	Flash storage is extra features and request to remove from this clause.			Aggregate Performance Requirements :- 1)To deliver minimum sustained write performance of 25 GB/s 2) Storage must also deliver aggregate IOPS performance of 1 Million random reads and 0.1 Million random writes with 4KB I/O size with benchmark tools and configuration mentioned below. 3) File creation capacity of minimum 80,000 files per second
75	Page 41 - Technical specifications for Storage (4.5PB) - Storage Architecture - Point 1	Minimum two active-active controllers with redundant power supply and fans to prevent cache data loss during power failures	It is requested to change it to "cache data loss (if applicable)". Our underlying Lustre based PFS architecture does not store any data in the cache for improved write performance but ensures redundant power supply for active-active controllers.			Minimum two active-active controllers with redundant power supply and fans to prevent cache data loss (if applicable) during power failures
76	43	Infrastructure requirement for storage	1) Tender response must include detailed information on peak power consumption, cooling required, heat generated, number of racks used, rack dimension, rack clearance, number of PDUs per rack with ampere & voltage rating, no of electrical sockets and type of sockets required to connect PDUs, weight per rack, number of InfiniBand & Ethernet ports required per rack and any other relevant information to complete the deployment.		We request RCB to mention how much RACK space allowed maximum for storage solution	If the Storage solution is incompatible with the existing RACKs, then new RACKs (max. up to 2 no.) must be provided at NIC data centre. and no limitation of RACKS for RCB.
77	Software P/n-100	Power aware job scheduling to support auto shutdown and auto boot of nodes as per the workload to be supported.		Please clarify, Power shutdown and restart of system takes time to run the job. Is the delay in job submission accepted? Are you also looking to reduce the power based on the job runtime and power consumption.		Power aware job scheduling to support auto shutdown and auto boot of nodes as per the workload to be supported with minimum delay
78	Software P/n-100	The PBS works suite should have PBS Access & PBS Control with GUI Job Submission, monitoring, Analytics and Remote visualizations and PBS professional with required licenses.	The PBS works suite should have PBS Access & PBS Control with GUI Job Submission, monitoring, Analytics and Remote visualizations and PBS professional with required licenses or euiqvalent OEM supported.	Points 1 asked for OEM supported.		The PBS works suite should have PBS Access & PBS Control with GUI Job Submission, monitoring, Analytics and Remote visualizations and PBS professional with required licenses or equivalent OEM supported.
79	Controller	HDD Bays	PCIe 3.0 based 12Gb/s SAS Raid Controller with RAID 0, 1, 5, 6, 10, 50, 60 Advanced Data Mirroring/10 Advanced Data Mirroring with 2GB battery backed write cache (on board or on a PCI Express slot) Storage controller should support	Advanced data mirroring is OEM specific clause hence request you to amend the clause as "Server should support Onboard SATA software RAID controller supporting SSD/HDD PCIe 3.0 based 12Gb/s SAS Raid Controller with RAID 0, 1, 5, 6, 10, 50, 60 Disk mirroring with 2GB battery backed write cache (onboard or on a PCI Express slot)		PCIe 3.0 based 12Gb/s SAS Raid Controller with RAID 0, 1, 5, 6, 10, 50, 60 with 2GB battery backed write cache (on board or on a PCI Express slot) Storage controller should support
80	Server (Node-1) P/n - 24	Server should be configure with 4 x Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor or higher	We recommend either to change to 8 x Intel processor or 6240L to take benefit of more than 4TB memmory in the server			Server should be configure with 4 x Intel Xeon-Gold 6240 L (2.8GHz/16-core/150W) Processor or higher
81	Server	Micro SD slot - 1 USB 3.0 - 4	Request to change to "Micro SD slot - 1/M.2 Drives with RAID1" USB 1 x 2.0, 3 x 3.0			Micro SD slot - 1/M.2 Drives with RAID1 4 Nos. of USB Ports with at least 2 USB 3.0
82	Page 24/clause 23/sub clause 1/ Technical specifications for Server (Node-1)	Server should be configure with 4 x Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor or higher	We recommend either to change to 8 x Intel processor or 6240L to take benefit of more than 4TB memmory in the server			for Node1 & Node7, it is acceptable for CPU 6240L (as mentioned above), for other nodes not accepted
83	Server (Node-1)	Server should be configured with 32 x 128GB DDR4-2933 RAM Server scalability should be at least 6TB, 48 DIMM Slots.	Memory DIMM in Intel procesor should be multiple of 6 for every socket for maximum memory bandwidth. 4 x Intel processor either 24 or 48 DIMMs to be populated. While Server support 48 DIMMS but with existing processor limitation of 1TB maximum memory, 6TB memory is not possible. Does RCB want to change specification for 8 x CPU or change the CPU to 6240L to take advantage of 6TB. Balanced Memory Configurations with Second-Generation Intel Xeon Scalable Processors https://lenovopress.com/lp1089.pdf			for Node1 & Node7, it is acceptable for CPU 6240L (as mentioned above), for other nodes not accepted

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
84	Server	Server should be configured with 8 x 128GB DDR4-2933 RAM Server scalability should be up to 4TB & 48 DIMM slots.	Memory DIMM in Intel procesor should be multiple of 6 for every socket for maximum memory bandwidth. 4 x Intel processor either 24 or 48 DIMMs to be populated. With 128 GB memory DIMMS and processor, server can not be populated for more than 32 DIMMS. Recommendation 24 x 32GB DDR4-2933 RAM. Balanced Memory Configurations with Second-Generation Intel Xeon Scalable Processors https://lenovopress.com/lp1089.pdf			Server should be configured with 8 x 128GB DDR4-2933 RAM or 24 x 32GB DDR4-2933 RAM. Server scalability should be up to 4TB & 48 DIMM slots
85		Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	This is OEM specific and restricting the competition, Hence we request to change with - Server should configured redundant 1600W Platinum Hot Plug Power Supply			Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supply
86		Server should be configured with 4 x 128GB DDR4-2933 RAM Server scalability should be at least 4TB & 48 DIMM slots.	Memory DIMM in Intel procesor should be multiple of 6 for every socket for maximum memory bandwidth. 4 x Intel processor either 24 or 48 DIMMs to be populated. With 128 GB memory DIMMS and processor, server can not be populated for more than 32 DIMMS out of 48 DIMMs. Recommendation 24 x 32GB DDR4-2933 RAM. Balanced Memory Configurations with Second-Generation Intel Xeon Scalable Processors https://lenovopress.com/lp1089.pdf			done above
87		Power Supply :- Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	Supported particular OEM specification and restricting the competition, request to change to - Server should configured redundant 1600W ~~Flex Slot~~ Platinum Hot Plug ~~Low Halogen~~ Power Supply			Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supplydone above
88	Node-7	Memory	Server scalability should be at least 6TB.	Intel Xeon 6242 proc can support max upto 1 TB RAM hence with 4 sockets max RAM provided can be 4 TB only hence request you to change clause as "Server should be configured with either 32 x 128GB DDR4-2933 RAM or server should be configured with 4 x Intel Xeon-Gold 6240M (2.6GHz/18-core/150W) Processor or higher and Server should be configured with 32 x 128GB DDR4-2933 RAM Server scalability should be at least 6TB, 48 DIMM Slots"		Server should be configure with 4 x Intel Xeon-Gold 6240L (2.8GHz/16-core/150W) Processor or better
89	Node-7	Power Supply	Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	Flex slot platinum PS is OEM specific hence request you to amend the clause as "Platinum rated dual redundant Power supply		Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supply
90	Node -1	Power Supply	Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	Flex slot platinum PS is OEM specific hence request you to amend the clause as "Platinum rated dual redundant Power supply		Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supply
91	Page 24 and 78- Node 1 and 7 - CPU	Server should be configure with 4 x Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor or higher RAM Server scalability should be at least 6TB	With the mentioned CPU, the Server will not have RAM scalability to 4TB. Either RCB should plan for a L Series CPU (note that M Series is no more sold by Intel) or remove the scalability requirement. One of the suggested CPUs is 6240L (18c @ 2.6GHz).			Server should be configure with 4 x Intel Xeon-Gold 6240L (2.8GHz/16-core/150W) Processor or better
92	Page 32 - Node 4	Server should be configured with 4 x 128GB DDR4-2933 RAM. Server scalability should be up to 4TB & 48 DIMM slots.	1. Is RCB looking for the offered model to be with 4 CPU scalability ?			Server should be configure with 4 x Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor or higher
93	Page 24 and 78- Node 1 and 7 - CPU	Server should be configure with 4 x Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor or higher	With the mentioned CPU, the Server will not have RAM scalability to 4TB. Either RCB should plan for a L Series CPU (note that M Series is no more sold by Intel) or remove the scalability requirement. One of the suggested CPUs is 6240L (18c @ 2.6GHz).			Server should be configure with 4 x Intel Xeon-Gold 6240L (2.8GHz/16-core/150W) Processor or better
94	Page 32 - Node 4	Server should be configured with 4 x 128GB DDR4-2933 RAM. Server scalability should be up to 4TB & 48 DIMM slots.	1. Is RCB looking for the offered model to be with 4 CPU scalability ?			Server should be configure with 4 x Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor or higher
95	Server (Node-1)	Intel C621 Chipset	Intel C621 Chipset or higher			Intel C621 Chipset or higher
96		Intel C621 Chipset	Intel C621 Chipset or higher			Intel C621 Chipset or higher
97		Server should configured redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply	Supported particular OEM specification and restricting the competition, request to change to - Server should configured redundant 1600W ~~Flex Slot~~ Platinum Hot Plug ~~Low Halogen~~ Power Supply			Server should have redundant 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply or equivalent power supply
98		Intel C621 Chipset	We request to amend this point with Intel C621 Chipset or higher			Intel C621 Chipset or higher
99		Power aware job scheduling to support auto shutdown and auto boot of nodes as per the workload to be supported.	Please clarify, Power shutdown and restart of system takes time to run the job. Is the delay in job submission acepted? Are you also looking to reduce the power based on the job runtime and power consumption.			Power aware job scheduling to support auto shutdown and auto boot of nodes as per the workload to be supported with minimum delay
100	1	Latest RHEL for all compute nodes. In case external storage IO nodes are offered in the solution, necessary RHEL licenses for IO nodes to be included.	Latest RHEL for all compute nodes. In case external storage IO nodes are offered in the solution, necessary RHEL licenses or OEM based OS for IO nodes to be included.	In storage solution - PFS, OEM provided OS or guidelines for OS and provide it as per solution meeting all the queries.		Latest RHEL for all compute nodes. In case external storage IO nodes are offered in the solution, necessary RHEL licenses or OEM based OS for IO nodes to be included.
101		PBS Access i.e. PBS Works for web-based job submission, management and monitoring. (Minimum 5 users concurrent users or higher)	PBS Access i.e. PBS Works for web-based job submission, management and monitoring or equivalent OEM supported. (Minimum 5 users concurrent users or higher)			PBS Access i.e. PBS Works for web-based job submission, management and monitoring or equivalent OEM supported. (Minimum 5 users concurrent users or higher)
102	Network Switches	Management Switch	Switch should support 2 redundant, load-sharing, hot-swappable AC PSUs.	Load sharing is specific to a single OEM, hence we request to relax this clause.		Switch should support 2 redundant & hot- swappable AC PSUs.
103	Page 48 Sr No 11 10G Ethernet LAN Switch	Switch should support latency less than 720 ns	Latency veries depend upon packet size. Proposed platform supports 1 ms again depends on packet size			Switch should support latency less than 720ns or platform supports 1000 ns again depends on packet size

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
104	Page 48 Sr No 11 10G Ethernet LAN Switch	Switch should support ONIE(Open Network Install Environment)	There are very few OEMs who supports ONIE and restrict other OEMs to place the solution. Also riding OS on others OEMs platform may lose the integrity. Request you to delete the clause			Switch should support ONIE(Open Network Install Environment) or equivalent-- this line may be removed.
105	Page 48 Sr No 11 10G Ethernet LAN Switch	Switch should support latency less than 720 ns	Latency veries depend upon packet size. Proposed platform supports 1 ms again depends on packet size			Switch should support latency less than 720ns or platform supports 1000 ns again depends on packet size
106	Page No 47/clause no23/subclause 10 Infiniband (IB) Mellanox Quantum HDR Edge Switch	The system shall operate without degradation of performance between 0°c and 53°c	Requets for change - The system shall operate without degradation of performance between 0°c and 40c			The system shall operate without degradation of performance between 0°c and 40°c
107	General		Please clarify, whether lighting for the Data center area to be factored or not !			Yes, this has already mentioned into tender document
108	Page 98, Clause 26. Operting system,S.no 2.	All Software quoted must be licensed, perpetual in nature with 5-years support for updates / upgrades.	Please specify, the software licenses will be quoted on 3 years + 2 years basis or 5 years basis			Yes, all software license will also be considered n 3 years + 2 years basis
109	AIR CONDITIONING,Pg no.General	Design Conditions	Please confirm the design temperature of return air and ambient to be considered while designing the cooling solution			Yes
110	General		Kindly share the Earthpit location and the approximate distance from the proposed Data center.			Will be shared after award of work
111	General		Please clarify, how many breakers will provided in the LT Panel for the DC area, do we get separate feeder for cooling and for UPS's			Total load has already been defined, and same has shown during site server. The solution must be delivered as per Tender BOQ and best optimized & redundant followed by desire certification mentioned into tender document.
112	General		Kindly share the per rack power requirement			Total estimated power load has already mentioned, the same may vary rack to rack after installation of hardware.
113	Page 54, log and report, Page no. 98 log and report	The firewall shall offer inbuilt management feature through https, SSH, CLI etc. or centralized management with integrated log server	Please specify whether a separate centralized management is required. If yes, will it be managing 3 firewalls (2 at NIC and 1 at RBC) and what would be the location of placement of central management. We assume it will be in NON-HA			There will be 2 no. firewall must be installed in HA mode at NIC, RCB will have 1 no. firewall in NON-HA mode.
114	Page No. 57-58 / F. TECHNICAL SPECIFICATIONS OF INFRASTRUCTURE AIR CONDITIONING/ EVAPORATOR	The units shall be supplied with shell and tubes heat exchanger optimized for use with R410A. Insulated with a closed cell expanded material coating and equipped with a temperature probe for the anti-freeze protection of every exchanger. The hydraulic manifold is provided with a flow switch and a probe for measuring the temperature of the return water flow.	Shell & Tube heat exchangers are commonly used with chiller application .Kindly revisit the clause & elaborate the requirement	Please Elaborate		There is no requirement of Chiller in the entire solution, the specification of DX Gas based system will be considered.
115	AIR CONDITIONING,Pg no.Pg 57	The Condenser should compose of high efficiency coils with "V" shape configuration made of Copper pipe/ Aluminium Fins.	Kindly accept the Condenser units with "C" shape configuration as V Shape is generally applicable for Chillers			There is no need of chiller, all specifications related to Chiller have been removed
116	AIR CONDITIONING,Pg no.Pg 58	probe for the anti-freeze protection of every exchanger. The hydraulic manifold is provided with a flow switch and a probe for measuring the temperature of the return water flow.	Anti freeze and Hydraulic manifold are applicable for Chillers and hence request to remove this clause			There is no need of chiller, all specifications related to Chiller have been removed
117	AIR CONDITIONING,Pg no.Pg 58	Control and Safety Devices e)Mechanical vane-operated flow switch;	Request to remove Mechanical Vane-Operated flow switch as this is applicable for Chilled water system			There is no need of chiller, all specifications related to Chiller have been removed
118	Page 60 / G. DEPLOYMENT OF ELECTRICAL EQUIPMENT, CABLING, CONDUITS, FITTINGS AND FIXTURES SCOPE / Point 4	The Uninterruptible Power Supply (UPS) systems are required to provide continuous, regulated AC power to the equipment of The Organisation, irrespective of any disturbances or disruptions occurring on the main power supply. 20KVA /20kw modular UPS 3 modules in Single Frame. UPS system designed with N+N redundancy.	Request you to please amend as : The Uninterruptible Power Supply (UPS) systems are required to provide continuous, regulated AC power to the equipment of The Organisation, irrespective of any disturbances or disruptions occurring on the main power supply. minimum 20KVA /20kw power module in Single Frame. UPS system designed with N+N redundancy.	03 nos 20 kVA/ 20kW power module capacity is restrictive . Request you to please accept higher capacity power modules fulfilling the IT load & redundancy requirement.		The Uninterruptible Power Supply (UPS) systems are required to provide continuous, regulated AC power to the equipment of The Organisation, irrespective of any disturbances or disruptions occurring on the main power supply. minimum 20KVA /20kw modular UPS modules in Single Frame. UPS system designed with N+N redundancy.
119	Page 23, v.TRIAL RUN AND ACCEPTANCE	Bidder/OEM should provide training to all desire members of NIC Bhubaneshwar & RCB Faridabad on the quoted Solution.	Training days for firewall is not mention	Please specify the no. of days of training related to firewall at both the locations i.e. NIC, Bhubneshwar and Faridabad		The training may be given online / onsite. The list of members will be shared in due-course.
120	Page No. 57 / F. TECHNICAL SPECIFICATIONS OF INFRASTRUCTURE AIR CONDITIONING / Para 2	The system should have integrated with minimum 4 Nos. EC fans (cooling output 20KW) to achieve maximum efficiency and minimise the electrical energy consumption. A full fan configuration should be utilised to achieve redundancy or to minimise power consumption.	Request you to please amend as : The system should have integrated with EC fans (cooling output 20KW or higher) to achieve maximum efficiency and minimise the electrical energy consumption. A full fan configuration should be utilised to achieve redundancy or to minimise power consumption.	The quantity of fans mentioned seems to be OEM specific . Nos of fans in a cooling unit may vary as per OEM design standard		The system should have integrated with minimum 3 Nos. EC fans (cooling output 20KW or higher) to achieve maximum efficiency and minimise the electrical energy consumption. A full fan configuration should be utilised to achieve redundancy or to minimise power consumption.
121	PAGE 56	60KW Cooling requires , with 4 cooling units	20kw x3 working , 20kw x1 standby required as per layout , pls confirm			The no. of Units would be minimum 4 or higher and must be having with N+1 redundancy.
122	Page No. 56 / F. TECHNICAL SPECIFICATIONS OF INFRASTRUCTURE AIR CONDITIONING / Para 2	The integrated DX Gas Based heat exchanger 300 mm wide should have cooling output of up to 20KW, combined with standard server enclosure dimensions,the lowest possible weight and comprehensive possibilities for monitoring.	Request you to please amend as : The integrated DX Gas Based heat exchanger should have cooling output of 20KW or higher , combined with standard server enclosure dimensions,the lowest possible weight and comprehensive possibilities for monitoring.	The dimension & capacity of the cooling unit mentioned as 300 mm & 20 kW is highly restrictive as different OEM can offer different sized & higher capacity units to meet the requirement		The integrated DX Gas Based heat exchanger minimum 300 mm wide should have cooling output of up to 20KW or higher, combined with standard server enclosure dimensions, the lowest possible weight and comprehensive possibilities for monitoring.
123	COLD AISLE CONTAINMENT SYSTEM,Pg no.Pg 56	The Entire containment should be sealed properly with 10 mm thickness twin-wall	Twin wall would not be required for indoor rack aisle containment. Hence request to accept single wall and 4mm thick polycarbonate sheet			The Entire containment should be sealed & properly insulated to avoid mixing of Cold Air and Hot Air directly.
124	Page No 58	Deployment of HT Panel and its cabling work	As we understand from site visit there is no requirment of HT Panel			The desired/ applicable HT Panel must be including in the scope of work if needed.
125	Page No. 56 / F. TECHNICAL SPECIFICATIONS OF INFRASTRUCTURE AIR CONDITIONING / Para 2	The Data centre required total 60 KW (40 KW for the calculated required load with additional 50% (i.e. 20 KW) higher capacity) cooling capacity of each unit 20 KW with N+1 redundancy.	Request you to please amend as : The Data centre required total 60 KW (40 KW for the calculated required load with additional 50% (i.e. 20 KW) higher capacity) cooling capacity with cooling units in N+1 redundancy.	Every OEM has its own design & available capacity model . Bidder should be allowed to quote as per the total cooling capacity requirement maintaining N+1 redundancy.		The Data centre required total 60 KW (40 KW for the calculated required load with additional 50% (i.e. 20 KW) higher capacity) cooling capacity of each unit minimum 20 KW with N+1 redundancy.

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
126	Page NO 56 / F. TECHNICAL SPECIFICATIONS OF INFRASTRUCTURE	F. TECHNICAL SPECIFICATIONS OF INFRASTRUCTURE	All the critical components of the Data Centre infrastructuer like Racks with PDU, UPS, PAC and Monitoring system should be from Same and Single OEM for seamless integration and better after sales service support to maintain high uptime. Kindly accept.			The Data centre being a highly critical infrastructure, it is very important to have seamless integration and high uptime.
127	Page no 5/ 2. PRE QUALIFICATION CRITERIA	OEM of Data centre Infrastructure	The Data centre being a highly critical infrastructure, it is very important to select the qualified OEM having similar and relevant work experience. The OEM must have executed minimum 5 Integrated Smart Rack Data Centre projects in any of the central/State/PSU Organizations during the last 3 years from the of bid submission date. Successful work completion report/handing over project report/any other supporting letter from the customer confirming the same should be attached. Kindly accept.		No change	
128	Page NO 55 / A. INFRASTRUCTURE REQUIREMENT	The ambient temperature considered for the calculation of total tonnage requirement should be 53 Degrees	Request you to kindly amend as : The ambient temperature considered for the calculation of total tonnage requirement should be 45 Degrees (As per ASHRAE , the design condition for Delhi NCR region is 43.3 C , considering on higher side it is suggested to consider design temperature are 45 C)	Consideration of higher design temperatue will lead to selection of over sized consender unit . This will lead to frequent trippng of the compressor and affect the propoer functioning of the PAC unit.		The ambient temperature considered for the calculation of total tonnage requirement should be 45 Degrees
129	Page 73/RACKS SPECIFICATIONS	Surface finish: Nano ceramic coated, electro-dip coated primed to 20 microns and powder coated with texture polyester RAL 9005/7035 to 80 to 120 microns	Request you to please amend as : Surface finish: Nano ceramic coated/Epoxy Polyester Power coated, electro-dip coated (primed to 20 microns and powder coated with texture polyester RAL 9005/7035 /7021 to 80 to 120 microns or better)	OEM Specific Technology of surface paint		Surface finish: Nano ceramic coated, electro-dip coated primed to 20 microns and powder coated with texture polyester RAL 9005/7035 to 80 to 120 microns or similar
130	Page - 58 Compressor	Speed Regulated	Speed Regulated / Variable capacity	OEMs offer different energy efficient technologies such as variable capacity inverter or digital scroll compressors		Speed Regulated / Variable capacity
131	Page - 58 Compressor	Compressor :- Speed Regulated	OEMs offer different energy efficient technologies such as variable capacity inverter or digital scroll compressors hence request you to kindly amend this point with "Speed Regulated / Variable capacity "			Speed Regulated / Variable capacity
132		General Query - UPS System	Request to clarify if we have to consider only ABB make UPS as they are only complying to all tender specifications of UPS and if we have to consider other approved makes above changes should be accepted by RCB, Enclosed ABB Catalogue from where the specifications are published in tender			Specification changed into general
133		General Query - HVAC System	Request to clarify if we have to consider only Rittal make HVAC System as they are only complying to all tender specifications of HVAC System and if we have to consider other approved makes above changes should be accepted by RCB, enclosed Rittal Technical Catalogue from which specifications are published in tender			Specification changed into general
134		General Query - Racks & PDUs	Request to clarify if we have to consider only Rittal make Racks and PDUs as they are only complying to all tender specifications of Racks & PDUs and if we have to consider other approved makes above changes should be accepted by RCB, enclosed Rittal Technical Catalogue from which specifications are published in tender			Specification changed into general
135		General Query - Monitoring System	Request to clarify if we have to consider only Rittal make Monitoring system as they are only complying to all tender specifications of Monitoring system and if we have to consider other approved makes above changes should be accepted by RCB, enclosed Rittal Technical Catalogue from which specifications are published in tender			Specification changed into general
136	General		Kindly Share the existing SLD till LT Panel.			please refer site survey
137	Technical Specification of UPS,Pg no.62	Overall Efficiency shall be > 95.5 % @ 100% load 95.5% @ 75% load 95% @ 50% load 94.5% @ 25% load	Efficiency of the UPS system available nowadays is higher at lower loading levels also. Therefore, Request to ammend the clause as Double Conversion Efficiency with PF correction and Harmonic mitigation shall be > 97 % @ 100% load 97% @ 75% load 96.5% @ 50% load 95.5% @ 25% load Efficiency at Static Bypass Mode with PF correction and Harmonic mitigation shall be > 99 % @ 100% load 99% @ 75% load 98.5% @ 50% load 97% @ 25% load			Overall Efficiency shall be > 95.5 % @ 100% load or higher 95.5% @ 75% load or higher 95% @ 50% load or higher 94.5% @ 25% load or higher

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
138	Page 75 /P. PLUMBING AND PIPING TO AUGMENT COOLING ARCHITECTURE	☐ Water piping to Outdoor Cooling Unit, Cooling Unit to the respective cooling element (InRow cooling units) housed in the DC has to be taken care. Required valves at Chiller and Cooling elements to control the flow of the water need to be provisioned. ☐ PPR pipes with required size need to be used. Water piping should be done below the false floor. ☐ Outdoor Cooling Unit placement: Bidder should do the site survey to identify the place for housing the Outdoor Unit, Bidder should ensure requite platform / stand to mount chiller unit. Power cabling need to be carried out by the bidder. ☐ Note: It is recommended to have Iron mesh covering the chiller units to avoid damage from external sources (animals).	Kindly clarify the type of Precision Cooling unit . At page no. 56 (F. TECHNICAL SPECIFICATIONS OF INFRASTRUCTURE AIR CONDITIONING) it is mentioned as "DX Gas Based in rack cooling system" whereas mentioned specification asks for water piping to outdoor cooling unit & chiller .	The mentioned clause defines the outdoor unit as chilled water based /chiller whereas the tender asks for DX based precision coling units		Only DX Gas Based in rack cooling system has to considered, Chiller or related specifications to chiller have been removed/deleted.
139	Page no 5/ 2. PRE QUALIFICATION CRITERIA	OEM of Data centre Infrastructure	OEM or Manufacturer should be ISO 9001: 2000, ISO 14001 , ISO/IEC 27001:2013 and ISO 45001 certified.			OEM or Manufacturer should be ISO 9001: 2000/18000:1, ISO 14001 , ISO/IEC 27001:2013 and ISO 45001 certified.
140	Page 76 / Q. INFRASTRUCTRE DELIVERABLES (BOQ)/ Point 1	No. of Server and network Racks (42UH, 600/800mm Wide x 1200mm Deep maximum) and aisle containment 300mm	Request you to please amend as : No. of Server and network Racks (42UH, 600/800mm Wide x 1000mm Deep maximum) with hot & cold aisle containment of 300mm each	OEM specific dimensions		No. of Server and network Racks (42UH, 600/800mm Wide x 1000mm Deep or higher) and aisle containment 300mm each or higher
141	General	(General)	Can rack and cooling unit can be supplied as a Single product			No, they may be supplied as different product
142	Specification of Monitoring Hardware,Pg no.Pg 72	Network Interface :(RJ 45): Ethernet to IEEE 802.3 via 10/100 BaseT with PoE.	Request to remove POE as this is specific to single OEM			Network Interface :(RJ 45): Ethernet to IEEE 802.3 via 10/100 Basset with PoE or other which fulfil the requirement without disturbing system architecture
143	Technical Specification of UPS,Pg no.60	Technology and capability : Modular UPS with hot swappable power Modules and Static switch modules.	As Per NFPA (National Fire Protection Association) Guidelines, Energized work shall be limited to voltage and current measurements, troubleshooting, and diagnostic testing that cannot be performed unless the electrical conductor or circuit is energized. Hence, Suggest to go forward with the modular design of the UPS which shall permit safe and fast removal and replacement of the power module i.e., User Pluggable Power modules instead Therefore, Request to ammend the clause as Modular UPS with User Swappable power Modules and Static switch modules.			Modular UPS required with N no. of modules to complete the total requirement having N+1 redundancy over the module. Each Module must have its own controller.
144	Cooling output	20 kW	Minimum 20 kW or as per OEM design	Capacity may vary OEM to OEM		Minimum 20 kW
145	RACK Specifications,Pg no.Pg 72	Max Height 2000mm	Kindly accept maximum height of 2150 mm including castors/wheels/plinth			Max Height 2200mm including castors/wheels/plinth
146	Page 72 / M. MONITORING SYSTEM:	Main sensors NTC temperature Sensor for Access control infrared technology sensors.	Request you to please amend as : NTC / digital temperature Sensor for Access control infrared technology sensors.	Plz Amend		Main sensors latest temperature Sensor for Access control infrared technology sensors.
147	Page 73/RACKS SPECIFICATIONS	19" Rack mountable (1U) with minimum of 16 Ports & Connect to computers viamUSB.	It seems that the technical specification of Rack & KVM got mixed with each other . Request you to please separate the specification of Rack & KVM switch.			KVM specification may be read separately (Page number - 97).
148	AIR CONDITIONING,Pg no.Pg 56	Data Center should be equipped with high performance DX Gas Based in rack cooling system with Hot and Cold aisle system within the rack.	Kindly clarify whether only Cold Aisle Containment should be provided as mentioned in Section E or should we provide both hot and cold aisle as per Section F			It should be provided both hot and cold aisle
149	Page No. 58 :- On the Air cooled condenser spec Pont No. 2	Redundant true online UPS System, the redundancy and demand adequate capacity to serve the entire cooling system'.	Please clarify .			It may be read as "Redundant true online UPS System, the redundancy and demand adequate capacity to serve the entire IT equipment's (Server, Storage, network etc.) installed inside Data Centre'.
150	Page No. 63 Point No. 36:- Backup Required	Each UPS module should have one battery string to support 30 Minutes backup. and at Page No. 64 : BATTERY BANK TECHNICAL SPECIFICATIONS 1.1 Type :- Valve regulated lead-acid (VRLA)-standard 2V cells, suitable for 15 Mins backup on full load.	Please clarify the total UPS load.			IT Full load is 40 KW (+50% extra i.e. 20 KW) Backup is required 30 mins on PF at 0.9
151	Page - 64 / Point -1.1	Battery back-up asked I 15 min	Kindly clarify whether to consider 30 min or 15 min back-up time and on 60kW load or 40Kw load on End of Life or Beggning of Life			IT Full load is 40 KW (+50% extra i.e. 20 KW) Backup is required 30 mins on PF at 0.9
152	Page 72/O. RACKS SPECIFICATIONS/ Para 1	Each Rack should include: Frame of sturdy frame section construction, consisting of 16 x folded rolled hollow frame section punched in 25mm DIN pitch pattern, PU Gasket Side panel, 1.5 mm with PU Gasket, Full Height 19", Angle, Top and Bottom Covers, two vertical IP PDUs.	Request you to please amend as : Each Rack should include: Frame of sturdy frame section construction, consisting of CRCA sheet steel frame in 2.0mm thickness , Cut outs with rubber grommet on top and bottom cover of rack for cable entry , Vertical Cable manager on both LHS & RHS on rear side , Full Height 19", Angle, Top and Bottom Covers, two vertical IP PDUs.	Mentioned specification seems to be favouring specific OEM		Each Rack should include: Frame of sturdy frame section construction, consisting of min 12x folded rolled hollow frame section punched in 25mm DIN pitch pattern, PU Gasket Side panel, 1.5 mm with PU Gasket, Full Height 19", Angle, Top and Bottom Covers, two vertical IP PDUs.
153	Technical Specification of UPS,Pg no.61	Technology and capability : The battery string should consist for Each UPS module so that in the event of a battery malfunction the affected string is automatically isolated from the system thereby ensuring battery autonomy is retained, albeit of a shorter duration	As per the Battery specifications, 1 Battery String is required with each 60 kVA UPS system. Therefore, Request to ammend the clause as The battery string should consist for Each 60 kVA UPS so that in the event of a battery malfunction the affected string is automatically isolated from the system			Modify to: Dedicated and single Battery string should be available for each UPS Rack so that in the event of a malfunction (in the affected battery string or UPS) there is autonomy available through another UPS & its battery

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
154	Technical Specification of UPS,Pg no.62	Crest Factor - 3 : 1 On Full Load	Generally, The Loads available nowdays are electronic and crest factor does not go above 2.5. Hence, Request to ammend the clause as Crest Factor - 2.5 : 1 On Full Load			Modify to: Crest Factor - 3: 1 or better on Full Load
155	Q. INFRASTRUCTRE DELIVERABLES (BOQ), B Electrical work / Sl no 24 pg 77	UPS power distribution board = qty - 1no	Please clarify, the quantity since the RFP indicates not to have any single point of failure (H. Electrical works / Technical specification pg 66 = Complete distribution should not have any single point of failure.)			Corrected as "UPS power distribution board = qty - 2 no or higher to avoid single point of failure"
156	Page 76 / Q. INFRASTRUCTRE DELIVERABLES (BOQ)/ Point 3	Cooling unit (42UH, 300mm Wide x 1200mm Deep) with capacity (20 KW Each) three nos. working and one standby to manage the redundancy.	Request you to please amend as : Cooling unit with capacity (minimum 20 KW Each) in N+1 redundancy	The dimensions , capacity & quantity mentioned are OEM specific		Cooling unit (42UH, 300mm Wide x 1200mm Deep) with capacity (minimum 20 KW Each) in N+1 redundancy
157	Technical Specification of UPS,Pg no.64	Certifications : UL1449	Request to ammend the clause as Third Party UL certification for UPS and efficiency shall be provided			Certifications - UL/EIA310D/DIN41494
158	Page 60 /TECHNICAL SPECIFICATION OF UPS/Point 1	Capacity (in KVA / KW) : 60 kVA/60 kW Modular Three-Phase Uninterruptible Power Supply System-(3 Numbers of 20KW Modules)	Request you to please amend as : 60 kVA/60 kW Modular Three-Phase Uninterruptible Power Supply System-(minimum 20KW Modules)	20 kW power module is OEM specific . Capacity of power module may vary from OEM to OEM		Capacity (in KVA / KW) : 60 kVA/60 kW Modular Three-Phase Uninterruptible Power Supply System-(at least 3 modules of appropriate capcity)
159	Technical Specification of UPS,Pg no.63	Type of battery charging circuit : Constant Voltage with Current Limit 1.65 to 1.8 auto adjustable with load % (back-up time). However, Battery sizing should based on end cell voltage as	End cell voltage is missing in the specification. Hence, Reequest to ammend the clause as However, Battery sizing should based on end cell voltage as 1.75			Battery sizing should based on end cell voltage from 1.75 V to 2 V
160	Technical Specification of UPS,Pg no.62	Phase sequence change : The UPS should have protection at Input side for phase sequence change	Out understanding from the mentioned Clause is that The UPS should continue to operate on double conversion mode whenever ther is a Phase reversal / Negative Sequence at Input side. Please confirm. If Yes, then the mentioned protection required is called as Phase Correction at Input. Therefore, Request to ammend the clause as The UPS should have Phase Sequence Correction at Input side for phase sequence change, UPS should continue to operate on Double Conversion Mode of Operation in case of Negative Sequence/Phase Reversal at Input of the UPS system.			Modify to: The UPS should have Phase Sequence Correction at Input side for phase sequence change, UPS should continue to operate on Double Conversion Mode of Operation in case of Negative Sequence/Phase Reversal at Input of the UPS system.
161	AIR CONDITIONING,Pg no.Pg 58	The filter filters shall be minimum 30% efficient per ASHRAE Standard 52.1, UL Class 2 (MERV 8 per ASHRAE 52.2). Filters shall be EN779 G4 efficient	Kindly accept Filters with greater-than 20% efficiency ASHRAE 52.1, 12.7 mm (1/2 in.) washable filters that meet HF-1 standards for electronics (MERV 1 per ASHRAE 52.2)			As per OEM Standards
162	Dimension	300W x2000Hx1200D	As per OEM design	Dimensions may vary OEM to OEM		As per OEM design
163	No. of fan per unit	4 Nos.	As per OEM design	Nos of Fans may vary OEM to OEM		As per OEM design
164	General		Please share the approved make list of the equipment to be used			Any standard make having ISO certification and meeting the certification requirement asked in the tender document
165	General		Please clarify the TIER level to be followed			Already mentioned in the tender document
166	Page 73	7 nos racks	how many 600mm wide, how many 800 mm wide			No change, racks should be compatible with the supplied hardware
167	Page no 64	BATTERY BANK TECHNICAL SPECIFICATIONS:	Power factor of battery sizing calculation is not specified. Pls specify.			Add the following: Power factor for batteries required should be one (unity)
168	H. Electrical works / Power Socket & Plug	Power Socket & Plug for Racks: Three Phase, indoor type IP 65 (latched), 32A, 3pin 2-pole + earth, three phase 220 volts minimum	Please note, the 3phase voltage is mentioned as 220V, the same has to be 415V			Moidfy to: Power Socket & Plug for Racks: Three Phase, indoor type IP 65 (latched), 32A, 3pin 2-pole + earth, three phase 415 volts
169	Page 60	60 kVA=60 kW Modular Three-Phase Uninterruptible Power Supply System-(3 Numbers of 20KW Modules)	OEM specific , can we give 30 (kva=kw)x4 modules to achieve (60+60) same rating			Accepted, 60 kVA/60 kW Modular Three-Phase Uninterruptible Power Supply System-(minimum 20 KW modules)
170	page 73	7 nos of racks Depth 1200	1000 mm deep rack , with 400 MMCOLD AISLE, 400 MM hot aisle , total 1800			Accepted for RCB Site, rack should be compatible with hardware supplied
171	Page no 5/ 2. PRE QUALIFICATION CRITERIA	OEM of Data centre Infrastructure	The OEM must have executed minimum 5 Integrated Smart Rack Data Centre projects in any of the central/State/PSU Organizations during the last 3 years from the of bid submission date. Successful work completion report/handing over project report/any other supporting letter from the customer confirming the same should be attached. Kindly accept.			No change
172		General Query	UPS shall have built-in feature to test UPS at 100% Load without the need of any external Load Bank. Incase this feature is not available within the UPS, Vendor shall provide a External Load Bank equal to UPS Capacity which will be kept at the site till the Warranty period ends.			Added: UPS shall have built-in feature to test UPS at 100% Load without the need of any external Load Bank. Incase this feature is not available within the UPS, Vendor shall provide a External Load Bank equal to UPS Capacity which will be kept at the site till the Warranty period ends.
173	Page 59 Testing	supplied complete with oil and refrigerant charge.	oil and refrigerant shall be filled at site, to avoid damage during transit.			Acceptable
174	page no 60	UPS should operate in double conversion mode. Efficiency of the product at full load in Double onversion mode should not be less than 95% and in E-conversion mode should not be less than 99%.	We suggest "UPS should operate in double conversion mode. Efficiency of the product at full load in Double conversion mode should not be less than 95% and in ECO mode should not be less than 99%"			Modify to "UPS should operate in double conversion mode. Efficiency of the product at full load in Double conversion mode should not be less than 95% and in E-conversion /ECO mode should not be less than 99%" (check further) Added: Should be added to the tender: Earthing should be zero volts, Separate Chemical based Earthing should be provided by Thick copper strip. Earthing solution should last for at least five years.

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
175	Page-61 / Section-2 (F)	Each module should have independent controller or Microprocessor, display and static switch and each module should be hot swappable control modules and in any case failure of main controller does not result in system failure or loss of power module redundancy.	Request to change as "Each UPS should have independent controller or Microprocessor, display and static switch and each Power Module along with central Static Switch should be hot swappable and in any case failure of main controller does not result in system failure or loss of power module redundancy." This is a industry standard. Kindly arrange to accept the same as it is limiting the healthy competition			no change
176	Page-61 / Point -2 (H)	The battery string should consist for Each UPS module.so that in the event of a battery malfunction the affected string is automatically isolated from the system thereby ensuring battery autonomy is retained, albeit of a shorter duration	Point no 36 on pg no 63 contradicts this clause. Request to change it to " Dedicated and single Battery string should be available for each UPS Rack so that in the event of a malfunction (in the affected battery string or UPS) there is autonomy availble through another UPS & its battery"			Modify to: Dedicated and single Battery string should be available for each UPS Rack so that in the event of a malfunction (in the affected battery string or UPS) there is autonomy available through another UPS & its battery
177	Page-61 / Point -8	Input Frequency range 35 – 70 Hz	Request you to change as "Input frequency range is 40 - 70 HZ" which is a industry standard. Kindly arrange to accept the same as it is limiting the healthy competition			No change
178	Page-62 / Point -23	<= 3% (For 100% Non-Linear)	As per industry standard, this shall be +/- 5% for Non-Linear load			No change
179	Page-62 / Point-31 & Page - 63 / Point - 40	Ripple free charging - Zero ripple asked	Industry standard is minimal ripple of +/- 1% so kindly accept the same			Ripple of +/- 1%
180	Page - 63 / Point -36	Each UPS module should have one battery string to support 30 Minutes backup	Request to change it to " Dedicated single battery string should consist for each UPS so that in the event of a battery or UPS malfunction ensures autonomy by other UPS and Battery in redunacy. This is a industry standard			Modify to: Dedicated and single Battery string should be available for each UPS Rack so that in the event of a malfunction (in the affected battery string or UPS) there is autonomy available through another UPS & its battery
181	Page no 64 - Point no 52/53/54	(L-L, L-N, L-G, N-G) ; LED & Dry Contact; UL 1449	These are the specs seems to be typo error as given specs are related to "TVSS" product of ASCO brand which is owned by one of the UPS OEM. Kindly remove the same as all UPS OEM has inbuilt surge proteciton as per IEC standards.			Acceptable
182	Page no 66 - 2nd paragraph	Fan redundancy: Redundant cooling fans need to be provided in UPS Protection: Built-in / External back-feed contractor for both, Mains and Bypass input.	As per industry standard, NO-NC contacts provided for back-feed protection inbuilt. Contractor design is OEM specific			Acceptable
183	Page - 65 / Point -1.4	1.4 - Positive grid shall be of pure lead calcium tin alloys Positive plate shall not contain cadmium. The positive & negative plates should be flat pasted. Both positive & negative plates shall be tank formed to ensure that plates are fully formed.	As per OEM of batteries - Complies with MFX-for positive plate, Flat pasted positive & negative plates. Kindly arrange to accept the same as it is limiting the healthy competition			No change
184	Page - 65 / Point -1.11	Battery Bank Stand & Cell Orientation	As per OEM of batteries - as per industry standard, MS self stackable racks with multi-tier & multi row arrangement			Acceptable
185	Page - 65 / Point -1.13	The bidder shall submit the type test certificates as specified as per relevant IEC standards	As per OEM of batteries - Type test report for 1530Ah as single cell highest rating, the same to be referred for other ratings also			Acceptable
186	K. CCTV SURVEILLANCE SYSTEM (NETWORK VIDEO RECORDER (NVR) SOLUTION). Page no.22	Camera must provide at least 160 degree angle view with minimum 1.3 Megapixel resolution with day night recording functionalities.	160 degree horizontal angle of view can only be achived with Panaromic/Fish eye Camera.Pls Clarfiy if you need a Panaromic camera here. Request you to change the Angle of view to 100 degree or better with 2 MP mini dome Camera to have a better view.			Acceptable
187	Page No. 56 / C. WALLS AND PARTITIONS	To meet the current requirement, IBDC room will be housed with 7 racks in a single row. It is required to construct Cold Aisle with appropriate doors on both sides of the rows. The construction of Cold Aisle with appropriate in-row cooling units with redundancy (Failure of any single unit; still to meet the total cooling requirement of estimated load).	Request you to please amend as : To meet the current requirement, IBDC room will be housed with 7 racks in a single row. It is required to construct both Cold & hot Aisle with appropriate doors on both sides of the rows. The construction of Cold & hot Aisle with appropriate in-row cooling units with redundancy (Failure of any single unit; still to meet the total cooling requirement of estimated load).	Solution with both hot & cold aisle cntanment will be a room neutral solution . Also , it will add on to the energy efficiency of the cooling unit .		Acceptable
188	Page No. 56 / E. COLD AISLE CONTAINMENT SYSTEM	Fire Retardant / Rated Toughened Glass need to be used for the doors so that the Cold Aisle area is clearly visible from both sides of the Aisle.	Request you to please amend as : Fire Retardant / Rated Toughened Glass need to be used for the front doors so that the Cold Aisle area is clearly visible from both sides of the Aisle. The rear doors should be of split type CRCA door.			Acceptable
189	Page 72 / M. MONITORING SYSTEM:	Protocols : Ethernet :TCP/IPv4, TCP/IPv6, SNMPv3, Telnet , SSH, FTP, SFTP, HTTP, HTTPS , NTP, DHCP , DNS Server, SMTP, xml , Syslog, LDAP	Request you to please amend as : Protocols : Ethernet :TCP/IPv4, TCP, SNMPv3, Telnet , SSH, , HTTP, HTTPS , NTP, DHCP , DNS Server, SMTP, xml , SNMPtrap	IPV6: not required as it is used in local LAN FTP/SFTP: not supported due to security SYSlog not supported, we suggest using SNMPtrap Since it is a small system dedicated to localized monitoring, we recommend using local user, however LDAP has a security problem inbuilt hence we do not enable LDAP feature in our proposed solution [http://www.tech-faq.com/ldap-security-issues.html]		Acceptable
190	Page 72 / M. MONITORING SYSTEM:	Redundant power supply Input 24 V DC -1 X for connecting unit power pack. Power over Ethernet 1 x	Request you to please amend as : Monitoring system should support redundant power supply	02 redundant power supply which you can directly connect to power supply thus avoiding headache of using any adaptor and connectors for it.		Acceptable

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
191	Page 73/RACKS SPECIFICATIONS	Intelligent PDU (2 Nos. per rack):- Minimum specifications: - IP Based intelligent metered PDU socket strips: 3 phases 5 wire 440V, 50Hz, 32Amp PDU. Each PDU should have minimum 24 Nos. IEC C13 and 6 Nos. of C19 with OLED display, Graphic OLED display 128 x 128 pixels (RGB) with back-lighting and energy-saving mode (display of output data and basic IP configuration). Web server (HTTP, HTTPS, SSL, SSH) NTP, Telnet, SNMP v1, v2c and v3, TCP/IP v4 and v6, DHCP, FTP/SFTP (update/file transfer), integrated with DCIM. Standards:– EN 60 950, EN 61 000-4,EN 61 000-6, EN 55 022, Safety directive:2006/95/EC, EMC directive: 2004/108/EC.	Request you to please amend as : Intelligent PDU (2 Nos. per rack):- Minimum specifications: - IP Based intelligent metered PDU socket strips: 3 phases 5 wire 440V, 50Hz, 32Amp PDU. Each PDU should have minimum 24 Nos. IEC C13 and 6 Nos. of C19 with VLC technology / OLED display. Web server with HTTP, HTTPS (TLS 1.2), SMTP, SMTPS (TLS 1.2), ICMP, DHCP, IPv4, IPv6, Syslog, SNMP v1/v2c/v3, JSON, JSON API, RSTP and integration with DCIM. Standards:– CE, EN 55032 and EN 5502, IEC 60950-1, Rohs, RCM Mark (EMC only)	OLED is OEM specific screen		Modify to : Minimum specifications: - IP Based intelligent metered PDU socket strips: 3 phases 5 wire 440V, 50Hz, 32Amp PDU. Each PDU should have minimum 24 Nos. IEC C13 and 6 Nos. of C19 with appropriate display with back-lighting and energy-saving mode (display of output data and basic IP configuration). Web server (HTTP, HTTPS) SNMP v1, v2c and v3, TCP/IP v4 and v6, integrated with DCIM.
192	Technical Specification of UPS,Pg no.61	Technology and capability : Each module should have independent controller or Microprocessor, display and static switch and each module should be hot swappable control modules and in any case failure of main controller does not result in system failure or loss of power module redundancy.	As Per NFPA (National Fire Protection Association) Guidelines, Energized work shall be limited to voltage and current measurements, troubleshooting, and diagnostic testing that cannot be performed unless the electrical conductor or circuit is energized. Therefore, Request to ammend the clause as Each module should have independent controller or Microprocessor, display and static switch and each module should be User swappable control modules			Acceptable
193	AIR CONDITIONING,Pg no.Pg 57	After cooling, it should be expelled left and right in front of the 482.6 mm (19") level over the whole enclosure height	Request to ammend as cooling should deliver air horizontally and should cover entire 42 U height of the Rack as servers would draw air based on the heat load of the servers			Acceptable
194	RACK Specifications,Pg no.P 74	Products, Grounding and bonding as per UL Standards	Kindly allow product, grounding and bonding to be as per UL/EIA310D/DIN41494 standards			Acceptable
195	RACK Specifications,Pg no.Pg 74	Advanced user profiles and configurable OSD hot key combinations & should support Multilingual OSD: English, France, German, Spanish, Italian, Russian, Simplified Chinese, Japanese	Kindly accept English as only language			Acceptable
196	MONITORING SYSTEM:,Pg no.Pg 71	Bidder should supply DCIM software that can integrate UPS. IPPDU, Cooling system, Rack access, Rack emergency rear door. WLD, Fire system and other sensors for temp and humidity. DC infrastructure/ power utilization efficiency of DC should be available real time	Request to exclude integration of Access control with DCIM as Access control is security related system and should be independent from monitoring system.			Modify to: Bidder should supply DCIM software that can integrate UPS. IPPDU, Cooling system. WLD, Fire system and other sensors for temp and humidity. DC infrastructure/ power utilization efficiency of DC should be available real time
197	MONITORING SYSTEM:,Pg no.Pg 71	Protocol compliance : SNMP, Modbus, Canbus, Profibus, BACnet	Request to exclude CANBUS and Profibus as these are specific to one OEM			Modify to: Protocol SNMP, Modbus or Canbus or Profibus, BACnet,
198	Specification of Monitoring Hardware,Pg no.Pg 71	Temperature Range 0 to 55 degrees	Request to accept Temperature range of 0 to 45 degrees as the equipment would installed inside server room			Acceptable
199	Specification of Monitoring Hardware,Pg no.Pg 72	User administration: LDAP	Request to accept LDAP as part of the DCIM Software and not applicable for device			Acceptable
200	Specification of Monitoring Hardware,Pg no.Pg 72	Ethernet :TCP/IPv4, TCP/IPv6, SNMPv3, Telnet , SSH, FTP, SFTP, HTTP, HTTPS , NTP, DHCP , DNS Server, SMTP, xml , Syslog, LDAP	Request to remove NTP, SMTP, xml, LDAP			Modify to: Ethernet :TCP/IPv4, TCP, SNMPv3, Telnet , SSH, , HTTP, HTTPS , DHCP , DNS Server, SNMPtrap, or NTP, or SMTP, or xml
201	Specification of Monitoring Hardware,Pg no.Pg 72	Real-time clock, energy -buffered (24 h) without battery/accumulator with NTP	Request to remove this as it single OEM specific			this point has been deleted
202	Page - 63 / Point -38	A fully discharged battery system shall be capable of being recharged to 80% of the UPS output capacity within a maximum period of 10 times the normal total discharge time period.	2V batteries as asked can't be charged in 5hours as indicated in the tender clause & as per OEM of battery, the charging time is 10-12 Hours upto 90% of its capacity			A fully discharged battery system shall be capable of being recharged to 80% of the UPS output capacity as per OEM & industry standards
203	Page No. 57 / F. TECHNICAL SPECIFICATIONS OF INFRASTRUCTURE AIR CONDITIONING/ Para 6	Air throughput of fans :- 4800 m3/h	Given parameters for air though put of fan is OEM Specific request you to kindly amend into 4800 m3/h or better			4800 m3/h or better
204	Page No. 57-58 / F. TECHNICAL SPECIFICATIONS OF INFRASTRUCTURE AIR CONDITIONING/ HUMIDIFIER	The unit fitted with Humidifier shall be able to modulate/control the capacity and Humidifier shall be On/Off type. The humidifier shall be self-contained, steam-generating type, factory piped and wired, with disposable cylinder and automatic solid-state control circuit. Humidifier canisters shall be replaceable. The humidifier controller shall communicate directly to the microprocessor controller and provide complete status and control at the operator interface. Humidifier shall control flush cycling and conductivity via automated controls. Humidifier shall be capable of producing up to 6.6 lbs (3 kg) of steam per hour.	Request you to please amend as : The unit fitted with Humidifier shall be able to modulate/control the capacity and Humidifier shall be On/Off type. The humidifier shall be self-contained, steam-generating type, factory piped and wired, with disposable cylinder and automatic solid-state control circuit. Humidifier canisters shall be replaceable. The humidifier controller shall communicate directly to the microprocessor controller and provide complete status and control at the operator interface. Humidifier shall control flush cycling and conductivity via automated controls. Humidifier shall be capable of producing up to 4.4 lbs (2 kg) of steam per hour.	The given 6.6 lbs (3 kg) of steam per hour is OEM specific.		The unit fitted with Humidifier shall be able to modulate/control the capacity and Humidifier shall be On/Off type. The humidifier shall be self-contained, steam-generating type, factory piped and wired, with disposable cylinder and automatic solid-state control circuit. Humidifier canisters shall be replaceable. The humidifier controller shall communicate directly to the microprocessor controller and provide complete status and control at the operator interface. Humidifier shall control flush cycling and conductivity via automated controls. Humidifier shall be capable of to meet the min/max. technical requirement of steam per hour.
205	Page-32, Point-5 (Management)	The topics for training should include the usage of GPU libraries/applications such as CUDA toolkit, CUDA tuned Neural Network (cuDNN), Primitives TensorRT Inference Engine, DeepStream SDK Video Analytics CUDA tuned BLAS, CUDA tuned Sparse Matrix Operations (cuSPARSE) Multi-GPU Communications (NCCL), Kubernetes TensorFlow , Caffe , PyTorch, Theano, Keras, caffe2, CNTK etc.	Please specify the duration of this training scope. Should these topics be included in the 5 days of system admin training, or should it be conducted as a separate training?			You may consider 4+1 where 4 days should concentrate of CUDA toolkit for the actual users and one day should be there for System Admins
206		Warranty Support		Request to please confim the SLA for the warranty support. We recommend for 24X7 support with Next Buisness Day parts delivery.		No change

S. NO.	Bidding Document Reference(s) (Section number/page number)	Content of RFP requiring clarification	Points of clarification	Remarks	Change Request	RCB Remarks
207	Page 6	2.Pre Qualification Criteria	**2.6** The OEMs (OEMs of Servers, Storage, Backup Solution and all other materials/ items) will be responsible for supply, installation, configuration, commissioning, testing, maintenance and support for both hardware and software during the warranty period. Details of the engineers (Emp Id No., years of experience within organization & copy of the emp. Id Card) to be shared with RCB before the installations starts	**Please clarify that OEM installation is required** for Servers, Storage, Backup Solution and all other offered products/ items for which it is available. Civil works, Passive works and any other for which it is not available will be exempted from this clause.		For Civil work the tender terms may be followed i.e. to full fill the desire certification and norms of the CPWD must be considered
208	Page 22	b) BROAD SCOPE AND DESIGN PARAMETERS	The layout is made such that, there is a scope to add one more row to meet the future requirements. Bidder should supply and deploy all the components mentioned under this bid document, ensure the smooth functionality of the same, provide warranty and operational services as stipulated in the bid.	The layout is made such that, there is a scope to add one more row to meet the future requirements. **Please Clarify on the said statement.**		The existing requirement may be considered only
209	Page 10	8.4 Warranty/ Guarantee	**8.4.6.**The Bidder / Contractor shall be responsible for any kind of Compliances related to govt. rules and regulations for the Data Centre without any additional cost to the Centre.	**Please Clarify the** statement Compliances related to govt. rules and regulations for the Data Centre.		Compliances related to govt. rules and regulations for the Data Centre must be followed
210	Page 100 - Terms and Conditions - Point 2	The solution given for ML/DL workload should be certified by the respective OEM vendor to act as verified, tightly coupled architecture. Public document for the same should be available. The entire supporting document for the same should be submitted along with bid.	Kindly change it to "Public document for the same should be available or to be given as a Self Certification by the Server OEM"			No change
211	Misc.	2.2	Proposed architecture should be tested and verified by the OEM and proof for the same to be submitted on OEM letterhead. The testing should also prove that architecture (combination of Server/storage/network) is designed jointly to get best-optimized performance, deployment to be made quickly and have minimum overheads.	We request that this clause be amended as " 2.20 Proposed architecture should be tested and verified by the OEM and an undertaking for the same to be submitted on OEM letterhead. The undertaking should also state that the architecture (combination of Server/storage/network) is designed to get best-optimized performance, deployment to be made quickly and have minimum overheads. "		Modify to: Proposed architecture should be tested and verified by the OEM and proof for the same to be submitted on OEM letterhead. The testing should also prove that architecture (combination of Server/storage/network) is designed to get best-optimized performance, deployment to be made quickly and have minimum overheads.
212	24	Rack Dimensions	The existing Rack's dimension is 600mmX1000mm. The devices should be supplied with C13/C14 power cables to connect to the PDU of racks.	Request RCB to kindly relax this conditions as our systems are deeper and require 1200mm usable depth racks. If required, we can quote rack as well with the solution		If the Storage solution is incompatible with the existing RACKs, then new RACKs (max. up to 2 no.) must be provided at NIC data centre. and no limitation of RACKS for RCB.
213	Page 52 Intrusion Prevention System	"The IPS capability should have NSS Certification"	Kindly remove NSS Certification for IPS capability. In case of NSS Certification for IPS; NGIPS products are tested to compare product capabilities for security effectiveness (exploit block rate, evasion techniques and stability & reliability), total cost of ownership (TCO), and performance only for IPS. Since the threat landscape is evolving constantly. Hence we need to focus on overall security instead of IPS only. We request you to include NSS recommandation for complete device instead of only IPS			NSS certification can be removed
214	Page No 4, Name of Work & Page No 23 Technical Requirements	SITC or HPC related similar work	Please clarify on these points SITC similar work OR HPC related similar work is required for qualification in this bid			Similar work means Supply, Installation, Testing, and Commissioning (SITC) of HPC and storage servers of similar capacity.
215			Backup server input is missing with connectivity of Tape library and storage Do you require a Backup or archive functionality in the form of HSM?			Added: The backup server (including software & hardware) as per the best practice of the backup software OEM should be provided by the bidder
216	Page No 44/clause No23/subclause 9/ Backup Specifications	Backup software	Backup server input is missing with connectivity of Tape library and storage Do you require a Backup or archive functionality in the form of HSM?			Please refer the confirguration mentioned the the RFP