

RURAL ELECTRIFICATION CORPORATION LIMITED
IT Division
CORPORATE OFFICE

TENDER No. REC/IT/ERP (DC/SSC)/117/2008/1 Dated 19-06-2008

Hosting/ Co-Location of 'ERP- Data Centre (ERP-DC), Establishment of Standby Server Centre (SSC), Corporate-Wide Area Network (WAN) and LAN at Remote Offices which includes Supply, Installation, Configuration, Testing, Commissioning, Training, Maintenance and System Integration of various Equipments and/or Products and on-site Facilities Management.

CORRIGENDUM: Dated 31-07-2008

Last Date of Collecting Tenders	Changed Last Date of Collecting Tenders
11 th July 2008	18 th August 2008

Last Date & Time for Submission of Bids	Changed Last Date & Time for Submission of Bids
14th July 2008 Time: Up to 1500 hours	21st August 2008 Time: Up to 1500 hours

Date & Time of Opening of Bid	Changed Date & Time of Opening of Bid
14th July 2008 Time: 15:30 hours	21st August 2008 Time: 15:30 hours

SL No	Relevant Clause	Clarifications/ modifications sought for	Proposed decision by bidders	Clarifications/modifications by RECL
1	Annexure K. Serial 1 (DC Network)	The Router should be a single box configuration and should be modular, so that the purchaser has the flexibility to use the appropriate choice of interfaces as and when required.	Please clarify the "appropriate choice of interfaces" whether it includes the Data interfaces or voice interfaces	Refer to Central Router specification, Serial 1 C
2	Annexure K. Serial 1 (DC Network)	The Router should have two integrated 10/100/1000 interfaces and one SFP based gigabit port	SFP Ports are not required at the Core level , in the senerio of RECL where MPLS Connectivity is required , only 10/100/1000 ethernet port would be used so we request you to delete the clause of SFP	No Change
3	Annexure K. Serial 1 (DC Network)	The router should be provided with six serial ports supporting at least 2 Mbps speeds	Please clarify over the number of ports required	The requirement is self explanatory.
4	Annexure K. Serial 1 (DC Network)	Support for unequal path loadbalancing.	Request you to remove this clause as protocol used behind this technology is proprietary to specific OEM	The specification to be read as " Full support for path load balancing" wherever mentioned
5	Annexure K. Serial 1 (DC Network)	Support for router load balancing using single instance and use of multiple MAC address for load balance between upto 4 routers.	Request you to remove this clause as protocol used behind this technology is proprietary to specific OEM	The clause to read as "Support for router load balancing" wherever mentioned
6	Annexure K. Serial 1 (DC Network)	Flex- Ports All the Serial Ports should be Flex-Configured for RS-232/V.35 interface	As per the requirement of RECL , Flex-port are not required , request you to remove this clause	The clause to read as "All the Serial Ports should be configured for V.35 interface" wherever mentioned
7	Annexure K. Serial 1 (DC Network)	Should support SSL VPN feature	SSL - VPN termination on router is never recommandable as it will degrade the performance of the router and it will tilt the specification to the specific OEM request you to remove this clause	The clause to read as "Should support SSL VPN feature(Internal/External)" wherever mentioned
8	Annexure K. Serial 1 (DC Network)	Should have IPS, firewall functionality.	There is no requirement of IPS and firewall on core router when different boxes are provided for same , it will unnecessarly degrade the performance of the router	This Clause is deleted
9	Annexure K. Serial 1 (DC Network)	v. Should support Anti virus integration for regular patch updation and secure access to the network	Antivirus integration requirement on the router does not suppoeted by all major OEM routers and usually available as a separate solution for comprehensive security. Request to omit this feature.	The Clause to be read as "Should support Anti virus integration for regular patch updation and secure access to the network (Internal/ External)"
10	Annexure K. Serial 2 (Internet Router)	Router should have 2 Nos of Sync / Async port	Async is not recommandable, as there is no scalability in these ports , we suggest change the same with Sync port only	The clause to be read as "Router should have 2 Nos of Sync port" wherever mentioned

11	Annexure K. Serial 2 (Internet Router)	Redundant power supply (RPS)	Redundant power supply requirement shall be removed, as RPS is usually supported on comparatively high-end routers, and proposing the same may have significant commercial impact.	No Change
12	Annexure K. Serial 2 (Internet Router)	Firewall & IPS (Internal / External)	There is no requirement of IPS and firewall on core router when different boxes are provided for same, it will unnecessarily degrade the performance of the router	No Change
13	Annexure K. Serial 2 (Internet Router)	Support for SSL VPN	SSL - VPN termination on router is never recommended as it will degrade the performance of the router and it will tilt the specification to the specific OEM request you to remove this clause	The Clause to be read as "Support for SSL VPN(Internal/External)" where ever mentioned
14	Annexure K. Serial 3 (Remote Router)	Compression- TCP/IP Header	This technology is tilt towards the specific OEM, we suggest to remove the same	No Change
15	Annexure K. Serial 6 & 7 (Firewall and IPS)	The Firewall Throughput should be at least 450 Mbps	By analysing the total concurrent sessions requirements etc., 450Mbps throughput seems to be very low. A box with higher throughput (e.g. 1Gbps) would match the current requirement as well as can cater for future scalability, so the clause shall be amended appropriately.	No Change
16	Annexure K. Serial 6 & 7 (Firewall and IPS)	Redundant power supply (RPS)	RPS on the firewall device is not supported by all major OEMs and specific to one OEM, request to omit this clause	No Change
17	Annexure K. Serial 6 & 7 (Firewall and IPS)	Support for SSL VPN	This feature on the firewall box will drastically hamper the firewall performance and throughput, and is specific to one OEM. Request to omit this clause.	The clause to be read as "Compatibility with SSL VPN" where ever mentioned
18	Annexure K. Serial 4 (Central Switch)	Switch should have 48 port 10/100/1000 Base T modules and should have non-blocking performance. Switch should have 24 port based SFP with SX interface and performance of line card should be non blocking.	The modules of the chassis should be in-built with distributed architecture instead of non-blocking architecture. This allows L2 - L3 local switching and routing on the modules instead of CPU utilization for these processes.	The solution offered should have Non-Blocking performance and/or a Distributed architecture

19	Annexure K. Serial 4 (Central Switch)	The switch backplane bandwidth at minimum should be 600 Gbps	As per the requirement RECL, only 48 x 10/100/1000 & 24 x SFP ports are required. This requires only (96 + 48) = 144 Gbps backplane speed of the switch. Keeping future scalability in mind, the switch backplane may never be required to exceed more than 400 Gbps. Therefore, the switch backplane may be reduced to reduce unnecessary cost due to over pitching of the switches.	No Change
20	Annexure K. Serial 4 (Central Switch)	The switch must support 50,000 unicast / multicast entries.	As per the requirement RECL never required 50000 Multicast entries because its all depends upon multicast groups created in the network . In practical senerio this figure is on higher side , our suggestion is to change from 50000 to 1000 entries	The clause to be read as "The switch must support 50,000 (unicast + multicast) entries, but multicast should be supported" where ever mentioned
21	Annexure K. Central Switch	Should perform IPv6 routing	These feature are not requirement from Day 1 , request you to change it to IPv6 Capable Switch , which will be upgardeable with Full IPv6 Functionality as and when with no additional Cost	No Change
22		Should support IP version 6 in hardware.		
23		Should support IPv6 static route, IPv6 route redistribution		
24		Support for IPv6 security – Access Control lists (standard & extended), SSH over IPv6		
25		The switch should support for IPv6		
26		Should support IPv6 stateless auto-configuration, IPv6 neighbor discovery and, Neighbor		
27		Should support IPv6 Quality of Service		
28		Should support IPv6 dual stack		
29		Should perform IPv6 transport over IPv4 network (6to4 tunneling).		
30	Annexure K. Core Switch	Should support IP source guard or equivalent.	Request you to remove this Clause as it is specific to one OEM	The Clause to be read as " Should support IP source guard or DHCP Snooping vide <i>clause 14 of Core switch</i> will be considered equivalent" where ever mentioned
31	Annexure K. Distribution Switch	The switch should have 24 nos of 10/100 / 1000 BaseTx interfaces and 4 nos of 1000BaseLX gigabit uplink fiber ports. All the 26 interfaces should be activated simultaneously.	As per the Industry standard only 24 Port will activated simultaneously , request you to change the same.	The Clause to be read as " The switch should have 24 nos of 10/100 / 1000 BaseTx interfaces and 2 nos of 1000BaseLX gigabit uplink fiber ports." where ever mentioned

32	Annexure K. Distribution Switch	The switch backplane bandwidth at minimum should be 32 Gbps switch fabric.	The backplane is less (specific to a single OEM) and would be limiting, the calculation is as follows: According to standards for 24 ports 10/100/1000 backplane required 24 * 1000 Mbps = 24 Gbps for full duplex = 2 * 24 Gbps = 48 Gbps Total = 48 Gbps Backplane Required.	No Change
33	Annexure K. Distribution Switch	The switch should have a dedicated stacking port of at least 30Gbps bandwidth fo scalability of the solution.	We suggest stacking should be Fail-Safe	No Change
34	Annexure K. Distribution Switch	The switches should support static IP routing and should be software configurable to have advanced unicast routing protocols like OSPF and multicast routing protocols like PIM Sparse and Dense Mode.	PIM-SM is most commonly used Multicast protocol as compared to DM. PIM-DM is not a BW efficient protocol as it overheads are very high. WE request you to make it like only PIM Sparse Mode	No Change
35	Annexure K. Distribution Switch	The switch should support of IPv6 in hardware and software. The switches should be software upgradeable to support IPv6 unicast routing protocols like OSPFv3.	IPv6 feature is only required in service provider network where there is requirement of very high users and networks. In a campus network there is no requirement of IPv6, it may be required only on Intranet / Internet routers.	No Change
36	Annexure K. Access Switch	A minimum of 16 Gbps switching fabric capacity for 24-port switch and a minimum of 32 Gbps for 48 port switch.	Backplane calculation According to standards for 24 ports 10/100 backplane required 24 * 100 Mbps = 2.4 Gbps for full duplex = 2 * 2.4 Gbps = 4.8 Gbps for 2 SFP = 2 * 1000Mbps = 4Gbps Total = 8.8 Gbps Backplane Required.	The Clause to be read as " A minimum of 8 Gbps switching fabric capacity for 24-port switch and a minimum of 16 Gbps for 48 port switch."
37		Support for IPv6	IPv6 feature is only required in service provider network where there is requirement of very high users and networks. In a campus network there is no requirement of IPv6, it may be required only on Intranet / Internet routers.	No Change
38	Annexure-K Part-II Clause 3.1.1	Approximate Space requirement - 300 sq feet	Please specify the exact no. of racks required.	Space to be calculated keeping in view of 4 racks of existing servers.
39	Annexure-K Part-II Clause 3.1.2.1	RECL would provide the bidder services of Application software support agreements.	Scope of work not clear. Please elaborate	Relevant portions of Contract agreement with application vendor will be shared.

40	Annexure-K Part-II Clause - 3.1.3	The service provider (SP) is required to provide dedicated & non dedicated-Data Centre space within its premises as per requirements of the RECL. The Data Centre space requirement shall be computed based on the floor requirements, rack requirements, enclosure requirements or working space in terms of chairs or table requirements. Upto three seats are to be provided in the data centre for RECL staff for this project. There should be provision for easy access to the physically handicapped personnel. There should be sufficient space and other requisite infrastructure in the server farm/room to install the equipment in the lockable area with dual locking (one key with Service Provider and other with the purchaser). Also provision for shared meeting/conference room for 5-6 personnel has to be made.	The services are not available in the Co-location facility. Request you to relax the condition.	Data Centre facilities provided by the vendor will be inspected and technically evaluated to meet the needs of RECL. And the given needs are indicative.
41	Annexure-K Part-II Clause 3.4	The building shall be built to withstand seismic disturbance for complying with Zone IV Seismic Intensity or higher intensity as specified by Indian Meteorological Department (IMD) without any impact on the structure and the services within the same. The structures shall be built based on the Indian standards IS 1893, IS 4326, etc and respective revisions thereon. The buildings should be structured to withstand an earthquake of up to 8.3 on the Richter scale.	Specifications not clear. Please elaborate.	The clause is self explanatory.

42	Annexure-K Part-II Clause 3.14	The DC shall be provided with necessary utilities with redundant sources for Electrical Power and Water as well as Optic Fiber cables for providing Network connectivity to the DC from at least three different Service Providers. The DC shall need to have its own power generation facility in form of Diesel Generator (DG) sets. AC power feed should preferably be provided from different substations to improve reliability of power to the Data Centre. The building apart from its normal water storage shall have adequate water storage facility for Fire Fighting. The DC should have adequate provisioning of diesel storage for running the DG set for at least 3 days.	The diesel storage for running DG set for 2 days is available. Request you to relax the condition.	Running of DG is for 2 days only.
43	Annexure-K Part-II Clause 4.3	Secured Data Centre space in form of Cage space shall be provided for housing the server racks and other equipments.	The services are not available in the Co-location facility. Request you to relax the condition.	Caged Space will be preferable, though it is not mandatory.
44	Annexure-K Part-II Clause 9.1	Operation support	Detailed scope and quantity are required	Please refer , Scope of Work , 2.2
45	Annexure-K Part-II Clause 12	Statutory Required/Approvals	Specifications not clear. Please elaborate.	The given clause is self explanatory
46	Annexure K.Core Router	The Router should have two integrated 10/100/1000 interfaces and one SFP based gigabit port	SFP based gigabit port will not be used as router is already having 2x10/100/1000 ports.This requirement is specific to one particular OEM.	No Change
47		Support for router load balancing using single instance and use of multiple MAC address for load balance between upto 4 routers.	This is Cisco Proprietary feature. Pls. remove this.	The clause to read as " Full support for path load balancing" where ever mentioned
48		Should support SSL VPN feature	This feature requirement on the router helps one particular OEM. Pls. remove this feature.	The clause to read as "Should support SSL VPN feature(Internal/External)" where ever mentioned

49		Should support Anti virus integration for regular patch updation and secure access to the network	This feature requirement on the router helps one particular OEM. Pls. remove this feature.	The Clause to be read as "Should support Anti virus integration for regular patch updation and secure access to the network (Internal/External) " where ever mentioned
50		Should have IPS, firewall functionality.	IPS functionality feature on the router helps one particular OEM. It is always recommended that IPS should be on the external device.	The Clause is deleted
51	Annexure K.Firewall and IPS	The Firewall Throughput should be at least 450 Mbps	By looking towards the concurrent sessions requirement, 450Mbps throughput is very low. Pls. make it to 1Gbps.	No Change
52		Redundant power supply (RPS)	Asking RPS will help one particular OEM. Pls. remove RPS requirement.	No Change
53		Support for SSL VPN	This feature requirement on the FW helps one particular OEM. Pls. remove this feature.	The cause to be read as " Compatible with SSL VPN" where ever mentioned
54	Annexure K.Serial 1 (DC Network)	The Router should be a single box configuration and should be modular, so that the purchaser has the flexibility to use the appropriate choice of interfaces as and when required.	Please calrify the "appropriate choice of interfaces" whether it includes the Data interfaces or voice interfaces	Refer to clause Sr.No 1 C,.
55		The Router should have two integrated 10/100/1000 interfaces and one SFP based gigabit port	SFP Ports are not required at the Core level , in the senerio of RECL where MPLS Connectivity is required , only ethernet port can be used so we request you to delete the clause of SFP	No Change
56		The router should be provided with six serial ports supporting at least 2 Mbps speeds	Please clarify over the number of ports required	No Change
57		Support for unequal path loadbalancing.	Request you to remove this clause as protocol used behind this technology is proprietary to specific OEM	The clause to read as " Full support for path load balancing" where ever mentioned
58		Support for router load balancing using single instance and use of multiple MAC address for load balance between upto 4 routers.	Request you to remove this clause as protocol used behind this technology is proprietary to specific OEM	The clause to read as " Support for router load balancing" where ever mentioned
59		Flex- Ports All the Serial Ports should be Flex-Configured for RS-232/V.35 interface	As per the requirement of RECL , Flex-port are not required , request you to remove this clause	The clause to read as " Flex- Ports All the Serial Ports should be Flex-Configured for V.35 interface" where ever mentioned

60	Annexure K.Serial 1 (DC Network)	Should support SSL VPN feature	SSL - VPN termination on router is never recommendable as it will degrade the performance of the router and it will tilt the specification to the specific OEM request you to remove this clause	The clause to read as "Should support SSL VPN feature(Internal/External)" where ever mentioned
61		Should have IPS, firewall functionality.	There is no requirement of IPS and firewall on core router when different boxes are provided for same , it will unnessacrly degrade the performance of the router	The Clause is deleted
62	Annexure K. Internet Router	Router should have 2 Nos of Sync / Async port	Async is not recommendable, as there is no scalability in these ports , we suggest change the same with Sync port only	The clause to be read as " Router should have 2 Nos of Sync port" where ever mentioned
63		Redundant power supply (RPS)	Redendent power supply should be removed	No Change
64	Annexure K. Internet Router	Firewall & IPS (Internal / External)	There is no requirement of IPS and firewall on core router when different boxes are provided for same , it will unnessacrly degrade the performance of the router	No Change
65	Annexure K. Internet Router	Support for SSL VPN	SSL - VPN termination on router is never recommendable as it will degrade the performance of the router and it will tilt the specification to the specific OEM request you to remove this clause	The cause to be read as " compatibility with SSL VPN" where ever mentioned
66	Annexure K. Serial 3 DC n/W	Compression- TCP/IP Header	This technology is tilt towards the specific OEM , we suggest to remove the same	No Change
67	Annexure K. Central Switch	6) The switch must support 50,000 unicast / multicast entries.	As per the requirement RECL never required 50000 Multicast entries because its all depends upon multicast groups created in the network . In practical senerio this figure is on higher side , our suggestion is to change from 50000 to 1000 entries	The clause to be read as " The switch must support 50,000 (unicast + multicast) entries, but multicast should be supported "where ever mentioned
68	Annexure K. Central Switch	Should perform IPv6 routing	These feature are not requirement from Day 1 , request you to change it to IPv6 Capable Switch , which will be upgardeable with Full IPv6 Functionality as and when with no additional Cost	No Change
69		Should support IP version 6 in hardware.		
70		Should support IPv6 static route, IPv6 route redistribution		
71		Support for IPv6 security – Access Control lists (standard & extended), SSH over IPv6		
72		The switch should support for IPv6		

73		Should support IPv6 stateless auto-configuration, IPv6 neighbor discovery and, Neighbor		
74		Should support IPv6 Quality of Service		
75		Should support IPv6 dual stack		
76		Should perform IPv6 transport over IPv4 network (6to4 tunneling).		
77	Annexure K. Central Switch	Should support IP source guard or equivalent.	Request you to remove this Clause as it is specific to one OEM	The Clause to be read as " Should support IP source guard or DHCP Snooping vide <i>clause 14 of Core switch</i> will be considered equivalent" where ever mentioned
78	Annexure K. Distribution Switch	The switch should have 24 nos of 10/100 / 1000 BaseTx interfaces and 4 nos of 1000BaseLX gigabit uplink fiber ports. All the 26 interfaces should be activated simultaneously.	As per the Industry standard only 24 Port will activated simultaneously , request you to change the same.	The Clause to be read as " The switch should have 24 nos of 10/100 / 1000 BaseTx interfaces and 2 nos of 1000BaseLX gigabit uplink fiber ports. " where ever mentioned
79		13) The switch should have a dedicated stacking port of at least 30Gbps bandwidth fo scalability of the solution.	We suggest stacking should be Fail-Safe	No Change
80		11) The switches should support static IP routing and should be software configurable to have advanced unicast routing protocols like OSPF and multicast routing protocols like PIM Sparse and Dense Mode.	PIM-SM is most commonly used Multicast protocol as compared to DM. PIM-DM is not a BW efficient protocol as it overheads are very high. WE request you to make it like only PIM Sparse Mode	No Change
81	Annexure K. Access Switch	8) A minimum of 16 Gbps switching fabric capacity for 24-port switch and a minimum of 32 Gbps for 48 port switch.	Backplane calculation According to standards for 24 ports 10/100 backplane required 24 * 100 Mbps = 2.4 Gbps for full duplex = 2 * 2.4 Gbps = 4.8 Gbps for 2 SFP = 2 * 1000Mbps = 4Gbps Total = 8.8 Gbps Backplane Required.	The Clause to be read as " A minimum of 8 Gbps switching fabric capacity for 24-port switch and a minimum of 16 Gbps for 48 port switch" where ever mentioned.

82	Tender Document (Section 2.4.1)	<p>“Network related SLA and its management” there is a requirement of SLA monitoring and Network Performance monitoring metrics like Bandwidth Utilization, CPU Utilization etc. However there are no specifications for the same mentioned under section LAN NMS and WAN NMS. We strongly feel that it is mandatory for RECL to have a tool to proactively monitor Network Performance of the devices and manage SLAs that are specified.</p>	<p>These modules should be included under LAN/WAN NMS Technical Specification (pg 161-162).-</p> <p>We strongly suggest that the network fault management tool should have built-in root cause analysis technology to identify network faults within the environment and ‘filter-out’ symptom alarms and deduce the root cause of failure in the network automatically to generate more value for RECL</p> <p>- We feel that NFM should provide secure device configuration capture and upload and detect inconsistent “running” and “startup” configurations as well as clearly identify configuration changes as root cause of network problems in RECL infrastructure NMS. (pg 159-162)</p>	<p>SLA's must be monitored and enforced by the vendor . It can be part of the appropriate tools. The offered solution should meet the requirements at Pg.No. 159-162 and 32</p>
83	Tender Document. Server Performance monitoring queries	<p>There are no specifications for Server Performance Monitoring</p>	<p>We suggest SNMP-based server monitoring agents with minimum overhead that can report to the network performance management console and thereby provide a single unified interface for generating detailed trend reports, Top N reports, At-A-Glance reports etc. as well as generate live trend and performance charts depicting any unusual performance events within the critical servers at RECL.</p>	<p>Refer page no. 28,29 & 30. The software such as CA, UnicenterTNG, HP OpenView or equivalent with well established customer base</p>
84	Tender Document. Desktop & server management	<p>There are no technical specifications mentioned for Desktop and Server Management</p>	<p>We feel to achieve “Software Patches / upgrade” RECL will require an asset management and desktop remote control solution along with a remote software delivery solution. This will ensure that RECL can effectively manage heterogeneous desktop and server environments with minimal overhead.</p>	<p>The EMS must have all capabilities requested including features mentioned here in.</p>

85	Tender Document. Incident and problem management		- We feel that RECL will require an ITIL-compliant helpdesk management tool with built in templates for incident management, problem management, change management, configuration management, integrating out-of-the-box with other EMS tools like NMS and desktop management to provide effective service support capability and act as a single point of contact to resolve helpdesk issues	Already included .
86			- We feel that RECL requires a knowledge tools repository to identify repeated service incidents by hosting known problems knowledge documents which will enable the IT support system to resolve such known incidents	Future Requirement
87	Tender Document. Server Queries:	S No. 10: Hard Disk Bays:	We can offer 8X 2.5" SAS instead of Minimum of 4 x 3.5" SAS Hot-Swap Hard Disk front accessible bays	The clause to be read as " 4 X 3.5" SAS OR 8 X 2.5" SAS Hot-Swap Hard Disk front accessible bays"
88		- S No. 11:	Hard Disk Drives: 6 X 146 GB - 10 K RPM instead of 3 x 300 GB 15K Hot-Swappable 3.5" SAS Hard Disk Drives	The clause to be read as " Hard Disk Drives: 3 X 300 GB 15K RPM HS SCSI 3.5" OR 6 X 146 GB 10 K RPM HS 2.5" SAS" where ever mentioned
89		- S. No. 14:	Ethernet Adapter: We don't have Wake on LAN & Alert on LAN	No Change
90		- S. No. 15:	Video: We can offer 8 MB DDR Memory instead of 16 MB	No Change
91	Annexure K. Serial 1 (DC Network)	The Router should be a single box configuration and should be modular, so that the purchaser has the flexibility to use the appropriate choice of interfaces as and when required.	Please clarify the "appropriate choice of interfaces" whether it includes the Data interfaces or voice interfaces	Refer to clause Sr.No 1 C,.
92		The Router should have two integrated 10/100/1000 interfaces and one SFP based gigabit port	SFP Ports are not required at the Core level , in the senerio of RECL where MPLS Connectivity is required , only ethernet port can be used so we request you to delete the clause of SFP	No Change
93		The router should be provided with six serial ports supporting at least 2 Mbps speeds	Please clarify over the number of ports required	No Change
94		Support for unequal path loadbalancing.	Request you to remove this clause as protocol used behind this technology is propritory to specific OEM	The clause to read as " Full support for path load balancing" where ever mentioned

95		Support for router load balancing using single instance and use of multiple MAC address for load balance between upto 4 routers.	Request you to remove this clause as protocol used behind this technology is proprietary to specific OEM	The clause to read as " Support for router load balancing" where ever mentioned
96		Flex- Ports All the Serial Ports should be Flex-Configured for RS-232/V.35 interface	As per the requirement of RECL , Flex-port are not required , request you to remove this clause	The clause to read as " Flex- Ports All the Serial Ports should be Flex-Configured for V.35 interface" where ever mentioned
97	Annexure K. Serial 1 (DC Network)	Should support SSL VPN feature	SSL - VPN termination on router is never recommandable as it will degrade the performance of the router and it will tilt the specification to the specific OEM request you to remove this clause	The clause to read as "Should support SSL VPN feature(Internal/External)" where ever mentioned
98		Should have IPS, firewall functionality.	There is no requirement of IPS and firewall on core router when different boxes are provided for same , it will unnessacrly degrade the performance of the router	The Clause is deleted
99	Annexure K. Internet Router	Router should have 2 Nos of Sync / Async port	Async is not recommandable, as there is no scalability in these ports , we suggest change the same with Sync port only	The clause to be read as " Router should have 2 Nos of Sync port"where ever mentioned
100		Redundant power supply (RPS)	Redendent power supply should be removed	No Change
101	Annexure K. Internet Router	Firewall & IPS (Internal / External)	There is no requirement of IPS and firewall on core router when different boxes are provided for same , it will unnessacrly degrade the performance of the router	No Change
102	Annexure K. Internet Router	Support for SSL VPN	SSL - VPN termination on router is never recommandable as it will degrade the performance of the router and it will tilt the specification to the specific OEM request you to remove this clause	The cause to be read as " compatibility with SSL VPN" where ever mentioned
103	Annexure K. Serial 3 (DC n/w)	Compression- TCP/IP Header	This technology is tilt towards the specific OEM , we suggest to remove the same	No Change
104	Annexure K. Central Switch	6) The switch must support 50,000 unicast / multicast entries.	As per the requirement RECL never required 50000 Multicast entries because its all depends upon multicast groups created in the network . In practical senerio this figure is on higher side , our suggestion is to change from 50000 to 1000 entries	The clause to be read as " The switch must support 50,000 (unicast + multicast) entries, but multicast should be supported " where ever mentioned
105	Annexure K. Central Switch	Should perform IPv6 routing	These feature are not requirement from Day 1 , request you to change it to IPv6 Capable Switch , which will be upgardeable with Full IPv6 Functionality as and when with no	No Change
106		Should support IP version 6 in hardware.		

107		Should support IPv6 static route, IPv6 route redistribution	additional Cost	
108		Support for IPv6 security – Access Control lists (standard & extended), SSH over IPv6		
109		The switch should support for IPv6 Multicast.		
110		Should support IPv6 stateless auto-configuration, IPv6 neighbor discovery and, Neighbor		
111		Should support IPv6 Quality of Service		
112		Should support IPv6 dual stack		
113		Should perform IPv6 transport over IPv4 network (6to4 tunneling).		
114	Annexure K. Central Switch Pg No.144	Should support IP source guard or equivalent.	Request you to remove this Clause as it is specific to one OEM	The Clause to be read as " Should support IP source guard or DHCP Snooping vide <i>clause 14 of Core switch</i> will be considered equivalent" where ever mentioned
115	Annexure K. Distribution Switch	The switch should have 24 nos of 10/100 / 1000 BaseTx interfaces and 4 nos of 1000BaseLX gigabit uplink fiber ports. All the 26 interfaces should be activated simultaneously.	As per the Industry standard only 24 Port will be activated simultaneously , request you to change the same.	The Clause to be read as " The switch should have 24 nos of 10/100 / 1000 BaseTx interfaces and 2 nos of 1000BaseLX gigabit uplink fiber ports. " where ever mentioned
116		13) The switch should have a dedicated stacking port of at least 30Gbps bandwidth fo scalability of the solution.	We suggest stacking should be Fail-Safe	No Change
117		11) The switches should support static IP routing and should be software configurable to have advanced unicast routing protocols like OSPF and multicast routing protocols like PIM Sparse and	PIM-SM is most commonly used Multicast protocol as compared to DM.	No Change
118			PIM-DM is not a BW efficient protocol as it overheads are very high. WE request you to make it like only PIM Sparse Mode	
119	Annexure K. AccessSwitch	8) A minimum of 16 Gbps switching fabric capacity for 24-port switch and a minimum of 32 Gbps for 48 port switch.	Backplane calculation According to standards for 24 ports 10/100 backplane required $24 * 100 \text{ Mbps} = 2.4 \text{ Gbps}$ for full duplex = $2 * 2.4 \text{ Gbps} = 4.8 \text{ Gbps}$ for 2 SFP = $2 * 1000\text{Mbps} = 4\text{Gbps}$ Total = 8.8 Gbps Backplane Required.	The Clause to be read as " A minimum of 8 Gbps switching fabric capacity for 24-port switch and a minimum of 16 Gbps for 48 port switch." where ever mentioned

120	Annexure K		What is the support period required by RECL, Annexure mentions that the same is required to be 3 + 3 years (in addition to 3 years as mention in main RFP); Is the total support required for 9 years ?For any hardware the maximum support available from any vendor/manufacture is not more than 5 years.Request for amendment of the clause.	Support required for 3 + 3 years and 3 years for further subsequent years
121			Please give the details on the existing hardware, like make, model, date of purchase, if out of warranty whether the equipment is under AMC or not and AMC expiry schedule.	Refer Annexure M (revised)
122			Can Reliance offer you the it's level 3 Data Centre facilities in, Mumbai, Bangalore, Chennai, etc. for the primary setup & Hyderabad for D.R.	No
123			4) Reliance data centre will be operational in Delhi by end of this year, so can we offer you space on immediate basis in our Existing Data Centres (At Mumbai , Banglore , Chennai) & shift the entire setup if required by REC at a later date in Delhi.	The DC should be in NCR and should be ready within the time frame at clause 2.3.1 Refer . pg no.32
124		Server and n/w racks	Whether server and networking racks to be placed together in server room or not?	Yes, placed together
125		DG sets	whether sufficient power back up in terms of DG is available or not at SSC building?	DG in SSC will be provided by RECL
126		UPS	Whether redundancy in UPS is required or not, if yes what is the backup time required?	No redundancy required . Refer pg no.158
127		PAC	Whether split type or precision air conditioning is required in the SSC server room?	Split Type Air Conditioning is required
128		Access control	How many entry points are envisaged in SSC Hyderabad?	Double door entry (Two access points)
129		IBMS	Do you require BMS solution in the SSC hyderabad?	Not required
130		BMS	Do we need to integrate electric panels/UPS/access control/PAC's with the BMS ?	Not required
131		Floor plan	Please provide the layout drawing of the SSC building alongwith the SSC area marked?	Plan enclosed (as annexure N, new). (Subject to change)

132		Point load	Please provide the floor loading of the SSC room?	Standard Loading
133	General		Whether the scope is limited to DC and SSC alone or it include their central office as well..... 27001 certificate is perimeter based	Only Data Center
134			The talks of creation & implementation of policies and procedures - Do we need to get them certified under ISO 27001 ?	No , but the policy should be compatible for future certifications
135			There is no training requirement written - I think it is required	Refer Price schedule & Clause A.2 , 1.1.13
136			How long we need to run the 27001 framework ? 3 years ?? with certificate ??	As long as DC is Operational
137	Annexure K. firewall & IPS		A firewall & IPS are to be quoted as separate products.If yes then :	Refer diagram pg no.118. They may be integrated and must meet performance criteria.
138	Annexure K. Serial 6 & 7(DC): Specification for firewall and IPS		Serial 6 & 7(DC): Specification for firewall and IPS - Pg 153 is contradictory as the hardware architecture point 2 states: The appliance should have firewall, VPN, Full IPS functionality .The DC logical diagram also doesnot include IPS as a separate logical element.It seems Firewall and Integrated IPS will suffice.Please confirm.	May be integrated as above
139	Annexure K. Antivirus server		How many licences for enterprise edition of antivirus server software is required.	For L1 computation minimum 300 licenses & unit rate to be specified. [Annex J Srl 22 to be modified and price to be quoted for 300 licenses along with unit rate]
140	Annexure K. Firewall & IPS management		For security device - Firewall & IPS management : A management console has to be quoted for firewall and IPS- This shall be for how many licences.Is reporting tool both for firewall and IPS also of interest-If yes then for how many licences.	As per the tender requirement
141			For central and internet location make/model of firewall and IPS devices shall be same or not.	Should be from same OEM
142	Tender Document para 3.23.21 & 3.23.24,		Reference to the tender, they have mentioned that the bidder should provide the EPF number & they have to submit the proof as well as the contract employee is eligible for pension & insurance page 51 para 3.23.21 & 3.23.24, need clarification.	This is required to show that , they are the employees of the bidder and is essential

143	General		What is the escalation matrix for ticket raising and resolution	Will be worked out at the time of implementation
144			Will hosted ticket management solutions can be a part considered	No objection. But , Yes, if it meets requirement
145			Helpdesk/ Call Management software - How many users to be incorporated.	As per FMS and the number of calling users is minimum 300
146			TCS being the Oracle ERP implementor to what level their activities limited in the Database. (to sign OLA we need to understand their present scope of work)	Relevant portions of Contract agreement with application vendor will be shared.
147			TCS to provide the replication structure.	Yes
148			As we don't have clarity on the Delhi Data center we can proposed the Colocation space in Hyderabad and data center build in Delhi .,	The DC should be in NCR and should be ready within the time frame at clause 2.3.1 pg no.32
149	Pre Qualification and Eligibility Criteria clause 1.2	The bidder should have been in operation in India for a period of at least 5 years as on the last date of bid submission, as evidenced by the "Certificate of Incorporation and Certificate of Commencement issued by the registrar of Companies"/ partnership deed/ self undertaking in case of proprietorship firm Certificate of Incorporation and Certificate of commencement	Certificate of Commencement is not applicable to Reliance Communications Ltd. Because it is a Public Limited copmany in nature.	In the case of public limited company , the certificate of incorporation must declare the date of commencement , which can be taken as date of commencement.(documentary proof to be submitted)
150	Pre Qualification and Eligibility Criteria 1.2 (1.2.6)	The bidder should have been providing on-site facilities management service on 24 X 7 basis to at least two separate clients having data centre in India for the last three years for an average annual value of at least Rs 10 lacs (Rs ten lacs)each. Attach documentary proof. Order copies / certificate from the client		Documentary proof of having the experience needs to be attached

151	Scope of WorkSection Clause 2.2 SN : 3	Offer a state-of-the-art at least level 3 data centre in NCR from a reputed national service provider with environment in which the equipments for Data Centre will be installed	<p>1. First of all by saying bidder should have Level 3 Data Centre in NCR, RECL is strictly restricting the other Data Centre Infrastructure Service Provider.</p> <p>2. Kindly mentioned how does it impact if a Data Centre in other city?</p> <p>3. Therefor it is suggested that, ERP-SSC should be placed</p>	The DC should be in NCR and should be ready within the time frame at clause 2.3.1 pg no.32
152	Annexure-H,I	Supply, Installation, Commissioning and Training of Equipment / Products and offered Solution for effective and efficient implementation of ORACLE 11i ERP in RECL	It is suggested that it should be "Hosting/ Co-Location of 'ERP- Data Centre (ERP-DC), Establishment of Standby Server Centre (SSC), Corporate-Wide Area Network (WAN) and LAN at Remote Offices which includes Supply, Installation, Configuration, Testing, Commissioning, Training, Maintenance and System Integration of various Equipments and/or Products and on-site Facilities Management".	No Change
153	Annexure K		<p>1. Is RECL looking for a two separate link terminating on your router on divers route? In this case two port on RECL's Router and two port on Service Provider's router will be consumed. And degraded capacity is available on Secondary link.</p> <p>Reliance will provide primary and secondary access link over self healing (Auto Switching in less than 50ms), Fibre ring architecture where in one port at router will be used and secondary link capacity will be equal to primary link.</p>	The clause is self explanatory
154	Annexure K		bandwidth mentioned for A1- A17 in (1:4) sharing mode which is a case in Internet Bandwidth.However in MPLS VPN network we recommend 1:1 capacity.	Should be (1 : 1)

155			Traffic type on MPLS VPN Network We understand that RECL will run Data application on this MPLS VPN Network, incase RECL intends to have voice & Video traffic,please clearly demark the bandiwdth for traffic type for each data, voice and video.	Voice and Video is a future requirement
156	Tender Document. Clause 1.1.2	Offer a state-of-the-art at least level 3 Data Centre, installed in NCR, from a reputed national service provider for co-location services with environment in which the equipments for ERP Data Centre will be installed.	REC should be open to look for various options of Level III DC available in the country . NCR comes in Seismic Zone IV which is high risk zone. Normally in India, major vendors have DC at Mumbai/Banglore/Chennai/Hyderabad which are in Seismic Zone II/III respectively. REC is requested to amend this clause to use co-location services anywhere in India. This will also lead to healthy competition as more players can participate. Sify has level III Data Centres at Mumbai,Bangalore and Chennai which are ISO 9001:2000 and ISO 27001 certified providing highest level of uptime of 99.99%.Sify focuses on Data Center Build,Data Center Manage and Data Center Improve services.	As per the solution design, the DC has to be located in NCR
157	Tender Document. Clause1.2.5	The bidder should have an experience of successful implementation of at least two projects in India involving supply, commissioning & maintenance of the key products of total order value of at least Rs 2 Crore (Rs TwoCrore) each.	We request RECL to amend this clause:The bidder should have an experience of successful implementation of at least two projects in India involving supply, commissioning & maintenance of the key products out of which one of them should be for total order value of at least Rs 2 Crore (Rs TwoCrore)	No Change

158	Tender Document. Clause 1.2.6	The bidder should have been providing on-site facilities management service on 24 X 7 basis to at least two separate clients having data centre in India for the last three years for an average annual value of at least Rs 10 lacs (Rs ten lacs) each. Attach documentary proof.	Sify has Level III commercial data center in Chennai, Mumbai & Bangalore , through which offers various co-location services to various customers. These DCs are managed by Manpowers specifically trained for this environment. As REC is looking to co-locate thier servers in a IIIrd party environment, so management of servers and other equipments would be the responsibilty of DC vendor. We would request following to be added in the clause "OR vendor should have been providing managed services to their hosted customers in thier DC, if vendor is a Data Center provider. REC may further ask for bidder competency to have 2 POs on Facility Management services of at least 10 lacs.	No Change
159	Tender Document.1.2.15	In pursuance to CVC Office Order No. 75/12/04 dated 24th December 2004 the bidder's must note that "A firm which has been engaged by the PSU to provide goods or works for a project and any of its affiliated will be disqualified from providing consulting services for the same project. Conversely, a firm hired to provide consulting services for the preparation or implementation of a project, and any of its affiliates, will be disqualified from subsequently providing goods or works or services related to the initial assignment for the same project." Enclose an undertaking to this effect	Kindly clarify "If a firm hired to provide consulting services for the preparation or implementation of a project then in that case none of the firms affiliates would be allowed to bid in the tender. As per the tender TCS is providing consulting and implementation for ERP so CMC or Tata Communications should not be allowed to participate.	The clause is self explanatory.
160	Tender Document. Clause C.3	Manpower at On-Site (ERP-DC): At least two numbers of competent (level II) Facility Management personnel at ERPDC and CO to manage the entire IT infrastructure and operation, should be available on site to provide Warranty / AMC/operational support on 14x6 basis.. The Manpower should be always available during 7:30 AM to 9:30 PM, Six days a week (Monday-Saturday).	As ERP-DC is to be hosted/colocated at third party Data Centre, the infrastructure would be managed by bidders manpower at its ownDC provider 24*7. Kindly clarify the clause as to what exactly RECL means with reference to Manpower On-site for ERP-DC.	Refer Clause C 3 ., Pg No.27

161	Tender Document. Clause 3.2-VII	Section-III Clause3.2-VII- Each bidder shall submit only one bid. A bidder who submits more than one bid will be rejected. Alternative bids will not be accepted.	Kindly clarify "If a consortium partner to the lead bidder bids with more than one prime bidder then the bid would be accepted? ". Also if a vendor bid as a Lead Bidder and also as a consortium partner to another bidder, will the same be accepted? Pls clarify	This clause is applicable to the prime bidder
162	Annexure K Serial-2 ix	Should support ISP link load balancing irrespective of the link availability from one or more ISPs.	Kindly elaborate what kind of link load balancing RECL is looking at with the Router either using any routing protocol or any feature enabled in the router.	At any point of time , both the links should be used
163	Annexure K . Serial-1	Should have IPS, firewall functionality.	Since RECL requires individual Firewall and IPS at DC then this feature is not required in Router.	This requirement is dropped
164	Annexure K . 1.0 point d)	Establishment of Local Area Network at each of the Zonal Offices/Project Offices/CIRE	There are no details on the no.of nodes for the LAN.Kindly specify the details for the LAN part.	Refer Annexure O (new)
165	Annexure K . 1.0 point g	Providing Intra RECL and Internet Bandwidth as specified in Annexure K on annual basis for a period of three years extendable to a further period of three years.	Pls clarify Intra RECL scenario, does it imply a MPLS IP VPN n/w interlinking all the locations?	Yes, through dual (primary & backup) Hub and Spoke model
166	Annexure K . 1.1 point b)	RECL reserves the right to procure and provide hardware/networking/software/infrastructure equipments /other products as per its own specifications (which may be based on the suggested specifications).	Does this mean that RECL is looking for supply of some equipments	Please refer Annexure M (revised). These equipments are existing and required to co-located along with the equipment mentioned in this tender.
167	Annexure K . Section C.2	Ensure regular monitoring and maintain a log of the performance monitoring of servers including but not limited to monitoring processor, disk space, memory utilization, link utilization, router and switches utilization, I/O utilization.	Can the monitoring be done remotely through a service providers NOC?	No
168	Annexure K . point 2.4	Secure communication in the present context of MPLS/VPN covers access control, authentication, and confidentiality.	Is RECL planning to deploy IPSec tunneling from the remote locations?	Yes, Router to Router
169	Annexure K . point 2.4	Here network availability is defined as (a) the fraction of the time for which MPLS/VPN network is available, (b) the time it takes for the vendor to repair a fault, and (c) the portion of the MPLS/VPN network that is affected by a failure.	Sify requests that the time taken to repair should not be included in the calculation of the Availability. The MTTR should be given seperattely as a SLA paramater.	No Change

170	Annexure K .	Logical Diagram: A1 to A17 should be shared bandwidth(1:4)	Sify recommends to change the bandwidth requirement at the ZO/PO to be symmetric (1:1) as we feel that shared bandwidth would not suffice to RECL requirement.	Should be (1 : 1)
171	Annexure K .	Bandwidth table	It is mentioned at DC last mile should be LL.At the remote locations we assume that bidder can provide last mile through RF/LL/OFC as irrespective of the last mile the SLA has to be maintained.	This is already permitted in the definitons of Leased Line
172	Tender Document, point 1.1.10	Implement BS 7799 – ISO/IEC 27001/RECL IT Security Policy at ERP-DC. Formulation of Business continuity and Disaster Recovery policy (BCP-DRP) keeping in mind the SSC at present and full fledged DRC at a later date. The security & BCP-DRP policies should comply with CERT-IN security guidelines, RBI policy, CoBIT etc. Prepare and submit ERP–DC facilities management policy.	Please specify the all the locations where ISO27001 needs to be implemented.	At Data Center and all other policies should be ISO27001 complied to make it ISO27001 in future
173	Tender Document, point 1.1.10		Is the organization initiating a security or risk assessment program? If No, please list the past security initiatives chronologically	This is part of future compliance
174	Tender Document, point 1.1.10		Kindly brief on the scope of Management system	The bidder has to formulate the policies in consultation with RECL and implement
175	Tender Document, point 1.1.10		Has the organization been certified with any ISO standards or any other management system? If yes, please list them	The bidder has to formulate the policies in consultation with RECL and implement
176	Tender Document, point 1.1.10		Please state whether the organization has formulated any IT policies? If yes, please list them	The bidder has to formulate the policies in consultation with RECL and implement
177	Tender Document, point 1.1.10		Please specify in past organization did any activities regarding BCP/DRP. If yes, please provide details	The bidder has to formulate the policies in consultation with RECL and implement
178	Tender Document, point 1.1.10		Is there any committee or organizational department entrusted with supervisory responsibilities for formulation and implementation of security programs.	The bidder has to formulate the policies in consultation with RECL and implement

179	Tender Document, point 1.1.10		Is there any internal audit department or any other department entrusted with auditing of information systems? If yes please give details (please provide details of how often these department audits the information resources).	The bidder has to formulate the policies in consultation with RECL and implement
180	Tender Document, point 1.1.10		Please list any other organizational documents available pertaining to Information security? (Management level and technical level policies, procedures, management intent).	The bidder has to formulate the policies in consultation with RECL and implement
181	Tender Document, point 1.1.13	Provide training to IT/ ERP Technical and support team and other IT professionals as required by RECL for the installation, configuration, commissioning, monitoring, troubleshooting of various equipments/products & other aspects of the data centre, SSC, Corporate WAN including MPLS VPN, Remote LANs etc.	Please specify certification training like CCNA, CCNP also includes exam fees	Refer Page No.107 Table II
182		It may be noted that maintenance of these servers and equipments are not part of this tender.	We need to size and procure, but not manage. Please clarify?	This is only applicable for List of equipments Annexure M(Revised)
183	Annexure K Clause C.3	Manpower at On-Site (ERP-DC): At least two numbers of competent (level II) Facility Management personnel at ERPDC and CO to manage the entire IT infrastructure and operation, should be available on site to provide Warranty / AMC/operational support on 14x6 basis	As ERP-DC is to be hosted/colocated at third party Data Centre, the infrastructure would be managed by bidders manpower at its ownDC provider 24*7. Kindly clarify the clause as to what exactly RECL means with reference to Manpower On-site for ERP-DC.	The clause is self explanatory.
184	Tender Document, Clause 2.4.2	Maximum Two (2) hours response time for any reported fault at ERP-DC production environment	Kindly clarify: The response time here means logging the complaint and response through telephonic or email.Is there any resolve time that RECL is looking for	As SLA , refer clause 2.4.1(8)
185	Tender Document, SectionB1.0	It is mentioned that CO would have area of 450 sq ft.	Kindly clarify: The scope of work at CO If the bidder has to only supply,install and maintain the infrastructure only	Refer Annexure K ., Part II for detail
186	Tender Document, Section 1	The above IT infrastructure is being established in connection with implementation and running of the following modules of ORACLE 11i E-Business Suite at RECL	Are the ERP servers currently hosted at RECL CO location or some other location. Kindly provide the details on the same	Not Relevant

187	Tender Document. Section 1	The above IT infrastructure will also be utilized for driving other IT based applications and services like mail & internet facility etc. For this purpose, RECL has already procured and installed ERP servers and equipments to run the ERP application. The list of such systems are enclosed in annexure M.	According to the RFP the RECL ERP servers will be hosted at ERP DC that is the Service provider datacenter. Do we need to do the migration of the ERP setup from REC office to our datacenter? If yes, please ask what is the downtime RECL is looking for and what will be Bidder scope for the same.	Some migration is outside the scope of this tender and bidder has to give OLA
188	Tender Document. 1.0.1 b	Building a basic ERP-Standby Server Center (ERP-SSC) with all electrical, Civil and data cabling and other allied works at the Central Institute for Rural Electrification(CIRE), Hyderabad	We are clear that we need to build a SSC RECL at Hyderabad under the scope of this RFP which they may convert to DR site later on. Do we make the provisions taking into consideration the current requirement or as per the DR site requirements. We would also require the following clarifications from RECL: - Site details (Layout design, Dimensions of the identified site, Floor to ceiling height, can we have a visit at the site at a later date in the coming week itself and understand the scope in more detail from the customer).	As per current Requirement
189	Tender Document. 1.0.1 h	Training and Certification of RECL nominated officials as specified in the tender document.	As per the tender we will be managing the facility for 3 years i.e. for ERP DC and ERP SSC. RECL have mentioned that Training and Certification needs to be provided to RECL officials. We believe these officials will be responsible to manage the other site locations of RECL where we need to establish LAN. Please clarify.	Notwithstanding the training to be provided by the bidder , the management of all the remote H/W is the responsibility of the bidder. The scope of the bidder is limited to equipment/services provided by the bidder , subject to clause 25 , pg 21
190	Tender Document. 1.0.2	Three years on-site Facilities Management on 14X 6 basis at ERP-DC and 8 X 5 basis at ERPSSC, extendable for a further period of 3 years on per-year basis, at the discretion of RECL	The Facility management will be for both IT and Non IT components or both. Is the client ok with remote management of their IT setup as we have our IMS team. Any how we will deploy Level 1 resources at the site.	As already given in pg 190
191	Tender Document. 1.1.6	The on-site facilities management personnel should ensure daily data replication from ERP-DC to ERP-SSC on asynchronous basis as per policy	Will the policy for the same provided by the customer or it will be suggested by bidder	By the customer in consultation with ERP Implementation partner

192	Tender Document. 1.1.12	Planning, Suggesting and Submitting the ERP-DC shifting/ upgradation plan(s) along with detailed specifications including drawings, which should be in-line with the vision and mission of the ERP project and RECL.	Kindly elaborate on the scope	This refers to lay-out planning of DC for the existing and supplied equipments as given in annexure M (revised).
193	Tender Document. Clause 1.1.13	Provide training to IT/ ERP Technical and support team and other IT professionals as required by RECL for the installation, configuration, commissioning, monitoring, troubleshooting of various equipments/products & other aspects of the data centre, SSC, Corporate WAN including MPLS VPN, Remote LANs etc. In addition the following certification training with OEM official curriculum and OEM official training material for each participant along with one attempt to appear for examination leading to independent industry standard and recognized certification shall also be carried out (covering all papers in the entire track in certification trainings and examinations):	After providing the study material and providing detailed training for certification, if in case the RECL official doesn't clear the certification then who will take the responsibility for the same?	Bidder is expected to provide adequate in depth training to appear for the exam.
194	Tender Document. Clause 2.1	The purpose of the data center (ERP-DC) would be the following: • Provide long-term scalable storage infrastructure.	Please clarify the type of storage capacities RECL is looking for presently and also the type of growth in future. Once we have these details we can size the storage accordingly.	Not Relevant
195	Tender Document. Table 1(Sr. No. A.1d)	d) Dismantling works Parts of existing areas as per scheme requires, false ceiling, cavity floor, tiles etc and re-routing / dismantling of existing communication, electrical wiring, fixtures & fittings. The demolition works for the project shall be in the bidder's scope, however rerouting of existing cables wherever required shall be done by RECL.	Please clarify this is for which Location or Locations of RECL.	SSC & CO (Refer ., Annexure K, Part II)

196	Tender Document. Table 1(Sr. No. A.1e)	e) Construction, interior works & furniture The major areas (whichever is applicable) are: RECL CO: 1. Server/ Network Room 2. Training Room 3. Facilities Management Room 4. Printer Room RECL SSC, Hyderabad: 1. Server/ Network room. 2. Electrical & communication room Design, Supply, installation, testing and commissioning Power distribution system along with UPS, Main L.T. Panel, PDB's, SDB's UPS's, Raw power DB, power outlets, service power sockets, electrical fixtures and decorative-luminaries, raceways, wiring & proper earthing.	Do bidder need to build / improvise the existing datacenter at the CO of RECL also? Please clarify. If yes please get the relevant details that is required as mentioned in Sr. No 4 clarification.	Refer Annexure K ., Part II (Section B)
197	Annexure K-Part II Section B	The present layout & plan drawing of the proposed premises is available at Appendix I and Appendix II	Kindly provide Appendix I and Appendix II	Enclosed as Annexure N(new)
198	Annexure K. Serial 1 (DC Network)	The Router should be a single box configuration and should be modular, so that the purchaser has the flexibility to use the appropriate choice of interfaces as and when required.	Please clarify the "appropriate choice of interfaces" whether it includes the Data interfaces or voice interfaces	Refer to clause Sr.No 1., Pg.134
199		The Router should have two integrated 10/100/1000 interfaces and one SFP based gigabit port	SFP Ports are not required at the Core level , in the senerio of RECL where MPLS Connectivity is required , only ethernet port can be used so we request you to delete the clause of SFP	No Change
200		The router should be provided with six serial ports supporting at least 2 Mbps speeds	Please clarify over the number of ports required	No Change
201		Support for unequal path loadbalancing.	Request you to remove this clause as protocol used behind this technology is proprietary to specific OEM	The clause to read as " Full support for path load balancing" where ever mentioned
202		Support for router load balancing using single instance and use of multiple MAC address for load balance between upto 4 routers.	Request you to remove this clause as protocol used behind this technology is proprietary to specific OEM	The clause to read as " Support for router load balancing" where ever mentioned

203		Flex- Ports All the Serial Ports should be Flex-Configured for RS-232/V.35 interface	As per the requirement of RECL , Flex-port are not required , request you to remove this clause	The clause to read as " Flex- Ports All the Serial Ports should be Flex-Configured for V.35 interface" where ever mentioned
204	Annexure K. Serial 1 (DC Network)	Should support SSL VPN feature	SSL - VPN termination on router is never recommendable as it will degrade the performance of the router and it will tilt the specification to the specific OEM request you to remove this clause	The clause to read as "Should support SSL VPN feature(Internal/External)" where ever mentioned
205		Should have IPS, firewall functionality.	There is no requirement of IPS and firewall on core router when different boxes are provided for same , it will unnessacrly degrade the performance of the router	The Clause is deleted
206	Annexure K. Internet Router	Router should have 2 Nos of Sync / Async port	Async is not recommendable, as there is no scalability in these ports , we suggest change the same with Sync port only	The clause to be read as " Router should have 2 Nos of Sync port" where ever mentioned
207		Redundant power supply (RPS)	Redendent power supply should be removed	No Change
208	Annexure K. Internet Router	Firewall & IPS (Internal / External)	There is no requirement of IPS and firewall on core router when different boxes are provided for same , it will unnessacrly degrade the performance of the router	No Change
209	Annexure K. Internet Router	Support for SSL VPN	SSL - VPN termination on router is never recommendable as it will degrade the performance of the router and it will tilt the specification to the specific OEM request you to remove this clause	The cause to be read as " compatibility with SSL VPN" where ever mentioned
210	Annexure K. Serial 3 (DC n/w)	Compression- TCP/IP Header	This technology is tilt towards the specific OEM , we suggest to remove the same	No Change
211	Annexure K. Central Switch	Switch should have 48 port 10/100/1000 Base T modules and should have non blocking performance. Switch should have 24 port based SFP with SX interface and performance of line card should be non blocking.	The modules of the chassis should be in-built with distributed architecture instead of non-blocking architecture. This allows L2 - L3 local switching and routing on the modules instead of CPU utilization for these processes.	The solution offered should have Non-Blocking performace and/or a Distributed architecture

212		The switch backplane bandwidth at minimum should be 600 Gbps	As per the requirement RECL, only 48 x 10/100/1000 & 24 x SFP ports are required. This requires only (96 + 48) = 144 Gbps backplane speed of the switch. Keeping future scalability in mind, the switch backplane may never be required to exceed more than 400 Gbps. Therefore, the switch backplane may be reduced to reduce unnecessary cost due to over pitching of the switches.	No Change
213		The switch must support 50,000 unicast/multicast entries.	As per the requirement RECL never required 50000 Multicast entries because its all depends upon multicast groups created in the network . In practical senerio this figure is on higher side , our suggestion is to change from 50000 to 1000 entries	The clause to be read as "The switch must support 50,000 (unicast + multicast) entries, but multicast should be supported" where ever mentioned
214	Annexure K. Central Switch	Should perform IPv6 routing	These feature are not requirement from Day 1 , request you to change it to IPv6 Capable Switch , which will be upgardeable with Full IPv6 Functionality as and when with no additional Cost	No Change
215		Should support IP version 6 in hardware.		
216		Should support IPv6 static route, IPv6 route redistribution		
217		Support for IPv6 security – Access Control lists (standard & extended), SSH over IPv6		
218		The switch should support for IPv6 Multicast.		
219		Should support IPv6 stateless auto-configuration, IPv6 neighbor discovery and, Neighbor		
220		Should support IPv6 Quality of Service		
221		Should support IPv6 dual stack		
222		Should perform IPv6 transport over IPv4 network (6to4 tunneling).		
223	Annexure K. Core Switch	Should support IP source guard or equivalent.	Request you to remove this Clause as it is specific to one OEM	The Clause to be read as " Should support IP source guard or DHCP Snooping vide <i>clause 14 of Core switch</i> will be considered equivalent" where ever mentioned
224	Annexure K. Distribution Switch	The switch should have 24 nos of 10/100/1000 BaseTx interfaces and 4 nos of 1000BaseLX gigabit uplink fiber ports. All the 26 interfaces should be activated simultaneously.	As per the Industry standard only 24 Port will be activated simultaneously , request you to change the same.	The Clause to be read as " The switch should have 24 nos of 10/100 / 1000 BaseTx interfaces and 2 nos of 1000BaseLX gigabit uplink fiber ports. " where ever mentioned

225		The switch backplane bandwidth at minimum should be 32 Gbps switch fabric.	The backplane is less (specific to a single OEM) and would be limiting, the calculation is as follows: According to standards for 24 ports 10/100/1000 backplane required 24 * 1000 Mbps = 24 Gbps for full duplex = 2 * 24 Gbps = 48 Gbps Total = 48 Gbps Backplane Required.	No Change
226		The switch should have a dedicated stacking port of at least 30Gbps bandwidth fo scalability of the solution.	Stacking should be fail-safe so that even if one of the switches fails, the stack does not disrupt. Also, the stacking backplane should be per switch and not for the total stack	No Change
227		The switches should support static IP routing and should be software configurable to have advanced unicast routing protocols like OSPF and multicast routing protocols like PIM Sparse and Dense Mode.	PIM-SM is most commonly used Multicast protocol as compared to DM. PIM-DM is not a BW efficient protocol as it overheads are very high.	No Change
228		The switch should support of IPv6 in hardware and software. The switches should be software upgradeable to support IPv6 unicast routing protocols like OSPFv3.	IPv6 feature is only required in service provider network where there is requirement of very high users and networks. In a campus network there is no requirement of IPv6, it may be required only on Intranet / Internet routers.	No Change
229	Annexure K. AccessSwitch	A minimum of 16 Gbps switching fabric capacity for 24-port switch and a minimum of 32 Gbps for 48 port switch.	Backplane calculation According to standards for 24 ports 10/100 backplane required 24 * 100 Mbps = 2.4 Gbps for full duplex = 2 * 2.4 Gbps = 4.8 Gbps for 2 SFP = 2 * 1000Mbps = 4Gbps Total = 8.8 Gbps Backplane Required.	The Clause to be read as " A minimum of 8 Gbps switching fabric capacity for 24-port switch and a minimum of 16 Gbps for 48 port switch." where ever mentioned
230		Support for IPv6	IPv6 feature is only required in service provider network where there is requirement of very high users and networks. In a campus network there is no requirement of IPv6, it may be required only on Intranet / Internet routers.	No Change
231	Tender Document, pt no (iv)	Last date of submission of bid	Keeping in view the effort involved in compiling this bid as per the requirements laid down in your RFP in order to work out a comprehensive proposal RECL is requested to extend the submission date specified in the bid document by at least 4 weeks.	As per revised schedule

232	Tender Document Section I: Invitation to Bid , pt no 1.2, sub pt 1.2.18	Missing in the RFP but referred to on pg no 14 & 85.	RECL is requested to furnish the clause.	In Page No. 85 SI 14, 1.2.17 to be read as 1.2.15 and SI 15, 1.2.18 to be read as 1.2.16 In Pg No 14., 1.2.18 may read as 1.2.17
233	Tender Document Section II: Schedule of Requirements , pt no 2.2, sub pt 26.2	UPS battery backup requirement for CO.	RECL is requested to specify the duration of battery backup required.	One hour battery backup
234	Tender Document Section II: Schedule of Requirements , pt no 2.2, sub pt 27, Table I, pt no A.1.c	The party shall make temporary arrangements to cut off the site from the regular working office area, if required.	RECL is requested to clearly specify that on which all locations they want such arrangement as this will have commercial implications and that too a substantial one in the Data centre co-location part.	SSC & CO may require this arrangement
235	Tender Document. Section III: Instruction to Bidders , Point 3.8, XXII	The proposed IT Infrastructure by the bidder should address the need for at least a period of next 6 years.	Request RECL to add the following in this clause "however any upgradation or addition (over the period of contract) to any requirement within the scope of tender document will attract commercial implications for RECL".	If the Upgradations or Additions is requested by RECL ., otherwise it's the responsibility of the bidder as per scope of tender.
236	Annexure K. WAN Diagram		Please confirm the expected MPLS network architecture? Hub and Spoke (Hub being the DC) or Any to Any?	Dual (Primary & Backup) . Hub and Spoke
237			A1 to A17 are MPLS bandwidths, thus, they need to be Dedicated and not Shared. Please clarify	Dedicated line is required
238	Annexure K. Bandwidth Table		Please confirm how many Internet links and in which configuration (active-active or active-backup) are required at DC?	Active - Active
239			The Internet bandwidth at DC should be Shared or Dedicated? Please clarify	Dedicated line is required
240			Does the Internet bandwidth at DC need to be distributed to other locations (ZO/PO/CO/SSC/Palika Bhawan) also? If yes, then what is the expected internet traffic (in Kbps) at all these locations?	Yes, the Internet bandwidth need to be distributed over the MPLS link.
241	Tender Document Point. iv	Request in extension of due date since bidders would require time to best prepare and submit the numerous documents (Pt 3.8, Pg 38) in their entirety as required (as per tender). The current due date is not adequate.		As per revised schedule

242	Tender Document . Helpdesk Call Management Activities Pt. 19	i) Is FMS is for DC & SSC only or is it to be provided for CO, ZO, PO as well?		As per clause C, Page No. 27
243		ii) Telephonic & onsite support to endusers - Does this mean the bidder has to position engineers at all locations?		As per clause C, Page No. 27
244	Tender Document . Helpdesk Call Management Activities Pt. 22	Provide support for WAN and LAN at all locations - What will be SLA and what support is to be included for Passive components?		Yes, as per SLA Pg 32 ., clause 2.4
245	Tender Document . Helpdesk Call Management Activities Pt. 24	Is Antivirus support for desktops including disinfecting required?		Yes
246	Tender Document . Helpdesk Call Management Activities Pt. A.4	14 x 6 & 8 x 5 onsite engineer support has been asked for but also 24 x 7 telephonic support and engineer to reach site within 4 hours during non-office hours. In point 2.4.2 it states 2 hours response time for any reported fault at ERP-DC production		Clause is self explanatory
247	Tender Document . Helpdesk Call Management Activities pt A.4, Warranty	i) Batteries, plastic parts, sprockets, glass items, Picture tubes, Print Heads are mentioned as SPARE PARTS. The items mentioned are considered consumables and are normally not covered under warranty by any OEM. Request that either these should be excluded from warranty or bidders have to account for these during bidding. Please clarify.		No change
248		ii) Onsite Manpower support is asked for only at ERP-DC, ERP-SSC and CO. However Geographical scope of FMS covers all Zonal and Project Offices also. Please clarify whether onsite support or telephonic/email support is required for Zonal/Project Offices since it is also mentioned that service support at ZO's and PO's is required within 1 day.		Support for other location is primarily for Remote support. Onsite support for these remote locations are required when it is essential which may be provided by the local office of the vendor, if any. The standard application/OS/HW support is out of scope of this tender and will be provided by the respective vendors

249	Tender Document . Helpdesk Call Management Activities pt C4	i) Manpower support - 2 resources for DC & CO asked for. Is it 2 at each location or 1 at each location?		Total 2 no. Manpower is required
250		ii) Support asked for is 14 hours. Does this imply 2 shifts - hence does this mean 2 resources in each shift or one resource per shift		2 No. Manpower in each shift
251	Tender Document . Helpdesk Call Management Activities pt 2.4.3	Penalty for not meeting uptime has been mentioned as 1% of total subcomponent cost. How will this be calculated?		As per the Rate Contract
252	Tender Document . Section-III, Clause 3.8, Technical Bid Pts. I to XVIII	The numerous technical documents required to be submitted with the technical Bid would require time consuming activities like site surveys, OEM involvement, documentation, RECL interaction, etc. Adequate time is required to prepare the necessary documents. Request that due date be extended so that ample time is available for the bidders.		As per revised schedule
253	Tender Document . Pt. XVI - c to j	Detailed discussion with project incharge of RECL required. Do we submit generic documents on the basis of assumptions since some documents are the type of documents prepared during installation or pre-installation?		Yes., Please make reasonable assumptions
254	Tender Document . Financial Bid, Annexure J SI No. 29 31	CO , SSC, and ZO/PO Infrastructure expences with details can only be provided once a Site Survey is done, and detailed BOM is prepared. This will require time for carrying out this Detailed Exercise, and hence Additional Time. The Time for Price Submissione may please be Extended by minimum of Two Weeks.		As per revised schedule

255		There are No Makes mentioned, this can have Major Variation in Quality and Cost. AS RECL is planning the Infrastructure to last for 10-15 years (at-least the PASSIVE ITEMS), may we request for qualifying the same with 3-4 Top makes like AMP, SYSTIMAX, PUNDUIT etc.		Standard High quality equipments including passive components
256	Annexure K, Serial 1 (DC) & 1 (CO): Central Router Pt B.5	i) Is Redundant Power Supply (RPS) required from Day 1?		Yes
257		ii) Should RPS be INTERNAL or EXTERNAL to the router?		Only INTERNAL
258	Annexure K. Pt. C.xiv.ii	Two V.35 Serial interfaces asked for while Pt. C.viii on Pg 134 asks for 6 Serial Ports. Please clarify number of V.35 Serial Ports required.		Total 6 V.35 Serial Sync Ports
259	Annexure K. Pt. C.xiv.iii	Is the ISDN port required from Day 1 or only future support required?		Secondary link as well as port (if any) requirements are from Day 1
260	Annexure K. Pt.i, Router Software	Are OSPF and BGP protocols required from Day 1 in the software?		Yes
261	Annexure K. Pt.vii, Router Software Features	Are IPS, firewall functionality required from Day 1 in the software?		Should be compatible for future use
262	Annexure K, Serial 2 (DC): Internet Router Pts 2 & 4	Are both points speaking of the same requirement, that is, 2 V.35 Serial WAN Ports OR both are separate requirements? Please clarify the kind and quantity of ports required.		Total 6 V.35 Serial Sync Ports are required
263	Annexure K. Pt. 8	Is the hardware encryption card required from Day 1 in the router?		Yes
264		i) Is Redundant Power Supply (RPS) required from Day 1?		Yes
265		ii) Should RPS be INTERNAL or EXTERNAL to the router?		INTERNAL
266	Annexure K. Pt.3.ii	Is OSPF functionality required from Day 1 in the router?		Yes
267	Annexure K. Pt.3.iii	Is OSPF on Demand functionality required from Day 1 in the router?		Yes
268	Annexure K. Pt. 3.v	Is IPv6 functionality required from Day 1 in the router or only future support required?		Yes

269	Annexure K. Pt.5	Are all security features (i to x) required from Day 1 in the router or only future support required?		Yes
270	Annexure K, Serial 3 (DC), 1 & 4 (SSC) & 1 (Remote) : Remote Router Pt. F.i	Is QoS for Voice & Video functionality required from Day 1 or only future support required?		Should be compatible for future requirement
271	Annexure K. Pt.G, Router Functional	Are all features mentioned (i to vi) required from Day 1 or only future support required?		Yes
272	Annexure K. Pt. A.1.ii & iii	Are OSPF and OSPF on Demand functionality required from Day 1?		Yes
273	Annexure K. Pt. A.1.iv	Is BGP4 functionality required from Day 1 or only future support required?		Yes
274	Annexure K. Pt. A.1.v	Is IPv6 functionality required from Day 1 or only future support required?		Yes
275	Annexure K, Serial 4 (DC): Central Switch Pt. 2, Architecture	Is AC Power Supply required or DC Power Supply?		AC Power Supply
276	Annexure K. Processor	Are REDUNDANT Switch Central Processors required in the switch or only a SINGLE Switch Central Processor required?		REDUNDANT Switch Central Processors
277	Annexure K. Pt.4, Layer 3 Protocol Features	Is OSPF functionality required from Day 1 in the switch or only future support required?		Yes
278	Annexure K. Pt.5, Layer 3 Protocol Features	Is IPv6 functionality required from Day 1 in the Switch?		Yes
279	Annexure K, Serial 5 (DC), 2 (CO): Distribution Switch Pt.1, Architecture	Are 26 simultaneously active interfaces required or 28?		The Clause to be read as " The switch should have 24 nos of 10/100 / 1000 BaseTx interfaces and 2 nos of 1000BaseLX "gigabit uplink fiber ports.
280	Annexure K. Pt. 8, Architecture	Is 32MB being referred to buffer or Flash Memory? Buffer size is generally not so large.		Buffer Memory
281	Annexure K. Pt. 11, Architecture	By software configurable is it being meant that a future software UPGRADE will enable OSPF, PIM features? OR are OSPF & PIM features required from Day 1 in the switch?		Required from Day 1

282	Annexure K, Serial 8 (DC), 2 (SSC), 3,4 & 7 (CO), 2 (Remote): LAN Access Switch	Is this a Layer 2 Switch?		Layer 2 Switch
283	Annexure K, Serial 8 (DC), 2 (SSC), 3 4 & 7 (CO), 2 (Remote): LAN Access Switch - Pt.- 8, Architectural Features	32 Gbps Switching Fabric Capacity for 48 x 10/100 Port switch is on a higher side. Accordingly, as per switch requirement 16 Gbps for 48-port switch will suffice. Please clarify.		The Clause to be read as " A minimum of 8 Gbps switching fabric capacity for 24-port switch and a minimum of 16 Gbps for 48 port switch."
284	Annexure K, Serial 8 (DC), 2 (SSC), 3 4 & 7 (CO), 2 (Remote): LAN Access Switch - Pt.- 9, Architectural Features	12 Mpps through for 48 x 10/100 Port switch is on a higher side. Accordingly, as per switch requirement 10 Mpps for 48-port switch will suffice. Please clarify.		The Clause to be read as "Should have throughput of at least 6 Mpps for 24 port and 10 Mpps for 48 Port switch"
285	Annexure K,. Pt. 11, Architectural Features pg 149	IPv6 is a Layer 3 feature while switch being asked for is a Layer 2 switch. Please calrify.		No Change
286	Annexure K, Serial 9 (DC): LAN Network Management Software (LMS) Safety Compliance	The Safety Compliance mentioned are generally associated with an electrical/network hardware equipment and not with a SOFTWARE. Please clarify.		This is General Requirement and should not be linked with NMS features
287	Annexure K, Serial 10 (DC): Enterprise Management Software (EMS) EMS Modules	The 5 EMS modules have no detailed specifications mentioned on what features, etc are required. Current points are too generic to comply an accurate product. Please clarify.		The EMS must have all capabilities requested . Refer pg no.161
288	Annexure K, Serial 11 (DC): WAN Network Management Software (WAN NMS) Pts. 1 to 17	All points form 1 to 17 are exactly similar to that of LMS NMS. What is the significance of WAN NMS? What will it manage as according to LMS NMS specifications, LMS will be used to manage networking device at DC, SSC, CO and Remote Sites. Please clarify.		The offered solution should meet the requirements at Pg.No. 159-162 and 32

289	Annexure K, Serial No. 6&7 (DC): Firewall and IPS Application/Protocol Inspection Engine	What does URL filtering performance enhancement mean? What kind of enhancements should be supported?		There should be no performance degradation ., if URL filtering performance is enabled.
290	IPS features:			
291	Annexure K, Pt. 3	This feature is related to Web Security. It is not a IPS feature. Please clarify		Must be provided through Firewall and/or IPS
292	Annexure K,, Pt. 4	This feature is related to Firewall. It is not a IPS feature. Please clarify		Must be provided through Firewall and/or IPS
293	Annexure K, Pt. 7	This feature is related to Firewall. It is not a IPS feature. Please clarify		Must be provided through Firewall and/or IPS
294	Annexure K, Pt. 9	This feature is related to Firewall. It is not a IPS feature. Please clarify		Must be provided through Firewall and/or IPS
295	Annexure K, Pt. 12	What is meant by zero-downtime in case of software upgrades?		The clause itself is Self Explanatory
296	Annexure K, Pt. 13.p	What is meant by HCCP? What is it required for?		The HCCP feature is deleted
297	Annexure K, Serial No. 12 (DC): Antivirus for Gateway pt. 25	Users/ machine can not be quarantined by Anti-Virus, only data can. Please clarify.		The Infected Machine should not be allowed to access Network
298	Annexure K, Pt. 27	What is meant by logging-off infected workstations? What is it required for?		The Infected Machine should not be allowed to access Network
299	Annexure K, Pt. 34	For Pager alerts, does RECL have voice-to-text conversion software? For Fax alerts, is IP enabled Fax available?		No., Some hosted service may be considered
300	Annexure K, SERVER Specifications SI No. 10	Hard Disk Bays asked are Minimum 4X3.5 ", where as now a days there are 2.5" Hard Disk available, which not only take less space, but are much more Energy Efficient too. These are quite popular for Data Centre Environments. Also the HDD with 146GBx10 K RPM may please be allowed to broaden the competition.		The clause to be read as " 4 X 3.5" SAS OR 8 X 2.5" SAS Hot-Swap Hard Disk front accessible bays"
301	Annexure K, SI No. 15	DDR Memory of 16MB, and in order to have healthy competition, a range may be defined. Because the ERP application in our View may not need this much of Video Memory		No Change

302	Annexure K, SI No. 14	Wake-on-LAN & Alert-on-LAN are Proprietary features, and will limit the Competition, and are requested to be removed.		No Change
303	Annexure K, SI No. 20	Diagnostic Features defined, and in case all are expected, some of them are proprietary, and will limit the competition		No Change

Annexure M

Description	Model No.	Qty	Power (in Watts)	U Size	Total U Size	Total Power (in Watts)	Total BTU / Hr	A/C (in Tons)	Weight (in KG)
NES									
Prod. App Server	RISC	2	1300	4	8	2600	8866	0.74	114(57x2)
Prod. DB Server	RISC / EPIC	2	1300	2	4	2600	8866	0.74	114(57x2)
QA DB Server	RISC / EPIC	2	600	2	4	1200	4092	0.34	86(43x2)
QA APP Server	RISC	2	600	2	4	1200	4092	0.34	48(24x2)
Dev. Server	RISC	2	600	2	4	1200	4092	0.34	86(43x2)
Discoverer Server	RISC	1	600	2	2	600	2046	0.17	24.00
Portal Server	RISC	1	600	2	2	600	2046	0.17	24.00
LDAP Server	Xeon	1	830	2	2	830	2830.3	0.24	
Backup Server	Xeon	1	830	4	4	830	2830.3	0.24	
Storage	IBM DS 4700	1	1200	10	10	1200	4092	0.34	80(40x2)
San Switches	Cisco MDS 9124 Express	2	315	2	4	630	2148.3	0.18	
Tape Library	TS3310 Tape Library	1	200	3	3	200	682	0.06	15.00
24 port Switch	Cisco 2960	2	75	1	2	150	511.5	0.04	
Load Balancer	Cisco WS650E	1	250	4	4	250	852.5	0.07	
Firewall	Cisco ASA 5540	1	150	2	2	150	511.5	0.04	
IPS	Cisco 4240	1	200	1	1	200	682	0.06	
HMC		1	460	1	3	460	1568.6	0.13	15.00
					63	14240	48558	4	78
Note :		1	Racks requirement		1.96875	3	Racks + 1 existing		
		2	UPS Requirement		14240	Watts	17.8	KVA	
		3	AC Requirement		4	Running Power Reqt	10.68	KVA	
						Tons			

Annexure N

S. No.	Project Office	Indicative no. of nodes
1	CIRE	8
2	Bangalore	8
3	Vadodra	8
4	Trivandrum	8
5	Jaipur	8
6	Kolkata	10
7	Jammu	5
8	Lucknow	16
9	Hyderabad	9
10	Mumbai	13
11	Jabalpur	7
12	Shimla	3
13	Chennai	8
14	Shillong	3
15	Guwahati	4
16	Bhubaneshwar	4
17	Panchkula	12
18	Patna	9
19	Ranchi	2
		145

No. of nodes are indicative. Final payment will be made on the basis of actuals.