

**Rural Electrification Corporation Limited(RECL)
Core 4, Scope Complex, 7 Lodi Road, New Delhi – 110 003**

No. REC/IT/ERP(DC/SSC)/117/2008/1

Notice Inviting Tender

For

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.

- (i) Date of Release of Tender :19-06- 2008
- (ii) Last Date of Collecting Tenders :11-07- 2008
- (iii) Pre-Bid Conference :26-06-2008
Time : 11:00 hours
- (iv) Last Date for Submission of Bids :14-07-2008
Time : Up to 15:00 hours
- (v) Date of Opening of Bid :14-07-2008
Time: 15:30 hours.

Cost of Bid Document: Rs. 5000/-

Rural Electrification Corporation Limited (RECL)

Core 4, Scope Complex, 7 Lodi Road, New Delhi – 110 003

Bid Document No.....

Date of Issue

Fill in the Following Details :

1.Name& Address:.....
Of the Firm
.....
.....

2. Name of the Authorized Signatory(ies):

Important Notice:

1. An incomplete and/or ambiguous and/or late response is liable to be ignored/ summarily rejected.
2. To aid the Bidders in submitting complete offers, a checklist is included in the bid document (Annexure - A). The bidders must fill this and submit along with their bids.
3. The bidder must attest with seal the original bid document as an acceptance of the RFP terms and conditions and submit the same along with the technical bid. In case of a non-compliance the bid is liable to be ignored/ summarily rejected.
4. Bidders can also download this bid document from the RECL web site viz. <http://www.recindia.gov.in> or <http://www.recindia.com> however for a downloaded bid document the cost of bid document viz. Rs 5000/- only is required to be submitted along with the EMD separately in the form of a Demand Draft/ Banker's Cheque payable to 'The Rural Electrification Corporation Limited, New Delhi' drawn on any scheduled commercial bank payable at New Delhi.

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SECTION - I

INVITATION TO BID

OBJECTIVE

Rural Electrification Corporation Ltd. (RECL) is in the process of implementation of ERP based Integrated Information Solution (IIS) being provided by TCS led consortium with ORACLE. RECL has its Corporate Office at Core-4, SCOPE Complex, 7 Lodi Road, New Delhi 110003, India and at Palika Bhavan annex at R K Puram. RECL has also 17 Zonal / Project Offices through-out India and one Training institute viz, Central Institute of Rural Electrification (CIRE) at Hyderabad. The detail office addresses can be had from the REC's web site.

Sealed bids in two parts, Part 1 : Earnest Money Deposit (EMD), Documents named as "Eligibility Criteria" & Technical Bid and Part 2 : Financial Bid valid for 180 days are invited from System Integrators with proven capabilities for **'Hosting/ Co-location of ERP- Data Centre (ERP-DC), Establishment of Standby Server Centre (SSC), Corporate-Wide Area Network (WAN), 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**, for ORACLE 11i E- Business Suite ERP, with no single point of failure at ERP-DC and maintaining highest level of reliability and availability. The detail technical specifications are given in Annexure-K.

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:

- Oracle Financials
- Oracle Loan Accounting
- Oracle Payroll
- Oracle Project Management
- Oracle Purchasing
- Oracle Inventory

- Oracle Portal
- Oracle Discoverer and DBI

Total number of named users envisaged at present are 125 which may extend to 500 or more in due course. 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. It may be noted that maintenance of these servers and equipments are not part of this tender. However, in the the Scope of Work of present tender includes the servers and other equipments to be supplied and mentioned in annexure L. The term 'Server' mentioned under Scope & Component of work in this tender refers to the servers to be supplied through the present tender.

The terms 'DC' and 'SSC' are frequently used in this document and convey the same meaning as meant by 'ERP-DC' and 'ERP-SSC' respectively.

Clause	Heading	Description/ Details
1.0	Major Components of work	1.0.1 Hosting/ Co-Location of 'ERP- Data Centre (ERP-DC), Establishment of Standby Server Centre (SSC), MPLS VPN (Multiple Protocol Layer Switching-Virtual Private Network) based Corporate-Wide Area Network (WAN) and LAN at Remote Offices which includes Supply, Installation, Configuration, Testing, Commissioning, Training, System Integration and Three years of Comprehensive on-site warranty Maintenance plus Three years of Comprehensive on-site Maintenance (the later is at discretion of RECL) for all Equipments and/or Products as per the requirements specified in Section II- 'Schedule of Requirements' and Annexure K – 'Technical Specifications'. The proposal envisages: <ol style="list-style-type: none"> a. Hosting/ Co-location of ERP- Data (ERP-DC) at a State-of-the-Art Data Center with all electrical, Civil and data cabling and other allied works at the NCR. b. Building a basic ERP-Standby Server Center (ERP-SSC) with all electrical, Civil and data

Clause	Heading	Description/ Details
		<p>cabling and other allied works at the Central Institute for Rural Electrification(CIRE), Hyderabad</p> <p>c. Supply, testing, installation, commissioning and three Years Comprehensive On-Site Warranty Maintenance of servers, network & security (including equipments and products) at ERP-DC & ERP-SSC</p> <p>d. Establishment of Local Area Network at each of Zonal Offices/Project Offices/CIRE</p> <p>e. Installation and configuration of LAN at CO (SCOPE Complex & Palika Bhawan)</p> <p>f. Establishment of a Wide Area Network (MPLS-VPN) connecting all these locations with ERP-DC & ERP-SSC and also between ERP-DC & ERP-SSC</p> <p>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.</p> <p>h. Training and Certification of RECL nominated officials as specified in the tender document.</p> <p>1.0.2 Three years on-site Facilities Management on 14 X 6 basis at ERP-DC and 8 X 5 basis at ERP-SSC, extendable for a further period of 3 years on per-year basis, at the discretion of RECL</p> <p>a. To put an effective facility Management system in place at the ERP-DC at NCR and ERP-SSC at CIRE, Hyderabad.</p> <p>1.0.3 Note:</p> <p>a. Customization to meet RECL requirements may be carried out for existing equipments/ product(s), in case such equipments/ product(s) meet the schedule of requirements in Section – II and the technical requirements/ specifications as specified in Annexure K.</p> <p>b. The bidder should bid for all of the items as listed in price schedule Annexure J, also it is mandatory that all the optional items specified for an individual respective item, if any, must be quoted.</p> <p>c. The bidder must note that RECL, at its discretion may decide to upgrade the ERP-SSC into a full-fledged ERP--DRC (ERP-Disaster Recovery Centre shall be implemented in Phase-II of the project).).</p>

Clause	Heading	Description/ Details
		<p>d. The selected bidder has to interact with the ERP implementation vendor and server vendor to ensure smooth operation and to resolve any problem.</p>
1.1	<p>Major responsibilities of the bidder shall include</p>	<p>1.1.1 Supply, Installation, Acceptance Testing, Configuration, Commissioning, and Training of various equipments and components as per clause 1.0 above.</p> <p>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.</p> <p>1.1.3 System integration and system tests (load/availability testing, penetration testing etc) by qualified and trained engineers/personnel as per requirement.</p> <p>1.1.4 Three years Comprehensive On-Site Warranty Maintenance of various equipments and components plus Three years Comprehensive On-Site Maintenance, the later at the sole discretion of RECL, as per clause 1.0 above, after successful Acceptance by RECL.</p> <p>1.1.5 On-site Facilities Management services on 14 X 6 basis as per clause 1.0.2, including the responsibilities as defined in the schedule of requirements Section II and technical specification Annexure K by qualified and trained engineers/personnel for a period of three years after successful Acceptance of 1.0 above by RECL.</p> <p>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</p> <p>1.1.7 Undertake ERP-DC, ERP-SSC & remote LAN cabling necessary for system integration and overall solution as per international networking standards</p> <p>1.1.8 Supply, Install, configure, commission and maintain all necessary and adequate accessories for respective equipment and/or products supplied for establishment of a state-of-the-art ERP-IT Infrastructure in RECL along with Establishment of RECL Corporate Network based on MPLS-VPN.</p> <p>1.1.9 Prepare and submit ERP-DC information security policy, backup and replication policy, etc. and third party audit reports.</p>

Clause	Heading	Description/ Details
		<p>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.</p> <p>1.1.11 Supervision of the adherence to 1.1.6 above while establishment of the IT infrastructure by qualified personnel.</p> <p>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.</p> <p>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):</p> <ol style="list-style-type: none"> a) CCNA or equivalent b) CCNP or equivalent c) Supplied Enterprise Management Software certification d) Supplied Network Management Software (NMS-LAN & WAN) certification e) For any and/or all of the trainings from a to e above the number of officials (RECL nominated participants) may vary, and the training needs to be conducted at the convenience of RECL which may require splitting of participants across different batches. This may include conducting the training on RECL designated holidays (including Saturday & Sunday and thereby splitting the entire course

Clause	Heading	Description/ Details
		<p>curriculum across one or more weekends as per the convenience and sole discretion of RECL). The training venue will be at NCR of Delhi only.</p> <p>f) In case there is no OEM certification training and/or examination is available for the supplied equipment and/or product then equivalent industry standard and globally recognized certification training and corresponding certification examination shall be provided.</p> <p>g) The bidder must specify the pre-requisite background required of the trainee before he/she can undertake the training. This must be specified for each training module.</p> <p>h) RECL at its sole discretion and option may decide and accordingly place a work order for certification training(s) and related third party industry standard certification examination(s) for its nominated officials / participants on paid basis as per the prices quoted by the bidder for respective training(s) and/or certification examination(s) in the price schedule Annexure J. However, Irrespective of the RECL's right to exercise the said option at its discretion in full or part thereof the bidder shall conduct , provide and impart operational, troubleshooting & administration training for all the equipments and products supplied, installed & commissioned by them along with the required training manuals/ documentation to RECL nominated officials/ participants (max 15) at the discretion and convenience of RECL and no separate payment in this regard shall be made by RECL i.e. the bid price shall be deemed to be inclusive of all such expenses along with all duties, levis and taxes etc.</p> <p>Note:</p> <p>a. RECL is not bound to procure and provide the hardware/ networking/ software/ infrastructure equipments/ other products as suggested</p>

Clause	Heading	Description/ Details	
		<p>and/or specified by the bidder.</p> <p>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).</p> <p>c. The major responsibilities as specified in clause 1.1 above are indicative only and not exhaustive in any manner.</p>	
1.2	Eligibility Criteria/ Pre-qualification	Criteria	Documents Required
		1.2.1 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
		1.2.2 The bidder shall be the single point of contact for RECL and shall be solely responsible for all warranties, upgrades and guarantees etc. offered by the OEM and/or partners. An undertaking to this effect should be submitted by the bidder.	Self undertaking signed by authorized official
		1.2.3 The bidder should have at least three years experience in IT infrastructure related activities. viz. Corporate LAN / WAN, facility management etc.. (Attach documentary proof)	Certificate of Incorporation/ Board Resolution etc
		1.2.4 The bidder should have average turnover of at least Rupees Ten crore (Rs. 10 crore) during the last three years in IT related operations each year as evidenced by their audited balance sheets. The turnover refers to a company and not the composite turnover of its subsidiaries / sister concerns or parent company etc. Attach audited balance sheet for the	Audited Balance sheet/ Certificate from statutory auditor

Clause	Heading	Description/ Details	
		last three financial year(s).	
		<p>1.2.5 The bidder should be a reputed System Integrator and authorized sales/channel partner (In case of non-OEM being the bidder) for the key products (servers, network and security) to be supplied as per schedule of requirements section II and list of item as per Price schedule Annexure J complying to Technical specifications Annexure K. The bidder must submit Warranty and AMC commitment letter as well as bid authorization letter from the OEM for the requisite equipments. 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 Two Crore) each. Attach documentary proof for the same. The proof should be applicable to bidder and not for its and/or their sister concern/ subsidiary company or parent company .</p>	Certificate from OEM(s), Order copies, certificate from the client etc.
		<p>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.</p>	Order copies / certificate from the client
		<p>1.2.7 The bidder should have a net worth of at least Rupees Five Crore (Rs 5 Crore) on the last day of bid submission. Attach documentary proof.</p>	Copy of certificate/ balance sheet
		<p>1.2.8 The bidder should have booked profit in each of last 2 financial</p>	

Clause	Heading	Description/ Details
		<p>years. Attach Documentary proof.</p> <p>1.2.9 Attach the OEM authorization(s) regarding partnership and support and providing support service addressed to the DGM (IT), RECL for systems / equipments and/or products as per clause 1.0 above issued by the OEM for this tender clearly mentioning the tender number, date and validity.</p> <p>1.2.10 For requirements as specified in 1.0 above the bidder should have an operational branch office and/or head office along with required off-site maintenance facilities in NCR with at least 50 skilled service and support engineers having professional degrees from universities / institutions. Attach documentary proof</p> <p>1.2.11 Bid should accompany an Earnest Money Deposit of Rs 5,00,000/-(Rupees Five Lac only) in the form of a demand draft as per Annexure-C1 drawn in favor of 'Rural Electrification Corporation Limited' on a scheduled commercial bank payable at New Delhi OR in the form of Bank Guarantee in the prescribed format as per Annexure C-2. The bank guarantee should be from the scheduled bank from its branch at Delhi/ New Delhi and valid for the period of 180 days from the date of opening of the tender</p> <p>1.2.12 In case the bid document is downloaded from the web-site, the Bid should accompany an application money deposit of Rs 5,000/- (Rupees Five Thousand) in the form of a demand draft drawn in favor of 'Rural Electrification Corporation</p>

OEM authorization specific to this tender and RECL Copy of documents/ Certificate

Documentary proof

EMD/BG as mentioned

Demand Draft as mentioned

Clause	Heading	Description/ Details
		<p>Limited' on a scheduled commercial bank payable at New Delhi. The bid document can be obtained by post by sending a request letter accompanying an application money deposit of Rs 5,000/- (Rupees Five Thousand) in the form of a demand draft drawn in favor of 'Rural Electrification Corporation Limited' on a scheduled commercial bank payable at New Delhi till fifteen days before the last date of bid submission at the cost and risk of the tenderers and RECL shall not be responsible for any postal delays.</p> <p>1.2.13 Bidder should submit their valid documentary proof of Sales Tax/VAT, Service Tax registration number and the details of income tax registration (PAN). Copies of the certificate</p> <p>1.2.14 The bidder should submit valid Article of Association/ Partnership deeds/ Self Undertaking indicating the details of business as issued by any Registrar of Companies in India/ Registrar of firms, as the case may be. Copy of the certificate</p> <p>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 A self undertaking</p>

Clause	Heading	Description/ Details
		<p style="text-align: center;">subsequently providing goods or works or services related to the initial assignment for the same project.” Enclose an undertaking to this effect</p> <p>1.2.16 The bidder must fulfill the above eligibility criteria/ pre-qualification conditions. Technical bid of bidders fulfilling the pre-qualification conditions will only be evaluated by the duly constituted technical evaluation committee. Bid(s) of bidder(s) not fulfilling the pre-qualification conditions given above shall be summarily rejected. Undertaking for subsequent submission of any of the above documents will not be entertained under any circumstances.</p> <p>1.2.17 RECL reserves the right to verify/confirm all original documentary evidence submitted by bidders in support of above mentioned clauses of eligibility criteria (from clause 1.2.1 to 1.2.18 except 1.2.12 & 1.2.13).</p> <p>A self undertaking mentioning that “It is clearly understood by the undersigned that the technical bid will not be evaluated in case of non eligibility. Similarly, commercial offer will not be evaluated in case the proposed solution either in full or part thereof is not technically shortlisted by the committee duly constituted by RECL</p>
1.3	Preparation of bids	<p>Eligibility Criteria Documents, Technical Bid, Earnest Money Deposit, application money and Financial Bid should be put in separate envelopes duly sealed. The content on the envelope, bidder’s name & address should be clearly marked on the top of the sealed envelopes. All these envelopes should be put in a single envelope, duly sealed, with the content, bidder’s name & address should be clearly marked on the top.</p> <p>The bid has to be submitted both in hard copy as mentioned above and in duly sealed soft copy in DVD/CD</p>

Clause	Heading	Description/ Details
		with proper labeling.
1.4	Bid Submission	<p>The bids complete in all respects addressed to the Deputy General Manager (IT/ERP), should be submitted into the tender box kept at the RECL reception for this purpose at the following address latest by the time and date mentioned in the cover page of this document.. RECL does not own any liability if the bid is submitted somewhere else and not reached to the addressee within due date and time.</p> <p style="text-align: center;">RURAL ELECTRIFICATION CORPORATION LTD., CORE-4, SCOPE COMPLEX, 7 LODHI ROAD, NEW DELHI – 110 003.</p>
1.5	Bid Opening	The Outer Sealed Single envelope as per clause 1.3 will be opened in the Board Room of RECL, Core-4, SCOPE Complex, 7 Lodi Road, New Delhi – 110 003 on the same day (last date of submission of the Bid) at time mentioned on cover page in presence of the bidders who wish to be present. The EMD and Application Money, if any envelopes shall be opened at the first instance and. Eligibility Criteria Documents & Technical Bid of only those bidders would be opened whose EMD and application money, if applicable, are found to be in order. Opening of financial bid will be informed later to only those bidders who qualify the eligibility and technical bids.
1.6	Schedule and critical dates	The RECL reserves the right to amend any or all dates mentioned in the cover page.
1.7	Purchasing Decision	RECL will make its purchasing decision based on the ability of the bidder(s) to meet its vision, mission, long term needs, technical expertise of the bidder(s), delivery capability, customer references and price. However, specific criterion used to evaluate bid response is listed in the Section – III – Instruction to bidders.
1.8	Right of RECL	The RECL reserves the right to waive any irregularities; accept the whole, accept part of or reject any or all bids and such decision of RECL shall be final and binding on all bidders and shall not be disputable.
1.9	Pre-Bid Conference	A pre-bid conference will be held at the Board Room, RECL, Core -4, Scope Complex, Lodi road, New Delhi – 110 003 at date and time mentioned on the cover page. In the pre-bid only the written queries / clarifications as received by the RECL at the address given in clause 1.4 before the time and date of pre-bid conference shall only be clarified and/or answered. After the pre-bid conference and before the submission of the bids all the received and answered/ clarified queried as per the time period stipulated in this clause shall be uploaded on the web site

Clause	Heading	Description/ Details
		<p>of the RECL as corrigendum / amendments to the RFP and will be treated as integral part of RFP document. No separate communication would be sent to the bidders individually in this regard and publishing of clarifications/amendments in the website shall be deemed to have been communicated to the bidders.</p> <p>After the pre-bid conference all the queries of the bidders will stand ceased and no further enquiry will be entertained. In case of any enquiries , clarifications , if any, proposed by the bidders , the same will not be taken any cognizance. Hence all the bidders are requested to send the enquiries prior to pre-bid conference so that they are taken care of and deliberated during the pre-bid conference.</p>

SECTION II

SCHEDULE OF REQUIREMENTS

2.1 Introduction

Rural Electrification Corporation Ltd. (RECL), was incorporated on July 25, 1969 under the Companies Act 1956. RECL is a wholly owned Government of India Public Sector Enterprise. Its main objective is to finance and promote rural electrification, transmission, distribution, generation projects all over the country and providing financial assistance to state agencies etc. RECL is in an advance stage of implementing ERP across the organization.

The ERP-DC is to be co-located at the facility of the bidder/Service Provider at NCR. A Standby Server Center (SSC) including business continuity is proposed to be located in CIRE campus, Hyderabad with minimum hardware and software.

The purpose of the data center (ERP-DC) would be the following:

- Host, Manage and secure the digital assets created by RECL
- Provide uninterrupted data services.
- Provide long-term scalable storage infrastructure.
- Manage high volume of incoming and outgoing content.
- Streamline net-centric operations
- Provide authorized and secure access. (Remote & Local Both)

The ERP-SSC would provide the business continuity aspect in case of failure of ERP-DC to provide service, though in a limited manner.

The Data Center will be based on a Oracle E-business Suite 11i latest version or its flavor platform conforming to the standard UNIX based operating systems. Initially the ERP-DC will be ready with high-available database servers, caching and load balancing application servers.. The facilities should enable scalability in terms of capacity to handle volumes, data storage, etc. from initial capacity to the highest capacity possible.

The ERP-DC will also have centralized authenticating system, with high availability, to authenticate the users to access their respective systems depending on the roles and privilege matrix.

2.2 Scope of the Work -

The scope of work for the supply of hardware, testing, installation, configuration, commissioning, training, System Integration and 3 years of comprehensive on-site warranty maintenance plus 3 years of comprehensive on-site maintenance (the latter at the discretion of RECL) along with three year on-site Facilities Management broadly stated as follows (**detailed specifications are provided in Annexure K**):

SI No	Scope of Work – Description
1	Supply, Install, Configure, Test & Commission all the equipment and products with necessary and adequate accessories as specified in Annexure K.
2	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
3	Three years Comprehensive On-Site Warranty Maintenance of various equipments and components plus three years of comprehensive on-Site Maintenance after successful Acceptance of the same by RECL.
4	Undertake data centre cabling necessary for system integration and overall solution as per international IT standards.
5	Supervision of the adherence to 1-4 above while establishment of the infrastructure by qualified personnel.
6	On-site Facilities Management services on 14 X 6 basis at the ERP-DC and 8 X 5 basis at ERP-SSC, including responsibilities & Service Level Agreement (SLA) by qualified and trained engineers/personnel for a period of three years (extendable for a further period of 3 years) after successful Acceptance of the ERP-DC, ERP- SSC & WAN by RECL.
7	Supply, Install, configure, commission and maintain all necessary and adequate accessories for respective equipment and/or products supplied.
8	Design and Suggest detail plan for ERP-DC & ERP-SSC plan along with detailed drawings.
9	Planning, Preparation and Submission of detailed technical architecture (Physical and Logical) drawing and/or plan of the ERP-DC.
10	Planning, Suggesting and Submitting the ERP-DC 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.
11	Undertake all System Integration for all the servers, network & Security Solutions etc., configuration and performance tuning etc. and system tests inclusive of load balancing / High availability testing, penetration testing, etc required for the commissioning of the ERP- DC & ERP-SSC and services without single point of

	<p>failure.</p> <p>Would ensure the ability to recover from additional failures by protection against many multiple component failures. The following test activities should be carried out.</p> <ul style="list-style-type: none"> • To design tests for high availability testing. • Execution of high availability test • Assessment of transaction/data losses in relation to Standby Server Centre (SSC) • Communication of final results to all the stakeholders • Submit all the test reports to the RECL authorities for vetting and approval.
12	<p>Prepare and submit ERP-DC information security policy and third party security audit reports. The third party security audit certification process will include:</p> <p>Audit of Network, Server and Application Security Mechanism</p> <ul style="list-style-type: none"> • Assessment of authentication mechanism provided in the application / components / modules • Assessment of user management policy/password policy within the legal framework • Assessment of data access privileges, retention period and archival mechanism. • Implementation of BS 7799 – ISO, IEC 27001, CERT-In, Govt of India Information Security policy & guidelines, RECL IT Security Policy.
13	Prepare and submit ERP-DC and ERP-SSC facilities management policy and implement the same
14	Implement the SSC including BCP with facilities Management
15	Implement Corporate-wide Wide Area Network with MPLS-VPN including ERP-DC, ERP-SSC, CO & all ZOs/Pos. Provide Intra REC and Internet Bandwidth as required by RECL.
16	Implement LAN at all remote offices at ZOs/Pos
17	Install & configure LAN at CO
18	Imparting training as mentioned in clause 1.1.13.
19	<p>Undertake the following Helpdesk Call Management activities (indicative):</p> <ul style="list-style-type: none"> • Receiving calls through phone/e-mail/Call Management software • Logging of end user calls with details and generating trouble tickets • Assigning calls to Helpdesk Engineers • Telephonic support to end user calls • Onsite support to end user whenever required and resolve the problem to user satisfaction. • Escalation of calls to other vendors and tracking their resolution as per agreed service level with RECL. • Escalating pending calls and report of vendors defaulting agreed service levels • Tracking problems till resolution • Close Calls and update, maintain database • Generate daily Helpdesk Call MIS to analyze the problems reporting patterns and solutions etc. • Regular Submission of various Reports for all activities undertaken at periodicities, formats and activities etc as decided by and at the discretion of RECL

20	<p>Undertake the following Access Control activities (indicative) for the servers to be supplied by the bidder:</p> <ul style="list-style-type: none"> • User account Creation/deletion as per access policy of the organization • Creating/modify/delete groups • Administrating user rights • Maintaining data access security etc. • Regular Submission of various Reports for all activities undertaken at periodicities, formats and activities etc as decided by and at the discretion of RECL
21	<p>Undertake the following Performance Tuning activities (indicative):</p> <ul style="list-style-type: none"> • Methodically carry from diagnosis to solutions. • Assist in device safe and secure procedures for enhancing performance in a competitive, policy based environment in co-ordination with application vendor. • Identify, correlate and isolate the performance bottlenecks in components of hardware, network, operating systems etc. • Assist the application bidder in performance tuning of application and databases as per OLA etc. • Regular Submission of various Reports for all activities undertaken at periodicities, formats and activities etc as decided by and at the discretion of RECL
22	<p>Undertake the following service and maintenance activities (indicative):</p> <ul style="list-style-type: none"> • Prepare and maintain service / maintenance policies & procedures • Provide on-site repair/replacement service for for the servers to be supplied by the bidder, network components and security solution etc. • Co-ordinate with vendors for replacement of defective parts of equipment under warranty at all locations. • Scheduling and managing preventive maintenance of equipment as per recommendations of the OEM equipment manufacturer. • Provide support for WAN and LAN problems • Provide support for WAN/LAN active equipment's repair/replacement etc. • Regular Submission of various Reports for all activities undertaken at periodicities, formats and activities etc as decided by and at the discretion of RECL
23	<p>Undertake the following Network & security administration activities (indicative):</p> <ul style="list-style-type: none"> • Compliance with Security Management Policies and standard in order to safeguard the hardware and software assets • Management services in order to track legitimize the hardware and software assets • Implementation of various security products like Firewall/IDS/IPS etc • Implementation and monitoring of NMS and IT Service Management (ITSM) etc. • Assist in user management & accounting • Regular Submission of various Reports for all activities undertaken at periodicities, formats and activities etc as decided by and at the discretion of RECL
24	<p>Undertake the following anti virus administration activities (indicative):</p> <ul style="list-style-type: none"> • Monitoring deployment of anti-virus on all desktops/servers. • Updating latest anti-virus Signatures on Desktops/Servers on automatic and continuous basis • Disinfecting desktops affected if any. • Co-ordination with anti-virus service provider/ OEM for information and support for virus attacks etc.

	<ul style="list-style-type: none"> Regular Submission of various Reports for all activities undertaken at periodicities, formats and activities etc as decided by and at the discretion of RECL
25	<p>Miscellaneous</p> <ul style="list-style-type: none"> Entering into tripartite OLA with M/s TCS & RECL Entering into tripartite OLA with Server / Hardware Vendor and RECL Entering into SLA with RECL Entering tripartite OLA with the Network Bandwidth service provider & RECL (if required) Entering tripartite OLA with DC vendor & RECL (if required) To carry out all the activities of ERP-SSC including Data replication/uploading Maintenance of DC, CO & SSC infrastructure.
26	<p>Earthing & Uninterrupted Power Supply</p> <ol style="list-style-type: none"> The bidder should size and quote for offline UPS for ZO/PO for the equipments with half an hour battery backup The bidder should size and quote for online UPS for CO for the equipment supply with hour battery backup <p>The bidder has to check the existing earthing quality and install earthing at both CO, SSC, ZO, PO, if so required.</p>
27	<p>The complete Scope of Work has been divided broadly into 5 components of works, viz,</p> <ol style="list-style-type: none"> ERP-DC Co-Location & ERP-SSC Build Installation of Servers supplied along with this bid. Network & Security (ERP-DC, ERP-SSC, RECL Corporate WAN & Remote LAN) Facilities Management Training and Certification <p>The following table (Table – I) describes each one of the above</p>

Table – I : Broad Components of Work

S.No.	Component	Description
A	Data Center Co-location / Corporate Office computer centre & Standby Server Center Build	
A.1	Scope of Work	<p>The scope of work under this project envisages</p> <ol style="list-style-type: none"> Design & engineering For interior work and infrastructure including all required services. Geographical scope The ERP-DC, CO (New Delhi) and the ERP-SSC at CIRE, Hyderabad. Enabling-works The party shall make temporary arrangements to cut off the site from the regular working office area, if required. 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

		<p>demolition works for the project shall be in the bidder's scope, however rerouting of existing cables wherever required shall be done by RECL.</p> <p>e) Construction, interior works & furniture</p> <p>The major areas (whichever is applicable) are: RECL CO:</p> <ol style="list-style-type: none"> 1. Server/ Network Room 2. Training Room 3. Facilities Management Room 4. Printer Room <p>RECL SSC, Hyderabad:</p> <ol style="list-style-type: none"> 1. Server/ Network room. 2. Electrical & communication room <p>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.</p> <p>f) Design, Supply, installation, testing and commissioning of Split A/C System, complete with its electrics, for server & network room and required modification/alteration in ducting of existing air-conditioning system and cabling will be in the scope of bidder. The existing A/C system shall be used for areas needing comfort A/C system.</p> <p>g) Design, Supply, Installation, Testing and Commissioning of Fire Detection & Protection system.</p> <p>h) Project Management The bidder shall be doing Project Management for the entire Project from commencement to final handing over for live use.</p>
A.2	Training	<ul style="list-style-type: none"> • The bidder should conduct, provide and impart training(s), related material(s) and related certification examination(s) for all the training courses as mentioned in Section – 1 clause 1.1.13 of 'Invitation to the Bids' section. • All the training course shall be structured and supported by programmed illustrations, video, charts, etc. Only experienced personnel shall impart the training. The Bidder shall provide extensive and detailed lecture notes, handouts and other training documentations to each of the participant. • RECL may require splitting of participants across different batches. This may include conducting the training on RECL designated holidays (including Saturday & Sunday and thereby splitting the entire course curriculum across one or

		<p>more weekends as per the convenience and sole discretion of RECL).</p> <ul style="list-style-type: none"> • The Training should be conducted at National Capital Territory of Delhi only either at the authorized training centre for each of the certification courses or at the bidder's certified training center. The boarding and lodging of trainer faculty will be responsibility of the bidder. • The schedule and batches for training shall be decided as per convenience of RECL. • Each participant/ trainee in addition to the proper official certification (subject to being successful at the certification examination(s)) of the OEM / 3rd Party shall invariably be issued a training participation certificate. • At the training site/ venue for all types and/or kinds of training the bidder should ensure conducive, cooperative, healthy, hygienic, secured environment along with providing each trainee/ participant with all logistics including industry standard training bags, stationary, free parking, tea/coffee, snacks, food (working lunch/ dinner/ high tea) etc and as decided by and at the discretion of RECL at the cost of the bidder but not including the travel costs of the trainees/ participants. • RECL at its sole discretion and option may decide and accordingly place a work order for certification training(s) and related third party industry standard certification examination(s) for its nominated officials / participants on paid basis as per the prices quoted by the bidder for respective training(s) and/or certification examination(s) in the price schedule Annexure J. However, Irrespective of the RECL's right to exercise the said option at its discretion in full or part thereof the bidder shall conduct , provide and impart operational, troubleshooting & administration training for all the equipments and products supplied, installed & commissioned by them alongwith the required training manuals/ documentation to RECL nominated officials/ participants (maximum 15) at the discretion and convenience of RECL and no separate payment in this regard shall be made by RECL i.e. the bid price shall be deemed to be inclusive of all such expenses along with all duties, levis and taxes etc. <p>The bid-quote would also include the cost of training i.e arrangement for venue, resources etc.</p>
A.3	RECL's Responsibility	<ul style="list-style-type: none"> • RECL shall provide the following: <ul style="list-style-type: none"> • Space identified for ERP-SSC & for CO • Raw power for UPS/AC etc • Interface to the SSC LAN and CO LAN

		<ul style="list-style-type: none"> • Any additional requirement outside the scope of tender like Power, Cabling etc. over & above those specified should be clearly brought out by the bidder during the pre bid conference. • Any requirement not clearly requested and agreed by the RECL during the commercial/technical discussions shall be in the scope of this tender. • The RECL shall provide limited space at their premises for Bidder's maintenance personnel.
A.4	Warranties, Support and Annual Maintenance Contract	<p>Warranty, Support, and Annual Maintenance Contract shall be delivered by the bidder. However OEM for the servers to be supplied by the bidder, networking and security equipments etc has to submit an undertaking addressed to RECL committing support for the systems through the bidder. The warranty contract will be entered in to with the bidder and all payment will made directly to the bidder. In case of authorized partner being the bidder, certificate from OEM addressed to RECL should be attached stating that the OEM will provide support during the warranty period and subsequent AMC including replacement of spares. Failing which their offer will be rejected</p> <ul style="list-style-type: none"> • The OEM bidder should undertake to Provide Comprehensive On-Site warranty for the supplied systems/subsystems for a period of Three (3) years from the date of Acceptance by RECL. • If any document/manual supplied by the bidder is found to be inadequate/ incomplete within the period of the contract, the bidder shall replace/complete such document/manual at their cost within 15 days time of informing the same • Undertake to sign comprehensive on-site Maintenance Contract for a further period of 3 years warranty period at discretion of RECL, at annual charges as mentioned in the price bid. The contract for AMC to be signed separately at the discretion of RECL. <p>The scope under warranty and AMC shall cover to provide services as described below for all the equipment (including Hardware and Software) in this tender to ensure maximum uptime and performance levels in the Landscape of ERP Environment.</p> <p>Warranty</p> <ul style="list-style-type: none"> • 24x7x365 Support at NCR (remote support-telephonic, mail etc) • Warranty shall cover the following <ol style="list-style-type: none"> a. Repair / Replacement of Hardware and other bidder items inclusive of all types of spare parts including batteries,

		<p>plastic parts, sprockets, glass items, Picture tubes, Print Heads, etc. Only consumables like printer ribbons, Ink cartridge, etc. are excluded</p> <p>b. Installation / Re-Installation / Configuration/ Maintenance of Operating System (OS), System software and other supplied software</p> <p>c. Installation and Configuration of system software, patches, upgrades, service packs etc.</p> <p>d. Performance tuning</p> <ul style="list-style-type: none"> • Supply during Warranty <ul style="list-style-type: none"> a. Supply of all system software upgrades and patches. b. Supply of future release of all OS and related system software c. Supply and install Security patches and bug fixes • The offline support should have <ul style="list-style-type: none"> a. 24x7x365 national telephonic support b. Access to raise technical assistance requests / responses at hardware vendors / supplier website <p>Annual Maintenance Contract (AMC)</p> <ul style="list-style-type: none"> • RECL, at it's discretion, shall enter into an Annual Maintenance Contract (AMC) with the bidder for a period of at least 3 years after completion of the Warranty Maintenance period. <p>The RECL reserves the right to cancel the AMC contract after giving 3 months notice, in case service provided under AMC is not satisfactory. In such case, RECL shall execute an AMC contract with any other party for the balance period, at the risk and cost of the supplier as per Risk Purchase Clause 4.21</p>
A.5	Performance Standard	The bidder should ensure that servers, networking equipments, security components and other equipments' performance and responses are according to the definition as per scope of work and shall have expected Minimum Availability / uptime as specified in the SLA.
A.6	Software and Tools	All Software to be supplied under the scope of the project must be of current versions, unless otherwise required by RECL. Software tools must be compliant with generally accepted standards.
B	Network & Security (DC LAN, SSC LAN, WAN & CO/ZO/PO LAN)	
B.1	General Scope	Supply, installation and commissioning and 3 years of comprehensive on-site warranty maintenance plus 3 years of comprehensive on-site maintenance (the latter at the discretion of

		RECL) of servers, network and security equipments & related items at ERP-DC & ERP-SSC, LAN at the ERP-DC. ERP-SSC & at all remote locations of RECL including LAN at CO, Delhi, establishing a MPLS VPN network across the RECL and integration of the same to the existing system, as per Technical Specifications mentioned in Annexure-K.
B.2	Geographical Scope	All the offices of RECL, which includes the ERP-DC, ERP-SSC, corporate office (Scope and Palika Bhawan) , all Zonal Offices, all project offices & CIRE.
B.3	Time/ Delivery Schedule	The time-lines for all the items under Network are as defined in Clause.2.3, 'Major Activities'
B.4	Functional Scope	<ul style="list-style-type: none"> • Supply and Transportation: The equipment should be delivered at respective locations and all arrangements for loading/ unloading/ movement/ shipping etc are to be borne by the bidder. • Erection and Site modifications: Site modifications to be carried out by bidder as per requirement. • Power Distribution from UPS: RECL shall provide the raw power supply to UPS. All necessary power distribution (supply and installation) as per requirement of various servers is in scope of the bidder. • Installation & Commissioning: All routers, switches, security solutions, links etc as per Annexure-K have to be installed and commissioned including integration with the existing infrastructure. • Diagnostics Testing: Diagnostics testing to ascertain healthiness of the network equipments are to be carried out by the bidder. • All professional services of the vendor required for complete installation / commissioning shall be included in the scope of Work.
B.5	Manuals and Documents	<ul style="list-style-type: none"> • The bidder should provide System/Administration manual(s), User / operational manual(s) and all related manual(s), service guides and handbooks, which shall be used by RECL to run the ideal production environment. This should include how the various parameters should be monitored / tuned in the live system. • All installation and configuration reports, documents, diagrams etc are to be supplied before commissioning. • Two sets of printed manuals and 2 sets in soft copy on CD should be provided.
B.6	Training	The bidder should conduct, provide and impart training(s), related material(s) and related certification examination(s) for all the training courses as mentioned in Section – II clause A.2 of

		'Schedule of Requirement' section.
B.7	Warranties, Support and Annual Maintenance Contract	As mentioned in Section – II clause A.4 of 'Schedule of Requirement' section.
B.8	Performance Standard	The minimum performance requirements for different components are according to the definition as per scope of work and shall have expected Minimum Availability / uptime as per SLA mentioned in clause 2.4.
B.9	Software and Tools	All Software to be supplied under the scope of the project must be of current versions that are currently supported by their originator, if relevant. Software tools must be compliant with generally accepted standards.
C	FACILITY MANAGEMENT SERVICES	
C.1	General Scope	Managing, monitoring, trouble-shooting and support for the entire proposed IT infrastructure mentioned herein to ensure smooth running of the ERP and other services using this infrastructure as per prescribed performance standard for each item. Also to interact with RECL users to address the operational issues with respect to the infrastructure
C.2	Geographical Scope	Co-located ERP-DC, ERP-SSC, CIRE Hyderabad, CO (including annex) & all Zonal Offices and Project Offices
C.3	Functional Scope	<p>Support during Warranty:</p> <ul style="list-style-type: none"> ■ 24x7x365 Support (remote support – telephonic, mail etc) ■ Manpower at On-Site (ERP-DC): At least two numbers of competent (level II) Facility Management personnel at ERP-DC 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). During non-office hours the manpower should reach site within four hours for critical calls. The concerned service engineers should be associated with the project from installation stage. ■ Manpower at On-Site (ERP-SSC): Adequate number (Approx 1) of competent (level II) Facility Management personnel to manage the IT infrastructure/operation from ERP-SSC along with above mentioned for ERP-DC, should be available on site to provide Warranty / AMC / operational support on 8x5 basis. The Manpower should be always available on site during office hours 1:30 PM to 9:30 PM Five days a week (Monday-Friday). For rest of the period, the manpower can either be available on site or

		<p>should be available on telephone. During non-office hours the manpower should reach site within four hours (FN call – AN on same day, AN calls – FN next day). The concerned service engineers should be associated with the project from installation stage..</p> <ul style="list-style-type: none"> ■ RECL has the right for ask for a change of maintenance personnel without citing reasons. The bidder shall arrange a replacement within 7 working days having the same or higher competency level. ■ System Management (indicative) <ul style="list-style-type: none"> i. Monitoring, logging and reporting of the equipment operation ii. Periodic health checks of the systems and implementing proactive rectification measures. iii. Troubleshooting Servers, OS, WAN, LAN, backup related issues etc. iv. Analyzing and reporting all system related issues. v. Managing user, roles and passwords of all the relevant subsystems, including, but not limited to servers, OS, network, applications etc. vi. Liaison with various vendors, OEMs, agencies and service providers for equipment maintenance & related work. ■ Server Administration (indicative) <ul style="list-style-type: none"> ○ Server Administration Functions include following activities: <ul style="list-style-type: none"> i. Operating System administration and tuning. ii. OS and software Re-installation in the event of system crash/failures iii. Configuring file systems, volumes and apportioning disk space. iv. Ensure proper configuration of server parameters. v. Periodic system performance tuning. vi. Addition, deletion, re-configuration of devices, additional users and printers etc. vii. Implementing security patches on servers at all levels. viii. Orderly start-up and shutdown of servers as per laid down procedures. ix. Security management - Configuring account policy, access rights, password control as per RECL’s security policy. x. Ensure all critical services are running properly on
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		<p>the servers. Schedule and optimize these services.</p> <ul style="list-style-type: none"> xi. Maintain lists of all system files, root directories and volumes. xii. Resolving all server related problems. xiii. Escalating unresolved problems to ensure resolution as per the agreed SLA. <p>■ Network and Security Administration (indicative)</p> <ul style="list-style-type: none"> ○ Network and Security Administration Functions include following activities: <ul style="list-style-type: none"> i. OS administration and tuning. ii. Network and Security administration and tuning iii. Software Re-installation in the event of system crash/failures iv. Designing of network v. Configuration of the network as per the approved design vi. Ensure proper configuration of network parameters. vii. Periodic system performance tuning. viii. Addition, deletion, re-configuration of devices, additional users etc. ix. Implementing security patches at all levels. x. Orderly start-up and shutdown of equipments as per laid down procedures. xi. Security management - Configuring account policy, access rights, password control as per RECL's security policy. xii. Ensure all critical services are running properly. Schedule and optimize these services. xiii. Maintain lists of all system files, root directories and volumes. xiv. Resolving all network related problems. xv. Escalating unresolved problems to ensure resolution as per the agreed SLA. xvi. All the services mentioned in this section includes LAN installed at Remote locations also. <p>■ Performance Monitoring and Reporting (indicative)</p> <ul style="list-style-type: none"> i. 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 etc. ii. Ensure regular analysis of events and logs generated in the entire sub systems including but
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		<p>not limited to servers, operating systems, databases, applications, network, security etc. The system administrators shall also ensure that the logs are backed up and truncated at regular intervals.</p> <p>iii. Undertake appropriate actions in accordance with the results of the log analysis to ensure optimal performance</p> <p>■ Backup and Restore at SSC</p> <p>i. Supports for file and volume restoration requests as per SLA</p> <p>ii. Backup and restore of data and application using the existing Backup management solutions, if required.</p> <p>iii. To help RECL in regular Backup of operating system, database and application as per stipulated policies and time schedule.</p> <p>iv. Help RECL in conducting periodic restore operations on backed up data.</p> <p>v. Assist in backups of volumes, files and database applications whenever required.</p> <p>vi. Real-time monitoring, log maintenance and reporting of backup status on a regular basis, shall ensure prompt problem resolution in case of failures in the backup processes. Regular maintenance of all the media and the backup/storage devices.</p> <p>vii. Provide MIS reports such as weekly reports on backup and restoration (failed reasons), monthly report on planned backup & backups actually taken and Quarterly report on number of restoration drill performed and percentage of success, health status of media and drive.</p> <p>Regular Submission of various Reports for all the activities mentioned above are to be submitted at periodicities, formats and activities etc as decided by and at the discretion of RECL</p>
D	MISCELLANEOUS	<p>I. The bidder will go through all the existing IT related policies of RECL and suggest for any changes as appropriate as per international standard like BS, ISO, ITIL, ITSM, CoBIT etc to be incorporated in the policy documents</p> <p>II. The bidder will formulate and submit to RECL appropriate new policies which are required to be prepared as per international standard as mentioned as above for secured and affective running of the infrastructure.</p>

		<p>III. The bidder will implement all such policies mentioned in this RFP while implementing the proposed IT infrastructure. The bidder also educate RECL to implement the part of the policies which are related to RECL.</p> <p>IV. The bidder shall execute a service level contact agreement with RECL within 15 days from date of acceptance of the purchase order.</p> <p>V. The bidder shall execute tripartite Operation Level Agreements (OLA) involving RECL, ERP solution partner, server vendor etc within 2 months from acceptance of the purchase order.</p> <p>VI. Keeping in mind the TRAI regulation, RECL may think of paying bandwidth and MPLS-VPN port cost directly to the network bandwidth service provider on request from the front-end bidder. However, in that case, the bidder has to own the responsibility of end-to-end monitoring and management of links and execute a tripartite agreement between RECL, bidder and network bandwidth provider within 2 months from acceptance of purchase order.</p> <p>VII. In line with VI above, RECL may think of paying Data Center hiring cost directly to the DC service provider on request from the front-end bidder. However, in that case, the bidder has to own the responsibility of end-to-end monitoring and management of links and execute a tripartite agreement between RECL, bidder and DC service provider within 2 months from acceptance of purchase order.</p> <p>VIII. Provide training to IT/ ERP Technical and support team and other IT professionals as required for the installation, configuration, commissioning, monitoring, troubleshooting of various equipments/ products & other aspects.</p> <p>IX. NOTE:</p> <p>After the warranty maintenance of three years, if RECL decides to go in for in-house maintenance or maintenance through a third party, the bidder shall supply the spares to RECL or a party designated by them. In case of the item/spare part being not available due to any reason the bidder shall provide an equivalent or latest item/spare part in lieu of the original item/spare part subject to the approval of the RECL.</p> <p>The above Scope of Work and technical specification Annexure K are indicative and not exhaustive in any manner. The bidder shall be assumed to have accounted for all services and./or products/equipments necessary for establishment of state-of-the-art IT infrastructure in its financial bid.</p> <p>The decision of DGM(IT) will be final and binding upon all the vendors regarding any Facilities Management Service issues.</p>
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2.3 Indicative Schedules

2.3.1 The bidder is required to stick to the agreed upon time-schedule given below.

Major Activities

Sr. No	Milestone	Data (Incremental Weeks)
1	Placement of Purchase Order	T
2	Signing of contract	T1=T+2 (15 days)
3	Delivery of Equipments / Products	T1 + 4
4	Physical Inspection / Installation, Commissioning of Equipments/Products	T1 + 6
5	Integrated ERP–DC Live	T1 + 9
6	Training of RECL nominated Staff	T1 + 17
7	Establishment of WAN	T1 + 9
8	Establishment of Remote LAN	T1 + 17
9	Integrated ERP-SSC Live	T1 + 20
10	Implementation of BS 7799 – ISO/IEC 27001	T1 + 24
11	On-site Facilities Management of ERP-DC	T1 + 10
12	On-site Facilities Management of ERP-SSC	T1 + 20

2.4 Performance standard and Service Level parameters

2.4.1 Network related SLA and its management

1. The vendor must meet the parameters defined in subsequent paragraphs with respect to three service components, viz. availability of MPLS/VPN network, its performance, and secure communication through the MPLS/VPN network. The MPLS/VPN network performance will have parameters on available bandwidth, latency, packet loss rate, and jitter between every pair of (a) an RECL location other than ERP-DC (or ERP-SSC) on the one hand and (b) ERP-DC (or ERP-SSC) on the other. 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. Secure communication in the present context of MPLS/VPN covers access control, authentication, and confidentiality.
2. A network link provided by the network service provider between an RECL location (other than the ERP-DC and ERP-SSC) and the service provider network will be said to be “not available” if the observed performance between an RECL location and the ERP-DC or the ERP-SSC is “significantly” (below 70 %) deteriorated in respect of any one of the parameters mentioned above, or if there is a breach in security in respect of this location. Similarly, the network link between the ERP-DC and the ERP-SSC (provided for asynchronous replication of data) will be said to be “not available” if the observed performance over this link is “significantly” deteriorated (below 75 %) in respect of any one of the above parameters, or if there is a breach in security in respect of this link.

3. It is understood that measurement of jitter will be relevant only when there is real-time traffic (such as that generated by VoIP) on the network.
4. The bidder must arrange on a 24 x 7 basis to measure or estimate network performance between every RECL location other than the ERP-DC (or ERP-SSC) on the one hand, and the ERP-DC (or ERP-SSC) on the other hand. Further, and similarly, the service provider must arrange on a 24 x 7 basis to measure or estimate the network performance over the network link between the ERP-DC and the ERP-SSC (provided for asynchronous replication of data). Averaging if any must be over an “averaging interval” of 5 minutes or less. (The service provider has either to supply any tools required for the same at it’s cost or can generate the same through it’s NOC)
5. Other than providing reports on availability and performance on a per link basis, and on a daily, weekly, monthly, quarterly and/or yearly basis, the bidder must make all such statistics available in a database, data from which can be searched and analyzed by RECL. The administration of SLA, however, will be on a per-location and on a month-to-month basis.
6. The bidder has to submit all required reports like bandwidth utilization by different applications, router CPU/memory utilization etc to monitor and manage the SLA parameters.
7. Penalties will be imposed in case a network service is not available from/to an RECL location. Such penalties will be on per-location basis, and on per-month basis.
8. As for the downtime at a stretch, it must not exceed 2 hour for the ERP-DC and for the ERP-SSC. In respect of other locations, the downtime must not exceed 1 working day..

2.4.2 Availability and uptime requirement of different sub-components are given below:

SL.No.	Description	Availability in percentage
1	All network and security components at ERP-DC	99.5 % (including backup link)
2	All network and security component at ERP-SSC	99.5 % (including backup link)
3	All WAN links (including ERP-DC ERP-SSC link) (end-to-end)	99.5 %
4	LAN at CO (under scope of work)	99 %
5	All Remote LAN at ZO/PO/CIRE	99 %
6	Facility Management	<ul style="list-style-type: none"> • 98 % critical call resolution • 95 % non-critical call resolution
7	Jitter on any link involving ERP-DC (WAN)	Max 30 ms
8	Jitter on any other link (WAN)	Max 50 ms

9	Latency (WAN)	150 ms
10	Packet loss between any link involving ERP-DC (WAN)	Max 0.5 %
11	Packet loss between any other link (WAN)	Max 1.0 %

- The vendor should provide backup personnel in case of absenteeism Inability to provide backup shall result in levying of Rs 1000/- per person per day of penalty.

2.4.2 Must have service to support the following

- a. Maximum Two (2) hours response time for any reported fault at ERP-DC production environment
- b. Maximum four (4) hours response time for any reported fault at ERP-DC (other than production environment), ERP-SSC & WAN (FN calls – same day AN resolution, AN calls – Next day FN resolution)
- c. For other locations, it is 1 day (FN calls – Next day FN resolutions, AN calls – next day AN resolutions).

2.4.3 The uptime will be calculated on monthly basis both for total uptime as well as maximum response time. The penalty for non-performance by every 0.1 % of the requirement given above will be 1.0 % of the total sub-component cost.

2.4.4 The bidder is required to submit a monthly SLA compliance report. Along with submission of bid, the bidder must also provide a detailed methodology of SLA computation and report preparation including tools that will be used to generate this report. This will be a key technical evaluation criteria.

2.4.5. The bidder has to submit all required reports to monitor and manage the SLA parameters

2.4.6 Miscellaneous

- a) Cumulative Penalty amount will be adjusted against the payment to the bidder on quarterly basis.
- b) Any equipment and product/ system performing below the threshold level at least three quarters in a year, displaying chronic system design or manufacturing defects or Quality Control problem will be totally replaced by the bidder at its cost and risk within 30 (thirty) days from the date of last failure with equivalent new system.
- c) In case of a system failure, bidder will ensure backing up of data from the system and its restoration, while making the system operational, at the site.
- d) The total penalty will not exceed total value of the order. However, in case total penalty exceeds the total value of the order, RECL will have right to cancel the contract, offer the contract to a 3rd party and recover the amount from the bidder.

- e) If the System or Subsystem cannot be used by reason of such defect and/or making good of such defect, the Warranty Period for the equipment shall be extended by a period equal to the period during which the System or Subsystem could not be used by the RECL because of such defect and/or making good of such defect.
- f) On completion of the warranty period, the Security Deposit without any interest accrued shall be released after satisfying that proper free warranty support has been provided during warranty period of Three years for all the equipments. If considered necessary, suitable amount of penalty shall be recovered from the bidder out of either already due payments and/or from their Security Deposit(s), while releasing the Security Deposit. After expiry of warranty, RECL has option at its discretion to enter into Annual Maintenance of the systems as per the quoted price.

2.5 The detailed technical specifications of the equipments/ systems are specified in Annexure K.

SECTION - III

INSTRUCTIONS TO BIDDERS

Clause No.	Heading	Description/ Details
3.1	Cost of Bidding	The bidder shall bear all costs associated with the preparation and submission of its bid, and RECL will in no case be responsible or liable for these costs, regardless of the conduct or the outcome of the bidding process.
3.2	The Bidding Documents	<p>I. The equipments, product and services required, bidding procedures and contract terms are prescribed in the bidding documents. In addition to the invitation for bids the documents include:</p> <ul style="list-style-type: none"> a) Schedule of requirements – Section – II b) Instructions to bidders – Section – III c) General Terms and Conditions of Contract – Section - IV <ul style="list-style-type: none"> d) Detailed Technical Specifications – Section V (Annexure - K) e) Bid form and price schedule – Section – V (Annexures - B,I,J) f) Performance Security Form etc.- Section – V (Annexure - D) <p>II. The bidder is expected to examine all instructions, forms, terms and specifications in the bidding documents. Failure to furnish all information required and/or False/Incorrect information and/or submission of bid not substantially responsive to the bidding documents in every respect will be at the Bidder’s risk and may result in rejection of its bid.</p> <p>III. Prior to the detailed evaluation, the RECL will determine whether each bid is complete, and is substantially responsive to the Bidding Documents. For the purposes of this determination, a substantially responsive bid is one that conforms to all the eligibility criteria, terms, conditions, and specifications of the Bidding Documents without major material deviations, exceptions, objections, conditionality or reservations. A material deviation, exception, objection, conditionality, or reservation is:</p> <ul style="list-style-type: none"> a) One that limits in any substantial way the scope, quality, or performance of the desired system; and/or b) One that limits, in any substantial way that is inconsistent with the Bidding Documents, the RECL rights or the successful Bidder’s obligations under the Contract; and/or

		<p>c) One that the acceptance of which would unfairly affect the competitive position of other Bidders who have submitted substantially responsive bids.</p> <p>IV. If a bid is not substantially responsive, it will be rejected by the RECL and may not subsequently be made responsive by the Bidder by correction of the nonconformity. The RECL's determination of bid responsiveness will be based only on the contents of the bid submitted.</p> <p>V. Bidders are advised to submit bids strictly based on the terms & conditions and specifications contained in the Tender Document and not to stipulate any deviations.</p> <p>VI. Each bidder shall submit only one bid. A bidder who submits more than one bid will be rejected. Alternative bids will not be accepted.</p>
3.3	Pre-bid conference & Amendment to the Bidding Documents	<p>A pre-bid conference will be held at the Board Room, RECL, Core -4, Scope Complex, Lodi road, New Delhi – 110 003 on date and time mentioned on the cover page. In the pre-bid only the written queries/ clarifications as received by the RECL at the following Address: Dy. General Manager (IT/ERP), RECL, Core -4, Scope Complex, 7 Lodi road, New Delhi – 110 003 E-Mail: prasanta.m@recl.nic.in Phone: 011-24362483 / 24365161 (Ext 519) up to one day prior to pre-bid conference shall only be clarified and/or answered. After the pre-bid conference and before the submission of the bids all the received and answered/ clarified queried shall be uploaded on the web site of the RECL within a reasonable period. No separate communication would be sent to the bidder individually in this regard and publishing of the clarifications/ answers in the web site shall be deemed to have been communicated to the bidder. All the queries of the bidders will stand ceased after the pre-bid conference</p> <p>The RECL may at its sole discretion amend the Bidding Documents at any time prior to the deadline for submission of bids. However in case of such amendment, the Bid submission date may be extended at the discretion of the RECL. Amendments uploaded in the web-site prior to submission of bid will be provided in the form of Corrigendum to the Bidding Documents. This uploading of corrigendum in the web-site deemed to have communicated to all the bidders and will be binding on them.</p>
3.4	Preparation of Bids	<p>I. The bids are to be submitted in two separate sealed envelopes</p> <p>II. Envelope-1 Should Contain Four separately sealed envelopes</p> <ol style="list-style-type: none"> a. Application Money Rs 5000/- if downloaded from website. b. EMD sealed separately and super scribed/ marked with words "EMD" on the envelope. c. Eligibility Criteria Document sealed separately and

		<p>super scribed/ marked with words “Eligibility Criteria” on the envelope.</p> <p>d. Technical Bid sealed separately and super scribed/ marked with words “Technical Bid” on the envelope.</p> <p>III. Envelope-2 Should Contain :</p> <p>a. Financial Bid sealed separately and super scribed/ marked with words “Financial Bid” on the envelope.</p> <p>IV. The content on the envelopes, tender no, bidder’s name & address should be clearly marked on the top of each of the sealed envelopes.</p> <p>V. All these envelopes should be put in a single envelope, duly sealed, with the content, tender no, bidder’s name & address should be clearly marked on the top.</p> <p>VI. The bid has to be submitted both in hard copy as mentioned above and in duly sealed soft copy in DVD/CD with proper labeling.</p> <p>VII. Note :</p> <p>a. The bid should be properly indexed.</p> <p>b. All pages of the bid being submitted to be signed and sequentially numbered by the authorized signatory of the bidder, in the format : “current page no./total no. of pages”.</p> <p>c. The bid should be submitted in binding without any loose sheet.</p> <p>d. Duly signed and sealed original tender document must be submitted along with the bid as a token of acceptance and compliance to the tender terms and conditions</p>
3.5	Earnest Money Deposit (EMD)	Bid should accompany an earnest money deposit of Rs 5,00,000/- (Rupees Five Lac only) in the form of demand draft as per Annexure-C drawn in favor of ‘Rural Electrification Corporation Limited’ on a scheduled commercial bank payable at New Delhi. OR in the form of Bank Guarantee as per Annexure – C2. Bid without a valid EMD will be rejected outright.
3.6	Application Money	If the bid document is downloaded from website then the Bid should accompany an application money of Rs 5,000/- (Rupees Five Thousand only) in the form of a demand draft drawn in favor of ‘Rural Electrification Corporation Limited’ on a scheduled commercial bank payable at New Delhi. Downloaded Bid without application money will be rejected outright. Application money is not refundable in any case.
3.7	Eligibility Criteria Documents	The eligibility criteria documents as per clause 1.2 section I – Invitation for Bid must be submitted along with the Bid. Bid without these documents will be rejected outright.
3.8	Technical	The Technical bid prepared by the bidder shall comprise of the

	Bid	<p>following, preferable in the following sequence (Table of Content to be the first page):</p> <ol style="list-style-type: none"> I. Proposed solution as per requirement along with part number II. A detail write-up of the proposed solution along with a power point presentation of the same. The presentation should clearly explain the proposed solution along with information to meet the SLA/OLA commitment for all the locations of RECL including remote ones. III. Describe the bidders understanding of the requirement. IV. Project Management Philosophy with details on progress reporting Mechanism (like testing progress, installation, commissioning, maintenance, On-site Facilities Management etc), problem frequency, problem response time, escalation, knowledge repository etc. V. Major milestones as identified by the bidder (testing, installation, commissioning etc). VI. Undertaking on Compliance of Technical Specifications and Tender Terms and Conditions Format – Annexure - E VII. Bidder's response in the Model Response Format – Annexure - F VIII. Product evaluation kit, technical information, white papers etc.. IX. Bid Form – Annexure - B X. Submit the equipment and/or product compatibility sheet (Fully Met, Not Met, Deviations) and the roadmap to meet the gaps to meet the specifications as per Annexure K. XI. Technical Specification Compliance (Annexure – H form #2) XII. Deviations / Exclusions Schedule (Annexure – H form # 1) XIII. List of clients for which the bidder is having similar type of contracts and certificate regarding satisfactory performance of the contract (Please attach documentary proof). XIV. Details of subcontractors and franchisee agreements thereon, as per serial (ii) above, if any. Address of the websites, if available. XV. Total IT manpower proposed to be deputed for this project along with profile. XVI. Provide the life cycle details of all the equipments etc as quoted by the bidder. XVII. Submit the original tender document duly signed and sealed on every page. XVIII. The bidder shall offer only single Technical Solution to meet the specifications and scope of work as per the tender document. The supplier should provide necessary documentary evidence supporting the technical specifications of the offered solution. XIX. Reports published in journals comparing the offered product with other similar product. XX. Information on future planned upgrade and compatible products along with the anticipated time frame. XXI. If selected the bidder should provide the same solution i.e. as per I above to RECL. The bidder should submit an undertaking
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		<p>regarding the same.</p> <p>XXII.The proposed IT Infrastructure by the bidder should address the need for at least a period of next 6 years.</p> <p>XXIII.The prime/ main / front ending System Integrator should enclose the back to back arrangements/ contracts with other OEMs/ Vendors for major components with their bids.</p> <p>XIV.Data Center,</p> <ul style="list-style-type: none"> a) Plan layout (caged) considering the space requirement for existing racks as per annexure M & for the same required in this tender b) Provision of controlled power supply c) Provision of air-conditioner d) Security e) Building Management System showing fire protection, physical security, surveillance etc <p>XXV.RECL CO & SSC</p> <p>The following Documents to be submitted for scrutiny</p> <ul style="list-style-type: none"> a) Architectural Drawings b) Plan indicating the proposed equipment layout. <ul style="list-style-type: none"> a) Sections indicating all proposed partitions, paneling, false ceiling, false flooring etc. b) Details of ceiling & flooring c) List of furniture d) Material specifications c) Electrical Drawings and Documents <ul style="list-style-type: none"> a) Power calculations b) Single line diagrams of L.T Panel & DB c) Complete electrical drawings of the entire CO & SSC d) UPS tech specification duly filling the parameters listed in TS e) Probable make of components f) Proper Earthing d) Air conditioning Drawings and Documents <ul style="list-style-type: none"> a) Probable make of all the equipments and components used along with their ratings and type b) Approximate dimensions of the control panel c) Single line diagram d) Calculation for estimation of cooling load and dehumidified air quantity. e) Type of air-conditioning system/ equipments
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proposed.

f) Details of individual items like compressors, condensers, fans, air filters, controls, accessories, interlocks, insulations etc shall be furnished with offer.

e) Technical Documents & As-Built Drawings

a) On completion of work bidder to furnish 6 sets & soft copy of complete technical documents along with as-built drawings for all the systems as envisaged in the tender document.

b) System-wise report shall be submitted along with the drawings including softcopy. The report should be comprehensive covering all the technical features, system information, flow chart, illustrative graphics etc.

XVI. Server, Network & Security (For DC & SSC)

a) Details of the equipments including Routers, Switches, Firewalls, IPS and other items offered

b) Technical Specifications of the offered products.

c) Implementation Plan together with Activity Bar Chart and PERT Chart.

d) Training Schedule including resources required for conducting the training.

e) Line Diagram, details of various LANs, VLANs etc.

f) IP addressing scheme.

g) Test Plans.

h) Technical Specification sheets/Tables and other Details requested as in Annexure-K

i) RECL's Scope specification as in SOW

j) RTO and RPO achievable from the solution

k) The following additional details of the solution should be furnished:

l) The bidder must explain the total system expandability in terms of CPUs, memory, slots

m) Reliability, Availability, Serviceability (RAS) features.

n) Dimensions of the machine, weight and total rack U requirement

o) Power Ratings: Voltage, Current, Frequency, Phase

p) Heat dissipation in BTU/hour

q) Cache per CPU

r) System Bus & I/O Architecture

		<p>s) Working of I/O interface cards and network cards in fail-over mode in active-active mode</p> <p>t) Scope of upgrade-ability in terms of</p> <ul style="list-style-type: none"> i. CPU, Cache ii. Memory (including dynamic) iii. Number of Expansion of Slots iv. The bidder must mention the minimum quantity of CPU and minimum memory which can be increased in an upgrade process <p>u) Future Roadmap for the offered product for the next 5 years</p> <p>v) OS Details and future road map</p> <p>w) Bundled Software details</p> <p>x) Handling of the single point of failure</p> <p>y) Message service failure</p> <p>z) Details of all software, OS, and other agents offered with correct version, licenses offered to achieve the desired overall solution.</p> <p>XVII.Facility Management</p> <ul style="list-style-type: none"> i. Detail of the services proposed to be offered ii. Deployment plan of FM personnel iii. Proposed solution along with justification as to how to meet the proposed SLA criteria. <p>XVIII.Note:</p> <p>a) The bidder should submit photocopies of the documents which are attested either by self/company or by gazetted officer or notary public, wherever required.</p> <p>b) Make and model of all systems, sub-systems and optional items should be mentioned in the technical bid and complete technical details should be provided in the form of brochures and write ups.</p> <p>c) It is desirable that the bidder is ISO 9001:2000/ BS 15000/ equivalent or above certified company. Attach documentary proof, if any.</p> <p>d) It is desirable that the proposed data centre for co-location/ hosting is BS 7799 – ISO/IEC 27001 certified. Attach documentary proof., if any.</p>
3.9	Financial Bid	<p>I. The financial bid shall indicate the Unit prices / slab prices (wherever applicable) for the equipment/ systems/ product and/or services, it proposes to provide under the contract.</p> <p>II. Quoted prices should be firm and inclusive of Interface</p>

		<p>cables, Power cables, related accessories, Documentation of sub assemblies of system and Operating Manuals of the systems, excise, sales tax/VAT, service tax, octroi, freight, Packing, forwarding, handling, loading, unloading , insurance, any other tax/charges applicable. The price should also include Installation, configuration, on-site comprehensive warranty maintenance (3 years), commissioning, training (clause 1.1.13, section I), system integration, facilities management (3 years) etc. charges for all equipments/systems/products and services inclusive of all direct and indirect taxes and all other expenses related with the visits of the Bidder's personnel in connection with the performance of the contractual obligations by the Bidder.</p> <p>III. Prices quoted by the bidder shall be fixed during the bidders performance of the contract and not subject to variation on any account. A bid submitted with an conditional price, quotation will be treated as non-responsive and will be rejected. All prices and other information like discount etc. having a bearing on the price shall be written both in figures and words in the prescribed offer form. If there is discrepancy between the price/information quoted in words and figures, whichever is the higher of the two shall be taken as bid price. Similarly, if there is a discrepancy between the components and corresponding quoted total, the total will be derived from the components and taken for computation of TCO.</p> <p>IV. During the validity of this bid and/or during the extended period, if any, and/or till the delivery of items if the bidder sells any system or sub-system of the same configuration to any other Department/Organization in India at a price lower than the fixed price for the Purchases, the bidder shall automatically pass on the benefits to the Purchaser.</p> <p>V. Rates should be valid for 180 days from the date of opening of technical Bids.</p> <p>VI. Rates should include three years on-site comprehensive warranty charges, system integration and on-site three years facilities management as mentioned in this document.</p> <p>VII. The prices shall be for delivery at DC, RECL CO/ZO/PO and CIRE, Hyderabad including installation/ commissioning and complete operationalization and statutory levis, if any.</p> <p>VIII. The cost of any other item/services, which are considered necessary for completion of the job, is deemed to have been included in the quoted prices.</p> <p>IX. Quoted prices shall also be inclusive of all costs towards carrying out any surveys, site visits by bidder's personnel, boarding, lodging, incidental expenses etc. required for Project work.</p> <p>X. Though offer of higher warranty/configuration/rating than</p>
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that is required as per tender specifications, may be accepted, no extra weightage or preference will be given for the same.

- XI. Notwithstanding clause (v) above, RECL may solicit the bidder's consent to an extension of the period of bid validity. The request and the response thereto shall be made in writing by fax, e-mail, post etc. A bidder granting the request will neither be required nor permitted to modify its bid, while confirming extension of bid validity. A bidder may refuse the request in writing to RECL without forfeiture of its bid security (EMD), In such a case the bid shall be considered as withdrawn and RECL shall return/refund the bid security (EMD) at the earliest to such bidder(s). On expiry of the bid validity period the bid shall be deemed valid till such time the bidder does not withdraw its bid formally by a written communication to RECL. The bid shall be deemed to be valid for a period of seven working days on receipt of such written communication by REC.
- XII. The bidder must note that RECL will **not** provide Form-'D'/Form-'C' etc.
- XIII. The prices shall be for delivery at desired destination/ locations across India including installation/ commissioning and complete operationalization and statutory levis, if any.
- XIV. The three year on-site comprehensive warranty maintenance period shall be taken into account, for the systems/ equipments from the date of successful installation/commissioning and acceptance by RECL after the successful commissioning of products at RECL desired destinations by the bidder.
- XV. During the warranty period, besides service/ maintenance of hardware and its peripherals and System Software, all patches related to the supplied products including operating system, anti-virus, are to be provided and installed at no extra cost.
- XVI. All costs and charges, related to the bid, shall be expressed in Indian Rupees only .

XVII. Rate contract / Empanelment

- a. Order will be placed to the finally selected bidder. The selected bidder shall be under rate contract agreement with RECL for a period of 12 (twelve) months from the date of acceptance of order or signing of contract agreement by the bidder or placement of initial purchase order whichever is earlier, which can be extended for a further period of maximum six months. Rates quoted shall be valid for the entire period including the extended period, if any. RECL, notwithstanding the rate contract, does not bind itself to purchase any items during contact period.
- b. Keeping in view the RECL-project commitment,

		<p>RECL and/or its ZO/PO/CIRE reserves the right to evolve a super-set and/or sub-set of technically qualified accepted systems and subsystems, items of their brands and models for the entire range of systems and services covered by Annexure-K of this tender so as to take care of the service delivery related aspects concerning the suitability of configuration needs matching the project requirements from time to time. All bidders shall have to confirm the acceptance for agreeing to the aforementioned condition as a precondition to qualify for empanelment. Any bidder not agreeing to this condition shall not be eligible for further evaluation of their bids.</p> <p>c. All the qualified bidders will be under empanelment for supply of items mentioned in annexure K, at the discretion of RECL, for an initial period of 12 (Twelve) months from the date of acceptance of empanelment offer. It may be extended for a further period of maximum 06 (Six) months depending upon the need of RECL and its project requirements.</p> <p>d. RECL reserves the right to procure any other additional parts/ optional items/ accessories etc. like for upgrade/ update the specifications of supplied systems/ equipments or otherwise including any peripherals etc. from the empanelled bidder on limited/ single quotation basis and/or through other sources at the discretion of RECL. However, If the supplier of the original system/ equipment is not supplying these additional parts/ optional items/ accessories/ peripherals etc. the supplier of the original system/ equipment shall undertake the installation and commissioning of these parts/ optional items/ accessories/ peripherals etc. under and during the period of the on-site comprehensive warranty maintenance of the original system/ equipment at no additional cost along with the supplier of the additional parts/ optional items/ accessories/ peripherals provided that he/she shall not be liable for any defects/ non-functioning/ warranty of these additional items.</p> <p>e. The bidder should not assign and/or sublet the empanelment or any part of it to any other agency in any form. Failure to do so shall result in termination of empanelment and forfeiture of security deposit/ performance guarantee etc.</p> <p>f. During the validity of empanelment, in case RECL notices that the market rates have come down from the time the rates were finalized or selection of new system configuration based on market trends or for</p>
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		<p>the reasons of technological changes, RECL may either ask the empanelled bidders to re-quote the prices and the bidder(s) will be selected on the basis of the defined procedure of selection of bidder or ask the empanelled bidder to re-quote on limited/ single quotation basis. The time difference between such re-quotes will be minimum 3 months except in case of the Union Budget. For any bulk requirements, RECL reserves the right to call for the revised bids from the empanelled bidders at any time during the empanelment. Revised bids should not be more than existing rates except in the case of technological advancements.</p> <p>g. During the validity of the empanelment including the extended period, if any, if the bidder quotes, sells or exhibits written intention to sell any System and/or sub-system of the same or equivalent configuration to any other department/Organization at a price lower than the price fixed for RECL, the bidder shall voluntarily pass on the price difference to RECL. The effective date will be the date of quoting the lower rates in the bid/quote. Similarly, in the event of lowering of government levies subsequent to the finalization of the panel, the bidder shall automatically pass on the benefits to RECL, and in the event of increasing of government levies subsequent to the finalization of the panel; RECL shall automatically pass, on intimation by the bidder, on the pro-rata benefits to the bidder, if the same have been explicitly given in the financial annexes.</p> <p>h. No deviations from these terms and conditions will be accepted. Any violation there off will lead to rejection of the bid and forfeiture of EMD/Security Deposit.</p> <p>XVIII. The bid shall contain no interlineations, erasures, or overwriting, except to correct errors made by the Bidder, in which case the person or persons signing the bid shall initial such corrections, in case of a failure to comply the bid shall be summarily rejected.</p>
3.10	Submission of Bids	The bids be submitted as mentioned in clause 1.4 section I.
3.11	Pre-bids	The pre-bid meeting shall be held as per clause 1.9 section I.
3.12	Deadline for Submission of Bids	<p>The bid submission shall be as described in clause 1.4 section I</p> <p>I. In the event of the specified date for the submission of bids being declared a holiday for RECL, the bids will be received up to the appointed time on the next working day.</p> <p>II. The RECL may, at it's discretion can extend this deadline for submission of bids by amending the tender document, in which case all rights and obligations of the RECL and</p>

		bidders previously subject to the deadline will thereafter be subject to the deadline as extended.
3.13	Late and Delayed Bids	Any bid received by RECL after the deadline for submission of bids prescribed by the RECL will be rejected and/or returned unopened to the bidder if asked for. The decision of RECL, whether to accept or not to accept such bids, without assigning reason shall be final and no disputes shall be entertained with regard to exercise of such discretion of RECL.
3.14	Bid Opening	Described in clause 1.5 section I. The bidders' representatives present there, shall sign a register evidencing their attendance. In the event of the specified date of the bid opening being declared a holiday for the RECL, the bids shall be opened at the appointed time and location on the next working day.
3.15	Opening of EMD & application money	RECL will open the EMD & Application Money envelopes first. In case the EMD and / or Application money (if applicable) are not found in order the bid shall be summarily rejected. Eligibility Criteria Document envelope & Technical Bid envelope of only those bidders will be opened whose EMD and Application Money (if applicable) are found in order.
3.16	Opening of Eligibility Criteria Document	RECL will open the Eligibility Criteria document subject to clause 3.15. In case the Eligibility Criteria Document is not found in order the bid shall be summarily rejected. Technical bid of only those bidders will be evaluated whose EMD, Application money (if applicable) and Eligibility Criteria Documents are found in order.
3.17	Opening of Technical Bids by RECL	RECL will open the technical bids in pursuant to clause 3.15 and evaluate the technical bid only if the EMD, Application money (if applicable) and Eligibility Criteria Requirement are submitted as per requirement.
3.18	Clarification of Bids	<ol style="list-style-type: none"> I. During evaluation of the bids, the RECL may at its discretion, ask the Bidder for clarification of its bid. The bidder has to submit the clarification within 2 (two) working days receipt of clarification request. The request for clarification and the response shall be in writing and no change in price or substance of the bid shall be sought, offered or permitted. II. No Bidder shall contact the RECL on any matter relating to its bid, from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the RECL, it should be done in writing. RECL, at it's discretion may consider the same. III. Any effort by a Bidder to influence the RECL in its decisions on bid evaluation, bid comparison or contract award decisions may result in rejection of the Bidder's bid and RECL will declare the firm ineligible, either indefinitely or for a stated period of time from participation in future RFPs / tenders of RECL. IV. During the evaluation process, as per the ERP project requirements in case RECL desires for selection of new system and/or equipment and/or product

		<p>specifications/configuration based on market trends or for the reasons of technological advances/changes, RECL will ask the eligible bidders and/or technically short-listed Bidders (as per the current stage of evaluation) to re-quote the prices based on new /advanced specifications/configurations/technologies and the Bidder(s) will be selected on the basis of procedure for evaluation of bids as per clause 3.21. RECL may also add/delete some of the optional items from the optional items list depending upon the availability of the item and ERP project requirement. Unsolicited clarification to the Bid and/or change in price during its validity period would render the Bid liable for outright rejection.</p>
3.19	Evaluation of Technical Bid	<ol style="list-style-type: none"> I. Detailed technical evaluation will be carried out pursuant to clause 3.8, and the technical specification mentioned in annexure K. RECL will determine the substantial responsiveness of each bid to the Bidding Documents. For purpose of these Clauses, a substantially responsive bid is one, which conforms to major scope, specifications & terms and conditions of the Bidding Documents without material deviations. II. A bid determined as not substantially responsive may be rejected by the RECL and may not subsequently be made responsive by the Bidder by correction of the non-conformity. III. The bidders short-listed by RECL based on evaluation of their technical bids may be called for detailed discussions/presentations. RECL reserves the right to order any sub-set or super-set of tendered items. The Technical Evaluation Committee (TEC) may at it's own discretion decide to carry out surprise inspection of bidders' manufacturing facilities and/or maintenance of support centers to evaluate and ascertain the details as furnished by the bidder in it's technical bid, the technical competence to perform the offered services, capabilities, available facilities and resources of the bidder for efficient and effective execution of the project. IV. For technical evaluation, Bidders have to ensure the availability of appropriate specialist, along with every type of documentation, equipments, software(s) required, from their organization for interacting with TEC & benchmarking/evaluation team. In case a bidder does not make arrangement for required specialist along with proper documentation, equipment and software(s) available, then such defaulting bidder shall be taken off the tender evaluation process and that bid will stand rejected.
3.20	Opening of Financial Bids	<ol style="list-style-type: none"> I. RECL will open the Financial bids of only those bidders, which have been found to be technically qualified to undertake the job, pursuant to Clause 3.19.

		<p>II. The Financial Bids of the technically qualified bidders shall be opened in the presence of their representatives, who choose to be present, on a specified date and time and Venue.</p> <p>III. The date and time of opening of financial bids shall be informed only to the technically qualified bidder(s).</p> <p>IV. The bidder's name, price of Bids, all discounts offered, modifications and Bid withdrawals and such other details as the RECL, at its discretion, may consider appropriate will be read out at the time of opening of financial bids of technically and commercially acceptable bidders.</p>
3.21	<p>Evaluation and Comparison of Bids</p>	<p>I. The comparison shall be of all-inclusive price of goods, such price to include all costs as well as duties and taxes paid or payable.</p> <p>II. Arithmetical errors will be rectified on the following basis: If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If the supplier does not accept the correction of errors, its bid will be rejected. If there is a discrepancy between words and figures, whichever is the higher of the two shall be taken as bid price. However, while the placement of order the lower of the two shall be taken as the price of the respective item. In case, the bidder has not quoted (i.e. Either the respective cell is left blank or crossed or N.A. is written etc) for a required line item as mentioned in the price bid, the highest price quoted for that line item by any bidder will be taken for comparison and at the time issuing purchase order, in case the bidder becomes Lowest bidder, the lowest figure quoted for the respective line item by any bidder will be taken as the price of the line item. In case the price of a required line item is mentioned as zero i.e. '0' the same shall be treated as the bid price. In case, compliance of any clause is not specifically mentioned, the same will be treated as deemed compliance .</p> <p>III. The L1 (Lowest Bidder) will be arrived in the following manner:</p> <p>a. Grand Total calculated / arrived at, as specified in the price schedule annexure J for the mandatory items will be compared for arriving at the L1 bidder.</p> <p>b. The AMC cost (4-6 years), wherever applicable, will be discounted on Net Present Value basis at @11.50%.</p> <p>IV. It should be noted that except as otherwise specifically provided in the Contract, the bidder shall bear and pay all taxes, duties, levies, and charges assessed on the bidder by all municipal, state, or national government authorities,</p>

		<p>in connection with the Goods and Services supplied under the Contract. However the break up of Prices and Taxes & Duties shall be furnished as per price schedule.</p> <p>V. All supplies and services required for the Contract are priced inclusive of all incidental costs (such as out of pocket expenses, office support, communications, printing of materials), freight & insurance and inclusive of all prevailing taxes, duties & levies paid or payable in any country, upon rendering of the services as on the due date of bid submission. Statutory variation in taxes, duties and levies in India within the original completion period shall be to the bidder's account.</p> <p>VI. The bidder shall be deemed to have satisfied itself as to the correctness and sufficiency of the Contract Price, which shall except as otherwise provided for in the Contract, cover all its obligations under the Contract</p> <p>VII. Bidders shall state their bid price for the payment schedule outlined in the Section 4 Clause 4.9 and as per the format given in Annexure J – Table I to V : “Price Schedule” only.</p> <p>VIII. However, L1 has to match the lowest rates of all the relevant technically qualified optional items of each quoted configuration of Annexure K including the optional items as specified in Annexure K, to those quoted by any of the technically qualified bidders. However, for matching the individual item rates, the rates, which are unreasonable/, incredibly low/ quoted by mistake/ zero or no value etc will not be considered. The maximum period of matching rates will not be more than 10 working days from the date of issuance of offer letter for matching from RECL. If the bidder fails to match the rates within stipulated time as stated above, the offer will be treated as cancelled and bid being rejected and EMD stands Forfeited.</p> <p>IX. For optional items, Unit Price should be quoted which may be ordered along with the system as part of configuration or separately, the price should include installation, commissioning and on site comprehensive warranty maintenance (3 year) charges of those products to be supplied installed, and commissioned.</p> <p>X. For each optional item, the prices of the lowest quotation of the technically and procedurally acceptable bidders will be made applicable to the finally selected bidder.</p> <p>XI. Optional items must be quoted.</p>
3.22	Purchase Order and Subletting	<p>I. Keeping in view the RECL-project commitment, RECL reserves the right to evolve a super-set and/or sub-set of technically qualified accepted equipments/products/systems and subsystems, items of their brands and models for the entire range of equipments/products/systems covered by Annexure K of</p>

		<p>this tender so as to take care of the service delivery related aspects concerning the suitability of configuration needs matching the project requirements from time to time. All bidders shall have to confirm the acceptance for agreeing to the aforementioned condition as a precondition to qualify for the tender for placement of purchase order. Any bidder not agreeing to this condition shall not be eligible for further evaluation of their bids.</p> <p>II.Orders will be placed on the finally selected bidder depending upon the need of RECL and its project requirements.</p> <p>III.The bidder may assign to any 3rd party, with information in writing to RECL, any part of the contract, or any right, benefit, obligation, or interest therein or there under. But the bidder shall be overall liable for the execution of the contract and that the bidder shall be entitled to assign either absolutely or by way of charge any amount due and payable to it or that may become due and payable to it under the Contract.</p> <p>IV.Prior to final delivery of items if the bidder quotes, sells or exhibits written intention to sell any equipment/product/System and/or sub-system of the same or equivalent configuration to any other department/organization at a price lower than the price fixed for RECL, the bidder shall voluntarily pass on the price difference to RECL. The effective date will be the date of quoting the lowest rates in the bid/quote. Similarly, in the event of lowering of government levies subsequent to the finalization of the tender, the bidder shall automatically pass on the benefits to RECL, and in the event of increasing of government levies subsequent to the finalization of the tender; RECL shall automatically, on intimation by the bidder, pass on the pro-rata benefits to the bidder, if the same have been explicitly given in the financial annexure(s).</p> <p>V.No deviations from these terms and conditions will be accepted. Any violation thereof will lead to rejection of the bid and forfeiture of EMD/Security Deposit.</p>
3.23	Special Conditions of Contract	
3.23.1	Total Price	<p>Total Price shall be for the complete scope for the mandatory items as per technical specifications as specified in section II and Annexure K, inclusive of comprehensive on-site maintenance including repair/replacement of parts (during the warranty period), all taxes & duties, insurance, any other incidental charges, etc. Zero date for warranty shall start from the date of successful completion of installation and acceptance by RECL. Bidder shall be responsible for comprehensive on-site maintenance of the supplied equipments & services during the entire warranty and Maintenance Support period.</p>

3.23.2	TURN-KEY	This project is to be executed on a TURN-KEY BASIS .
3.23.3	Operating and Environmental Conditions	<p>The equipment shall be suitable for operating under environmental conditions as indicated below, which shall be ensured by the bidder:</p> <ul style="list-style-type: none"> • Power : 230V + 10%, 50 Hz + 3% • Earth to Neutral V : < 5 Volts • Temperature : As per requirement • Relative Humidity : < 80% non-condensing
3.23.4	Site Readiness	<p>The bidder may check the sites well in advance to make necessary design and plan for installation of equipments at respective locations. The responsibility of RECL is limited to providing the required space at each location for these purposes. Bidder has to make good any damage to the building in the process of carrying out the work at no extra cost to RECL.</p>
3.23.5	Completion Schedule	<p>The bidder shall be responsible for timely installation of the project as mentioned in section II clause 2.3, Major Activities. Bidder shall be responsible for all the jobs required for the complete installation, & thereafter successful commissioning & operation of the systems & shall include all such necessary hardware & software in his scope of supply/work.</p>
3.23.6	Delivery & Installation	<ol style="list-style-type: none"> I. All equipment supplied and installed at site shall be new and conforming to the technical specification II. The bidder may visit the site in advance and check its readiness for housing and operation of equipments. The bidder may also check the ordered components and facilities available on which new systems will be installed. III. The Bidder has to carry out all related work in regard to Civil, Electrical, Air-conditioning, Physical security, Gas , Fire control etc, that may be necessary as per scope of work defined in this document. IV. The bidder shall deliver & make all the equipments and products operational (Supply, Installation, configuration & commissioning, training, Integration, Acceptance of the equipments and handing over to RECL) as per the Scope of Work section II and technical specifications Annexure K within the stipulated timeline. V. On completion of delivery, the bidder shall get the Bill of Material checked and signed by RECL's coordinator, carry out the installation as per requirement and show the equipments in working order to RECL's coordinator at site. VI. The bidder shall provide all assistance to RECL for successful operation in coordination with the ERP vendor and server vendor. VII. On successful completion of the installation and proper tuning of the equipments and products, these shall be handed over to RECL. The bidder shall submit the commissioning Report along with equipments and products Configuration Report, results of diagnostic tests run etc. to RECL.

		VIII. Zero date for Warrantee will start only after successful completion of work as per scope of work mentioned here as per stipulated timelines and signing of Acceptance certificate.
3.23.7	On-site Facility Management Services (FMS)	<ol style="list-style-type: none"> I. The duration of on-site Facility Management Services will be for three years initially, with discretion to extend it for a further period of 3 years on yearly renewal basis. This will commence immediately after installation, commissioning & acceptance of the equipments as per the scope of work section II and technical specifications Annexure K. II. The bidder shall agree for and quote for year-wise on-site Facility Management Services (FMS) for maintenance of the entire infrastructure from the date of acceptance of the system. The scope and terms & conditions of the contract shall be as per the bidding document. III. Post Warranty Annual Maintenance The bidder shall agree for and quote the year-wise charges for comprehensive on-site annual maintenance support for all the systems supplied under this contract. Comprehensive on-site post warranty annual maintenance support reckoned from the date of expiry of the warranty of the system under the contract & clearance by RECL. RECL however reserves the right to order for Post warranty Annual Maintenance. The scope and terms & conditions of the contract shall be as per the bidding document.
3.23.8	On-site Comprehensive Warranty Maintenance Service	3 years of comprehensive on-site warranty maintenance plus 3 years of comprehensive on-site maintenance (the latter at the discretion of RECL) for all the equipments supplied under this contract. This will commence immediately only after successful completion of work and signing of Acceptance certificate.
3.23.9	BENCHMARKING AND ACCEPTANCE TEST (AT)	<p>Acceptance Test (AT)</p> <ol style="list-style-type: none"> I. The location of the AT shall be decided at the discretion of RECL in consultation with the bidder. Based on Bidder readiness, RECL shall confirm the date of carrying out AT. Tests shall be carried out as per the required OEM specifications specified. II. The Bidder shall keep all the Ordered equipment ready to carry out AT. III. Physical Verification of equipments shall be done. All the features / functionality of Hardware and Software shall be tested at the discretion of RECL. IV. Checking of the Configuration as per the Work Order V. Inspection of equipments would be done as per specifications of Tender document. <ol style="list-style-type: none"> a. OEM utility will be used for various diagnostic tests. It is at the discretion of RECL to test all the equipment or only one or more (randomly selected) equipment for each functionality. b. Complete functionality of the system/ equipment/

		software shall be tested as per the Scope of Work & Technical Specifications
3.23.10	WARRANTY AND SERVICE SUPPORT	<p>I. All the supplied equipment/system shall be covered under a free Comprehensive On-site Warranty for Three (03) years. Warranty period shall start from the date of the acceptance of commissioning of the equipment/system & signing of acceptance certificate by RECL for this contract. Only bids confirming unconditional acceptance of the warranty clause will be considered.</p> <p>II. Bidder should furnish an undertaking for providing products/services support as per the requirement along with uninterrupted and timely supply of spare parts for all the supplied equipment/system at least for 03 (three) years from the completion of warranty</p>
3.23.11	Training	<p>i. The training site will be bidder's liability which will be conducted in New Delhi or any other suitable location mutually agreed by RECL and the bidder.</p> <p>ii. The bidder shall organize the required infrastructure including training systems for conducting training programme. System and/or equipments procured under this contract shall not be used for training purposes.</p> <p>iii. The bidder shall provide original and official curriculum and training material to each participant separately along with one softcopy, if possible.</p> <p>iv. In addition training shall be provided as per Section – I clause 1.1.13 of the tender document</p>
3.23.12	KEY CONTRACT OR EMPLOYEES	<p>Bidder shall furnish the following information for the key employees assigned for this project</p> <ul style="list-style-type: none"> • Minimum Qualification/Certification as stipulated in qualification chart to perform the job • Bio-data with proper references • Contractor needs to take prior approval for the employee before placing him on the account. • Defined overlap and transition process for any replacement.
3.23.13	Right of Replacement	Bidder should replace the employee only with prior approval of RECL for whatsoever reasons.
3.23.14	Management Reports	<p>Bidder shall submit the report as per agreed formats and periodicity. Management reports will be required to reflect matrix reporting against all service levels contained in the contract, plus reports of a general management nature to allow RECL to oversee the Contractor's delivery of service. At a minimum, these include-</p> <ul style="list-style-type: none"> • Weekly status reports • Monthly SLA attainment reports • Monthly trend reports • Monthly utilization report • Annual state of the contract report covering all aspects of service delivery for the year and a projected service management plan for the coming year.

		<ul style="list-style-type: none"> • Root cause analysis reports for all SLAs and critical service failures and any other major problems.
3.23.15	Root Cause Analysis	<p>Bidder will be required to provide root cause analysis for all performance and availability problems that occur. Formal root cause analysis will be delivered within 5 days of problem occurrence, including-</p> <ul style="list-style-type: none"> • Explanation of the root cause • Actions taken to resolve the problem • Action plan to prevent reoccurrence, with project plan/tasks required and timing for each major milestone of the correction effort, and identification of RECL's responsibilities in the correction process.
3.23.16	Management of FM Jobs	<ol style="list-style-type: none"> I. With a view to Review, Regulate & resolve the various concerns & Issues during FM period a committee of RECL Project Manager & Bidder Project Manager will be constituted. II. The committee will oversee contract execution, resolve priority conflicts, set future direction and participate in the dispute resolution process. This committee will meet on periodic basis and submit the status report to the DGM(IT), RECL. III. A formal operational charter for the committee will be developed at the first meeting. In case of any dispute the matter shall be escalated in the respective organization as per their escalation matrix.
3.23.17	SECURITY AND CONDUCT	<p>At all times the bidder shall comply with all security and conduct regulations in effect that RECL requires at its premises or in the protection of its data assets.</p>
3.23.18	REPRESENTATIONS & WARRANTIES	<p>All services, work, and deliverables will be performed by qualified personnel in a professional and workman like manner, in accordance with the level of industry standards. In addition the Contractor warrants that –</p> <ol style="list-style-type: none"> a) Performance of work will not violate any law, rule or regulation and the bidder will acquire all required permits and licenses. b) Key Bidder personnel assigned to perform the work will be continuous through out the term, except as agreed to by RECL or for reasons of termination of employment with Bidder.
3.23.19	WORK PRODUCT/ANTIVIRUS WARRANTY	<ol style="list-style-type: none"> I. RECL requires that all work products created by Bidder on behalf of RECL is warranted by Bidder that such work product shall conform to and operate in accordance with all specifications and appropriate standards, and be free of defects in material or workmanship. If it is determined that a virus has been found, Bidder agrees to use reasonable efforts to assist RECL in curtailing spread of the virus and correcting or replacing the impaired or destroyed work product.

		<p>II. Bidder shall offer only single Technical Solution to meet the specifications and scope of work as per the tender document. The Bidder should provide necessary documentary evidence supporting the technical specifications of the offered solution.</p>
3.23.20	Contractor's Office at site	<p>The contractor shall depute adequate number of personnel at the site, at his cost, to receive instructions, notice or other communications. The Bidder at all time shall maintain a site instruction book and compliance of these shall be communicated to the site-in-charge/project coordinator from time to time and the whole document to be preserved and handed over after completion of works.</p>
3.23.21	COMPLIANCE OF VARIOUS LAWS OF LAND	<p>I. The bidder has to comply all the laws of the land which includes statutory, regulatory, industrial, labour etc for their own employees as well as to carry out scope of the work defined in this document.</p> <p>II. The Bidder shall have their own Provident Fund Account Numbers. If asked for, the Bidder will submit the proof of depositing the employees as well as employer's PF contribution periodically with the Regional Provident Fund Commissioner (RPFC).</p> <p>III. It shall be the sole liability of the Bidder (including the Contracting firm/company) to obtain and to abide by all necessary licenses/permissions from the authorities concerned as provided under the various labour license(s) obtained as per the provisions of the Contract Labour (Regulation & Abolition) Act, 1970.</p> <p>IV. The Bidder shall discharge obligations as provided under various applicable statutory enactments including the Employees Provident Fund & Miscellaneous Provision Act, 1952, the Employees State Insurance (ESI) Act, 1948, the Contract Labour (Regulation and Abolition) Act, 1970, the Inter-State Migrant workmen (Regulation of employment & conditions of Services) Act, 1979, the Minimum wages Act, 1948, the payment of Wages Act, 1936, the Workmen's Compensation Act, 1923, and other relevant Acts, Rules and Regulations enforced from time to time.</p> <p>V. The Bidder shall be responsible for required contributions towards P.F, Pension, ESI or any other statutory payments to be made in respect of the contract and the personnel employed for rendering service to RECL and shall deposit these amounts on or before the prescribed dates. The Bidder shall also be responsible to pay and administrative/inspection charges thereof, wherever applicable, in respect of the personnel employed by him for the works of RECL.</p> <p>VI. The Bidder shall be solely responsible for timely payment of wages and other dues to the personnel deployed by him. The Bidder shall be directly responsible and indemnify RECL against all charges, dues, claims etc. arising out of the disputes relating to the dues and employment of personnel</p>

		<p>deployed by him.</p> <p>VII. In case ESI is not applicable. Bidder before commencement of work shall submit Insurance Policy under Workmen's Compensation Act,1923 covering all his employees to be deployed for execution of the contract.</p>
3.23.22	INSURANCE	Bidder shall at his own expense arrange secure and maintain insurance with reputable insurance companies to the satisfaction of the RECL. The period of insurance should cover in transit insurance and till the acceptance of the equipments by RECL.
3.23.23	EMPLOYEES STATE INSURANCE ACT:	<p>I. The Bidder agrees to and does hereby accept full and exclusive liability for the compliance with all obligations imposed by the Employee State Insurance Act 1948 and the Bidder further agrees to defend, indemnify and hold RECL harmless for any liability or penalty which may be imposed by the Central, State or Local authority by reason of any asserted violation by Bidder or SUB-Bidder of the Employees' State Insurance Act, 1948, and also from all claims, suits or proceeding that may be brought against the RECL arising under, growing out of or by reasons of the work provided for by this Bidder, by third parties or by Central or State Government authority or any political sub-division thereof.</p> <p>II. The Bidder agrees to fill in with the Employee's State Insurance Corporation, the Declaration Forms, and all forms which may be required in respect of the Bidder's or SUB-Bidder 's employees, who are employed in the WORK provided for or those covered by ESI from time to time under the Agreement. The Bidder shall deduct and secure the agreement of the SUB- Bidder to deduct the employee's contribution as per the first schedule of the Employee's State Insurance Act from wages and affix the Employees Contribution Card at wages payment intervals. The Bidder shall remit and secure the agreement of SUB- Bidder to remit to the State Bank of India, Employee's State Insurance Corporation Account, the Employee's contribution as required by the Act. The Bidder agrees to maintain all cards and Records as required under the Act in respect of employees and payments and the Bidder shall secure the agreement of the SUB-Bidder to maintain such records. Any expenses incurred for the contributions, making contributions or maintaining records shall be to the Bidder 's or SUB- Bidder 's account.</p> <p>III. RECL may retain such sum as may be necessary from the total VALUE OF CONTRACT until the Bidder shall furnish satisfactory proof that all contributions as required by the Employees State Insurance Act, 1948, have been paid. This will be pending on the Bidder when the ESI Act is extended to the place of work.</p>
3.23.24	WORKMEN COMPENSA	Insurance shall be effected for all the Bidder 's employees engaged in the performance of this CONTRACT. If any of the work

	TION AND EMPLOYER'S LIABILITY INSURANCE	is sublet, the Bidder shall require the SUB- Bidder to provide workman's Compensation and employer's liability insurance for the latter's employees if such employees are not covered under the Bidder 's Insurance.
3.23.25	ACCIDENT OR INJURY TO WORKMEN	The RECL shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workman or other person in the Employment of the Bidder or any SUB-Bidder save and except an accident or injury resulting from any act or default of the RECL, his agents or servants and the Bidder shall indemnify and keep indemnified the RECL against all such damages and compensation (save and except and aforesaid) and against all claims, demands, proceeding, costs, charges and expenses, whatsoever in respect or in relation thereto
3.23.26	Comprehensive AUTOMOBILE Insurance	This insurance shall be in such a form as to protect the Bidder against all claims for injuries, disability, disease and death to members of public including RECL's men and damage to the property of others arising from the use of motor vehicles during on or off the `site' operations, irrespective of the Employership of such vehicles.
3.23.27	Comprehensive General Liability Insurance	This insurance shall protect the Bidder against all claims arising from injuries, disabilities, disease or death of member of public or damage to property of others due to any act or omission on the part of the Bidder, his agents, his employees, his representatives and Sub- Bidder's or from riots, strikes and civil commotion.
3.23.28	ANY OTHER INSURANCE REQUIRED UNDER LAW OR REGULATIONS OR BY EMPLOYER	Bidder shall also carry and maintain any and all other insurance(s) which he may be required under any law or regulation from time to time without any extra cost to RECL. He shall also carry and maintain any other insurance which may be required by the RECL.
3.23.29	Safety Regulations	In respect of all labour, directly employed in the WORK for the performance of Bidder 's part of this agreement, the Bidder shall at his own expense arrange for all the safety provisions as per safety codes of C.P.W.D., Indian Standards Institution. The Electricity Act, The Mines Act and such other acts as applicable. The Bidder shall observe and abide by all fire and safety regulations of the RECL. Before starting work Bidder shall consult with RECL's safety Engineers or site-in-charge/project coordinator and must make good to the satisfaction of the EMPLOYER any loss or damage due to fire to any portion of the work done or to be done under this agreement or to any of the RECL's existing property.

SECTION - IV
GENERAL TERMS AND CONDITIONS

Clause No.	Heading	Description/ Details
4.1	Definitions and Interpretation	<p>I. In this contract, the following terms shall be interpreted as indicated:</p> <p>II. "The Contract" means the agreement entered into between the RECL and the Bidder as recorded in the Contract Form signed by the parties, including all the attachments and appendices thereto and all documents incorporated by reference therein;</p> <p>III. "The Contract Price" means the price payable to the Bidder under the Contract for the full and proper performance of its contractual obligations;</p> <p>IV. The "Goods" / "products" / "equipments" means benchmarked fully functional equipment(s) and/or product(s) (including software) along with all manuals and/or other material(s), which the Bidder is required to supply, install, commission and maintain, integrate, train and facilities management for the RECL under the Contract;</p> <p>V. "The Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, maintenance, provision of technical assistance, training, system integration, facilities management and other obligations of the Supplier covered under the Contract;</p> <p>VI. "The RECL" means the organization purchasing the equipment and/or product, i.e., Rural Electrification Corporation Limited, located at Core 4, Scope Complex, 7 Lodi Road, New Delhi 110 003.</p> <p>VII. "The Bidder" / "contractor" means the firm(s) supplying the equipment / product and services under this Contract;</p> <p>VIII. "The Site" means any RECL premises, which includes its Corporate Office, Annex Office, Zonal Offices, Project Offices and CIRE.</p> <p>IX. "Day" means calendar day.</p>
4.2	Schedule of Requirements	<p>I. Potential Bidder should provide detailed activities time schedule, which represents the shortest practical time to complete all necessary tasks and meet the obligations of the requirements. All significant activities must be included, including those associated with the testing, delivery, installation, commissioning, training, system integration and facilities management and maintenance of the equipments/ products and quality certifications.</p> <p>II. The Bidder must guarantee responsibility for all maintenance for the equipment/product supplied notwithstanding the fact that the application and networking software/hardware running on/along with the said equipment/product has been or may be</p>

		<p>provided/supplied by multiple bidders. The supplier will also be expected to propose continued hardware and software products support. The conditions and cost of guarantee must be set out in details (for example: hardware preventive actions and supplier responsibilities, future development etc).</p> <p>III. The bidder shall try to re-use / maintain the existing equipments and systems as far as possible at agreed upon terms and conditions.</p> <p>IV. The bidder should undertake to provide support for the supplied equipments/products and systems/sub-systems for 3 years of comprehensive on-site warranty maintenance plus 3 years of comprehensive on-site maintenance (the later at the discretion of RECL). After the warranty maintenance of three years, if RECL decides to go in for in-house maintenance of systems or through a third party, the bidder/OEM shall supply the spares to RECL or the party designated by RECL. In case of the item/spare part being not available due to any reason the bidder/OEM shall provide an equivalent or latest item/spare part in lieu of the original item/spare part subject to the approval of the RECL.</p>
<p>4.3</p>	<p>Acceptance Certificate</p>	<p>I. On successful completion of acceptance test, receipt of deliverables, installation, commissioning, system integration, endurance test, stabilization period etc., and after RECL is satisfied with the working and performance of the equipment(s)/product(s) , the acceptance certificate (Annexure G) signed by the representative of the RECL and representative of the Bidder will be issued. The date on which such certificate is signed shall be deemed to be the date of successful commissioning and acceptance of the equipment(s)/product(s) and all warranties and guarantees shall be deemed to commence from the day of the issue of acceptance certificate.</p> <p>II. Final Acceptance Certificate for ERP Data Center/ SSC / Corporate WAN / Remote LAN</p> <p>Final acceptance certificate for the entire ERP Data Center / SSC/ Corporate WAN/ Remote LAN system shall be given after successful commissioning and system integration of the entire ERP application, when</p> <ol style="list-style-type: none"> a. Performance has been established in an integrated manner with other systems/services in normal operations, b. Bidder has no other obligation under agreement, c. Submission of final documentation incorporating all the modifications in requisite sets d. Removal of all defects noted during commissioning period e. Fulfillment of training requirements f. Commissioning and Live run and a stabilization period of

		<p>1 months after live date have been passed off successfully without any problem reported</p> <p>The different sub-systems / equipment shall be integrated by the bidder and tested on live data. The methodology and duration of these tests are subject to the broad framework defined above.</p>
4.4	Performance Security/Bank Guarantee	<ol style="list-style-type: none"> I. The selected Bidder shall furnish Performance Bank Guarantee (PBG) to the RECL for an amount of 15% of the contract value, valid up to for 60 days after warranty period (Thirty Eight months) within 30 days from the signing of the contract agreement, for performance and support service/maintenance obligation. The same will also be treated as security deposit in case of defaults like non-delivery, cancellation, penalties etc. For calculation of PBG amount, figures quoted for training will not be considered in computation. II. RECL can deduct as compensation from the Performance Security/Bank Guarantee for failures on the Bidder's part to complete its obligation under the contract. III. The performance security shall be in the form (Annexure- D) of a Bank Guarantee from a Scheduled Commercial Bank or A Bankers Cheque or Demand Draft IV. In the event of any correction of defects or replacement of defective equipment during warranty period the warranty of the corrected/ replaced equipment shall be effective from the date of replacement. V. Functional Guarantees : The bidder guarantees that, once the Preliminary Acceptance, Commissioning has been completed, the System represents a complete solution to the RECL's requirements set forth in the Scope of Work and it conforms to all other aspects of the Contract. VI. If the system fails in Preliminary Acceptance, due to reasons entirely attributable to the Supplier, the RECL may consider termination of the Contract, and forfeiture of the Supplier's performance security in compensation for the extra costs and delays likely to result from this failure.
4.5	Pre-delivery Inspection & Delivery	<ol style="list-style-type: none"> I. RECL at its discretion may carry out pre-delivery Inspection. On the receipt of the purchase orders, the bidder(s) shall obtain in time all the necessary documents for the State Entry Permit, Bank, Custom and Excise related documents, insurance etc wherever applicable, for complete and safe delivery of the ordered products, at their own cost and efforts. The delay in obtaining these documents will be accounted as under: <ol style="list-style-type: none"> a. Bidder must apply to the respective authority for issue of road permit/ waybill, Bank, Custom and Excise related documents in time. b. For Bank, Custom and/or Excise related documents no waiver or relaxation in delivery date shall be allowed

		<p>under normal circumstances at the discretion of RECL and penalty ,if any, as per tender clause will be applicable.</p> <p>c. Any slippage in the above mentioned schedule would attract penalty as per penalty clause for delivery for the slipped/delayed period.</p> <p>II. The systems must be supplied in full as per ordered configuration for acceptance. No system with short supply or with different technical specifications shall be taken up for conduct of acceptance testing under any circumstances.</p> <p>III. Should any inspected or tested system solution fail to conform to the specification, the RECL may reject them and the Bidder shall make all alterations necessary to meet specification requirements free of cost to RECL with in the time schedule as specified by RECL.</p> <p>IV. During delivery and/or maintenance period, on subassembly level if any item's specifications / model changes and becomes non available due to obsolescence of technology, bidder within already approved cost may offer the item with equivalent or having better features in terms of performance and specifications. The items so offered will be evaluated by RECL for its acceptance and installation.</p> <p>V. The schedule having details for conduct of benchmarking/evaluation/ acceptance testing of items shall be provided by bidders within 15 days from date of purchase order to the contact as mentioned in the purchase order, so that all the related documentation work by RECL could be completed and tested items are handed over back to bidders for ensuring the timely delivery and installation within stipulated time frame as per purchase order.</p> <p>VI. Normally, testing and acceptance of the systems will be done at mutually agreed upon location, where it will be tested as per ordered specifications. RECL reserves the right to reject any item, if found unsuitable and/or not conforming to the approved specifications. The rejected items, if any, shall have to be taken back and replaced by good items forthwith at the cost of the bidder. No payment will be made for rejected items.</p> <p>VII. All the equipments and systems are initially to be delivered at a single agreed upon location for inspection by RECL or RECL appointed agency. On acceptance, the materials are to be finally delivered at respective location at the cost of the bidder.</p> <p>VIII. The bidder should deliver, install and commission all the items at specified site without any additional charge. However, it may be noted that all the items technically tested / accepted as per the purchase order shall be delivered as per schedule section II clause.2.3 from the date of purchase order. Any unjustified and unacceptable delay in the delivery beyond the delivery schedule as per purchase order will render the bidder</p>
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		<p>liable for penalty at the rate of 1% (One percent) of pending order value per week subject to a maximum of ten weeks and thereafter RECL holds the option to cancel the purchase order and forfeit the entire EMD and/or the Security Deposit of the defaulting bidder which may include the deposit made against other deliveries and/or purchase orders, if any. In addition the bidder shall also be liable to pay RECL a cancellation charge of 8.5% (Eight and a Half percent) of the value of unsupplied items. In case of non-payment of cancellation charges RECL reserves the right to realize the same from the security deposits or pending payments of the bidder, if any, already available with RECL. In such a situation, RECL will complete the execution of incomplete orders through alternate sources at the risk and cost of the defaulting bidder. In case of RECL not deciding on cancellation of purchase order and/or forfeit of EMD and/or Security deposits than RECL may levy lost opportunity cost as a percentage of the total purchase order value over and above the default late delivery penalty as decided by RECL. The same shall be binding on the bidder.</p> <p>IX. In the rare event of non-acceptance of delivery items conforming to specifications and other terms and conditions and no default on the part of the bidder by the RECL site-in-charge, the bidder has to formally inform RECL to avoid delay in delivery schedule. RECL at his discretion may waive off whole or a part thereof of the penalty under these circumstances.</p>
<p>4.6</p>	<p>Installation and Commissioning</p>	<p>I.All aspects of safe delivery shall be the exclusive responsibility of the bidder. After inspection and delivery at the site, the cartons will be opened only in the presence of RECL representatives and Bidder's representative and the intact position of the Seal for not being tampered with together with actual receipt of the content of the carton in good condition, shall form basis for certifying the receipt in good condition.</p> <p>II.Installation and system integration of the delivered items should be completed within the time frame specified in section II clause.2.3, failing which a penalty at the rate of 0.5% (zero point five percent) of pending installation value per week or part there-off subject to maximum of 10 weeks will be imposed. Thereafter, RECL holds the option to complete the installation work through alternate sources at the risk and cost of the defaulting bidder. Penalty for both delivery and commissioning will be charged simultaneously for their respective delays.</p> <p>III.A sticker mentioning the service support call centre number of the bidder should be pasted on each system.</p> <p>IV.For Site Not Ready (SNR) case, bidder requires to submit certificate signed by ERP Project Coordinator to RECL. However, regarding readiness of site, the decision of the ERP Project Coordinator will be final. No penalty will be imposed for SNR cases, however, bidder has to install the items within 3 (Three) weeks of receipt of Site Ready notice from User/Project</p>

		<p>Coordinator, else it will attract penalty as per clause (II) above, recoverable from Security Deposits.</p> <p>V. During installation at site, if any item is found to be defective or broken, it will be replaced with new one by the bidder at its own costs and risks within 30 days from the date on which the bidder has been informed of such damage. Installation Certificate copies duly signed by the authorized user should reach RECL.</p> <p>VI. The systems to be supplied should work under the specified operating systems. It shall be exclusive responsibility of the bidders supplying the Systems to provide appropriate device drivers and solutions for these system software platforms.</p> <p>VII. The bidder should provide System manual, User manual, installation report and configuration detail along with each equipment and product, irrespective of the fact that more than one equipment and product may be supplied at site.</p> <p>VIII. The bidder should get insurance of the components till the commissioning by the bidder and acceptance of the same by RECL.</p> <p>IX. The supply, transportation, erection and installation of the equipment and interconnections, LAN/WAN setups etc, required to be completed for commissioning shall be in the scope of the bidder.</p> <p>X. The bidder shall demonstrate the following scenarios as part of the Installation and commissioning. The list is indicative and may be amended during the test.</p> <p style="text-align: center;">Data Center & SSC</p> <p>For commissioning the individual system will be run for 72 hours of continuous working in confirmation to contractual specifications. The successful bidder shall conduct commissioning test and establish 100% satisfactory performance of the system supplied by him during this period. If the test is interrupted due to any reason attributable to the supplier, the system has to be started again for 72 hours continuous testing.</p> <p>Any defect/malfunctioning found during this period shall be rectified and defective part if any, shall be replaced immediately without any extra cost to the RECL. In such case the commissioning test of the system shall be demonstrated again for the next 72 hours on a continuous basis</p> <p style="text-align: center;">NETWORK</p> <ul style="list-style-type: none"> a) 72 hours continuous running of equipments b) Automatic switch-over in case of Link failure c) Automatic switch-over in case of component failure d) Generation of alters for failure of component or link <p style="text-align: center;">APPLICATION</p> <ul style="list-style-type: none"> a) To assist ERP Server hardware vendor in shifting the
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		<p>ERP servers and ensure successful running of Oracle ERP 11i system and subsystems from all the locations</p> <p>UPS & Other assemblies</p> <ul style="list-style-type: none"> a) Display of standard UPS parameter requirement b) Battery backup testing with full load in case of power failure c) 72 hours continuous running of equipments <p>SOFTWARE</p> <p>The bidder will prepare demonstration schedule for each of the software supplied and accepted by RECL. The test then will be performed for these schedules.</p> <p>Failure to demonstrate these scenarios, the supplied equipments will liable to be rejected.</p> <p>XI.RECL will issue a commissioning certificate on successful installation and commissioning.</p>
4.7	Acceptance	<p>I. RECL will perform acceptance of the entire set up including H/w and other components. Failure to fulfill any of the aforementioned conditions, may entail rejection of the order and forfeiture of the EMD/Security Deposit. Further RECL can procure same items from alternate sources at the risk and cost of the defaulting bidder.</p> <p>II. Tests</p> <ul style="list-style-type: none"> a. The bidder will submit the comprehensive Acceptance test plan for all the components at least 2 weeks in advance of scheduled delivery. This same will be reviewed and approved by RECL. b. The RECL or its representative shall have the right to inspect and/or test any components of the supplied System as per the approved acceptance test plan, to confirm their good working order and/or conformity to the Contract at the point of delivery and/or at the Project Site. c. Should the inspected or tested components fail to conform to the Contract, the RECL may reject the component(s), and the bidder shall within a period of 14 (fourteen) days either replace the rejected component(s), or make alterations as necessary so that it meets the Contract requirements free of cost to the RECL. <p>III. Acceptance</p> <ul style="list-style-type: none"> a. The individual system supplied shall be erected under the supervision of RECL by the bidder & shall be tested and commissioned for integrated operation as per approved drawings & functional requirements. b. The sequence of erection of equipments shall be mutually

		<p>discussed and agreed between the RECL and bidder before commencement of erection.</p> <p>c. At site, for individual system, tests shall be carried out as per the approved plan. Prior to commissioning, bidder shall submit to RECL at least two weeks in advance, a detail list of pre-commissioning tests intended to be carried out. This list will be finalized after mutual consultation between RECL and bidder before test.</p> <p>d. As soon as the erection of individual system is complete with all auxiliary facilities including its final connections to the existing systems, the RECL jointly with the bidder shall proceed with preliminary tests to check and ensure that all the units have been properly erected and are fit to be operated. The bidder shall be responsible for any defective functioning/workmanship, if any and the resulting damages while conducting the test. Defects found during testing due to faulty erection shall be rectified by the bidder at his own cost and to the satisfaction of the RECL.</p> <p>e. As soon as the tests have been carried out individually and the results are found to be to the satisfaction of the RECL, the RECL shall issue a certificate of Preliminary Acceptance for individual system. Such certificate however shall be deemed to be on account & shall in no way relieve the bidder from the liabilities in respect of the work as a whole. Preliminary tests, however do not involve subject trial runs.</p>
4.8	Warranty Maintenance	<p>I. All components mentioned in the scope of work would be under Three Years comprehensive on-site warranty from the date of acceptance at the site, including free spare parts, kits etc. RECL can extend this maintenance contract for a further period of three years, at it's discretion, on yearly renewable basis.</p> <p>II. The bidders shall have to enter into a written agreement with RECL for honoring all tender terms and conditions and warranty maintenance support, through a web-based monitoring system, in executing orders placed by RECL.</p> <p>III. SERVICE LEVEL CONDITIONS : As per the SLA defined in clause 2.4</p>
4.9	Payment Schedule	<p>I. 60% (Sixty percent) payment of the cost of total items (excluding FMS & certification training(s) & corresponding examination(s) cost(s)) will be made after successful delivery of items at site & satisfactory delivery certification by RECL site-in-charge and furnishing of a Bank Guarantee towards performance and support services for an amount of 15% of the total order value valid up to 60 days after warranty maintenance period. RECL at its discretion can release part payment of items delivered to REC.</p>

		<p>II. 25% (Twenty five percent) payment of the cost of items (excluding FMS & certification training(s) & corresponding examination(s) cost(s)) supplied will be made after successful installation, configuration, commissioning, integration and acceptance at site by RECL on production of jointly signed and sealed installation and acceptance report.</p> <p>III. 10% (Ten percent) payment of the cost of items (excluding FMS & certification training(s) & corresponding examination(s) cost(s)) supplied will be made after successful completion of training and producing training completion certificate (excluding certification training) duly signed by RECL site-in-charge/project co-ordinator.</p> <p>IV. 5% (Five percent) payment of the cost of items (excluding FMS) supplied will be made after successful signing of Operational Level Agreements (OLA) with all the vendors as per sub-clause clause 25 of clause 2.2 section II. This will only be made after delivery and acceptance of equipments.</p> <p>V. The payment for certification training(s) & corresponding examination(s) cost(s) shall be made on pro-rata basis on successful completion against the respective purchase orders on submission of the required documents in order.</p> <p>VI. The payment for on-site Facilities Management Services (FMS) & AMC will be made on quarterly basis after completion of each quarter and submission of invoice(s) to RECL after successful completion of services as per scope of work considering various SLAs and terms and conditions of the tender document and certification by RECL site-in-charge/project co-ordinator. Deductions towards non-compliance of the SLAs, if any, will be adjusted from the respective quarterly invoice. Payment will be released within 30 days of submission of invoice(s) and clarification of all doubts.</p> <p>VII. In case the site is not ready for installation after 60 days of delivery of full consignment, payments shall be made on submission of site not ready certificates and submission of Security Deposit in the form of Bank Guarantee of the amount equal to 15% of the amount of PO values.</p> <p>VIII. Payments shall be subject to deductions of any amount for which the Bidder is liable under the agreement against this contract. Further, all payments shall be made subjects to deduction of TDS (Tax deduction at Source) as per the income-Tax Act, 1961 including addendums from time to time and any other taxes.</p> <p>IX. All Payment shall be made in Indian Rupees only.</p> <p>X. No Advance Payment will be made by RECL on any account.</p> <p>XI. DGM (IT), RECL would be the Engineer-In-Charge for the work and all bills should be forwarded through DGM (IT) before submitting to payment. The decision of DGM (IT), RECL shall be final and binding on the bidder.</p>
4.10	Earnest Money	I. The bidder shall have to deposit an EMD as mentioned in

	Deposit	<p>Section I and/or Section III, in the form and favour as mentioned above along with their bids.</p> <p>II. Any bid without valid EMD will be rejected and will not be opened and/or technically evaluated.</p> <p>III. Unsuccessful bidder's EMD will be returned as promptly as possible but not later than 45 days after signing of contract agreement with the selected bidder. For this purpose, communication will be sent to unsuccessful bidder, in the address mentioned in the bid / or subsequent changes, if intimated, within 45 days after signing of contract, to collect the same.</p> <p>IV. Successful bidder's EMD will be kept as a security deposit and will be returned on furnishing of performance security as per the tender terms and conditions.</p> <p>V. The EMD may be forfeited: (a) If a bidder withdraws its bid during the period of bid validity specified by the bidder on the bid form. Or (b) In case of a successful bidder, if the bidder fails to acknowledge the order in accordance with the terms and conditions.</p> <p>VI. No interest shall be payable on EMD amount, in any case, and/or performance security by RECL.</p>
4.11	Arbitration	<p>I. Mutual Settlement of Disputes</p> <p>Except where otherwise provided for in the contract, all questions and disputes relating to any matter directly or indirectly connected with this agreement shall in the first place be resolved through mutual discussions, negotiations, deliberation and consultations between both the parties.</p> <p>II. Conciliation</p> <p>If the effort to resolve all or any of the disputes through mutual settlement fails, such disputes shall be referred to the conciliator to be appointed by the mutual agreement of both the RECL and the Supplier.</p> <p>III. The conciliator shall make the settlement agreement after the parties reach agreement and shall give an authenticated copy thereof to each of the parties.</p> <p>IV. The settlement agreement shall be final and binding on the parties. The settlement agreement shall have the same status and effect of an arbitration award.</p> <p>V. Arbitration</p> <p>Any disputes, differences, whatsoever, arising between the parties out of or relating to the construction, meaning, scope, operation or effect of this Contract shall be settled between the RECL and the bidder amicably. If however, the RECL and the bidder are not able to resolve their disputes / differences amicably as aforesaid the said disputes / differences shall be settled by Arbitration in</p>

	JURISDICTION	<p>accordance with the Arbitration and Conciliation Act, 1996 and the award made in pursuance thereof shall be binding on the parties. The arbitration shall be governed and regulated in all respect according to Laws of India. The venue shall be New Delhi. The arbitrator will give speaking & reasoned around. None of the party will be entitled to interest penalties during arbitration proceedings. The venue of arbitration will be new delhi. The arbitration proceedings shall be regulated and governed by Indian Arbitration and Conciliation Act, 1996, or such modification thereof.</p> <p>VI. Except where otherwise provided in the agreement, all questions and disputes relating to the meaning of the specifications, and instructions herein before mentioned and as to the quality of the materials, as to any question, claim, right, matter or thing whatsoever, in any way arising out of or relating to the Contract, Specification, estimates, instructions, orders or these conditions or otherwise concerning the works, or the execution of the same whether arising during the process of the work or after the completion or abandonment thereof shall be referred to the sole arbitrator to be appointed by Chairman & Managing Director RECL.</p> <p>VII. Pending reference to arbitration, the bidder shall make all endeavors to complete the work in all respects. Disputes, if any, will finally be settled in the arbitration</p> <p>VIII. The Contract shall be governed in accordance with the Indian laws.</p> <p>IX. There shall be no suspension of work on account of arbitration provided that the obligations of the RECL and the bidder shall not be altered by reasons of arbitration being conducted during the progress of Works. Neither party shall be entitled to suspend the work to which the dispute relates on account of arbitration.</p> <p>X. The cost of arbitration shall be borne by the respective parties. The cost shall inter-alia include the fees of the arbitration(s) as per the rates fixed by the arbitrator from time to time.</p> <p>XI. The parties agree to comply with the awards resulting from arbitration and waive their rights to any form of appeal insofar as such waiver can validly be made.</p> <p>XII. The Court of delhi will have exclusive jurisdiction to entertain the disputes between parties.</p>
4.12	Award Criteria	The RECL will award the Contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined as the technically qualified and lowest quote

		evaluated bid provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.
4.13	RECL's Right to Accept any Bid and to Reject any or All Bids	RECL reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to Award of Contract, without thereby incurring any liability to the affected Bidder or Bidder's or any obligation to inform the affected Bidder or Bidder's of the grounds for RECL's action.
4.14	Notification of award	<ol style="list-style-type: none"> I. Prior to the expiration of the period of bid validity, the RECL will place a firm order or notify the successful Bidder, to be confirmed in writing subsequently that his bid has been accepted. II. The notification of Award will constitute the formation of the Contract
4.15	Signing of Agreement	<ol style="list-style-type: none"> I. RECL will send along with the Purchase Order / work Order to the successful Bidder, the draft Contract Agreement incorporating all agreement terms & conditions between the parties. II. The successful bidder will sign the contract agreement within two weeks of acceptance of the Purchase order / work order.
4.16	Corrupt or Fraudulent Practices	<ol style="list-style-type: none"> I. The Bidder shall observe the highest standard of ethics during the procurement and execution of the contract. II. RECL will reject a proposal for award if it determines that the Bidder recommended for award is engaged in corrupt or fraudulent practices in competing for the contract in question. III. RECL will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm was engaged in corrupt or fraudulent practices in competing for this bid, or in executing the contract.
4.17	Indemnity Clause	<ol style="list-style-type: none"> I. The firm should sign an indemnity bond to safeguard against any pirated software, equipment, design etc being supplied to the RECL. II. The selected bidder shall indemnify RECL against all third party claims of infringement of patent, 3rd party license agreement, trademark/copyright or industrial design rights arising from the use of the supplied software/hardware/manpower etc. and related services or any part thereof. However maximum value of such claim will be subject to the total order value. III. The IPR for the bidder's technology, methodology, materials etc. shall vest with the bidder and for RECL's concept and end product shall vest with the RECL.
4.18	FORCE MAJEURE CLAUSE	If at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract is prevented or delayed by reasons of any war, hostility, acts of public enemy, civil commotion, sabotage, fires,

		<p>floods, explosions, epidemics quarantine restrictions, strikes, lockouts or acts of God (hereinafter referred to as "events"), provided notice of happenings of any such event is duly endorsed by the appropriate authorities/chamber of commerce in the country of the party giving notice, is given by party seeking concession to the other as soon as practicable, but within 21 days from the date of occurrence and termination thereof and satisfies the party adequately of the measures taken by it, neither party shall, by reason of such event, be entitled to terminate this contract, nor shall either party have any claim for damages against the other in respect of such nonperformance or delay in performance, and deliveries under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist and the decision of the purchaser as to whether the deliveries have so resumed or not, shall be final and conclusive, provided further, that if the performance in whole or in part or any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 60 days, the purchaser may at his option, terminate the contract.</p>
<p>4.19</p>	<p>Miscellaneous</p>	<ol style="list-style-type: none"> I. It will be imperative on each bidder to fully acquaint itself of all the local conditions and factors which would have effect on the performance of the work and its cost. II. Whilst the individual proposals shall be treated in techno-commercial confidence, the proposals will be evaluated by a group, certain members of which may not necessarily be officers of RECL. By responding to this tender, potential suppliers agree to their proposals being examined by this group. III. RECL is a Government organization, and its aims, structure and way of working may differ from that of commercial enterprises. Potential bidders should be aware of the status and environment of RECL, and must take particular note that intellectual property rights relating to any software, equipment, products and materials acquired for this project are properly observed. IV. Proposed equipments/systems should be based on the requirements and scope of work given in Section II and Annexure – K. V. Warranty and maintenance conditions (including any costs) must be specified for the equipment/systems and other services component proposed. VI. In order to assist RECL in the objective evaluation process, potential suppliers should use the model outline and numbering scheme provided in Annexure F. Any variation to this format should be adequately described and qualified. VII. The potential bidder's performance capability and history, overall organization and a proven ability to secure any similar contracts to specification, together

		<p>with the contents of the proposal, benchmarking of equipments and products/systems, model response, presentations and site visits will be essential elements in the evaluation process, and in the award of the contract.</p> <p>VIII. The bidder is expected to include of proven state-of-the-art components, best practices and techniques in the offered solution and implementation if selected.</p> <p>IX. RECL intends that the bidder selected for the supply, installation, commissioning and maintenance of the equipments shall take complete responsibility for all of the work. The bidder must provide regular status reports in accordance with the Project Management Requirements set out in the tender.</p> <p>X. RECL reserves the right to allocate the contracted work in a staged or phased manner. Potential bidders are requested to submit alternative proposals for the associated productivity/response enhancement tools, where they believe that there are significant differences in the development activities resulting from the productivity tools used.</p> <p>XI. By responding to this tender the potential bidder agrees to take the contractor's role. Where the potential bidder propose the use of third party services in his proposals, the potential bidder should describe the third party, including their role, and the definition of responsibilities and accountabilities.</p> <p>XII. The bidder should provide on-site comprehensive warranty maintenance support services for three years after satisfactory installation and commissioning of the systems.</p> <p>XIII. The bidder will abide by all the law of land, whatsoever, for execution of the defined scope of work.</p> <p>XIV. Potential bidders are requested to provide a detailed activities time schedule and resource allocations and requirements for all the stages which represents the shortest practical time to complete all necessary tasks and meet the obligations of the requirements. All significant activities must be indicated, including those associated with the testing, delivery, installation, commissioning and maintenance of systems, key quality assurance and quality certifications.</p> <p>XV. The system shall be tested completely by the bidder prior to being offered for acceptance testing installed in operational status at RECL.</p> <p>XVI. The bidder shall define detailed acceptance criteria on conjunction with the RECL and the testing procedures should allow for the functional testing, integration testing and formal acceptance of the system by the RECL.</p>
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by or on behalf of RECL or get access to in connection therewith, to any person other than a person employed by the Bidder in the Performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

XXIII. If the selected bidder is not able to fulfill its obligations under the contract, which includes non completion of the work, the RECL reserves the right to accomplish the work through another bidder and EMD / Security Deposit of bidder will be forfeited. Also any costs, damages etc. resulting out of the same shall have to be born by the selected bidder. However the bidder will continue to offer transition services.

XXIV. **Printed terms and conditions including any presumptions and/or assumptions of the Bidders will not be considered as forming part of their Bid.** In case terms and conditions of the contract applicable to the Invitation of Bid are not acceptable to any Bidder, he should clearly specify deviation in its bid.

XXV. RECL may at any time terminate the Contract by giving written notice to the selected Bidder, without compensation to the selected Bidder, if the selected Bidder becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to RECL.

XXVI. RECL may by written notice sent to the selected Bidder, terminate the purchase order and/or the Contract, in whole or in part at any time of its convenience. The notice of termination shall specify that termination is for RECL's convenience, the extent to which performance of work under the purchase order and /or the Contract is terminated, and the date upon which such termination becomes effective. RECL reserves the right to elect :

- a. to have any portion completed at the purchase order and/or the Contract terms and prices; and/or
- b. to cancel the remainder and pay to the selected Bidder an agreed amount for partially completed Services.

XXVII. In the event the Bidder's Company or the concerned Division of the company is taken over/bought over by another company, all the obligations under the agreement with RECL , should be passed on the compliance by the new company new Division in the negotiation for their transfer.

XXVIII. The selected bidder automatically agree with RECL for

		<p>honoring all aspects of fair trade practices in executing the purchase orders placed by RECL</p> <p>XXIX. If the name of the product is changed for describing substantially the same in a renamed form then all techno financial benefits agreed with respect to the original product, shall be passed on to RECL and the obligations with RECL taken by the Bidder with respect to the product with the old name shall be passed on to the product so renamed.</p> <p>XXX. The bidder shall obtain all statutory, legal, external (other than RECL) permissions which may be necessary for completion of the total scope of the work. RECL however will assist or sign document which may be necessary for execution of the same.</p> <p>XXXI. Bidder at his own cost shall arrange the clearance of the spare parts, equipment etc. from customs and port authorities in India and shall pay all requisite duties including customs duty, demurrages, if any, clearance fees, charges, post fees, clearing and forwarding agent fees/charges, inland transport charges etc. Company will provide all reasonable assistance but the responsibility for clearance will rest on the bidder.</p> <p>XXXII. Bidder will have to arrange his own transport facility for the maintenance engineer/technician to attend to the maintenance calls and for movement of spares.</p> <p>XXXIII. Bidder will have to arrange his own accommodation for its engineer/technician at New Delhi.</p> <p>XXXIV. Bidder will have to maintain all hardware and/or software installed through this tender</p> <p>XXXV. No cannibalization of any equipment will be permitted to carry out the maintenance services.</p> <p>XXXVI. Bidder will have to follow the preventive maintenance schedule given by RECL, for each item, strictly throughout the period of contract.</p> <p>XXXVII. The bidder shall have to provide his own maintenance equipment for various types of connectors and other test and measuring equipment to his engineer for carrying out the maintenance as and when required.</p> <p>XXXVIII. The bidder shall comply with all laws in force in India. The laws will include all national, provincial, municipal, or other laws that affect the performance of the Contract and are binding upon the Supplier. The bidder shall indemnify and hold harmless the RECL from and against any and all liabilities, damages, claims, fines, penalties, and expenses of whatever nature arising or resulting from the violation of such laws by the bidder or its personnel. The bidder shall not indemnify the RECL to the extent that such liability, damage, claims; fines, penalties, and expenses were caused or contributed to by a fault of the RECL.</p>
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		<p>XXXIX. The bidder shall provide and employ only such personnel who are skilled and experienced in their respective callings and supervisory staff who are competent to adequately supervise the work at hand. Should the profile of any personnel be not acceptable to the RECL will require the bidder to suitably replace such personnel.</p> <p>XL. If for any reason beyond the control of the bidder, there arises a need to replace any personnel, the bidder shall provide a replacement person of equivalent or better qualification and experience, subject to the written approval of the RECL</p> <p>XLI. The selected bidder should make presentations of the technical solution to RECL in presence of consultants/ experts as appointed/ decided by RECL at the convenience of & as and when desired at any stage of project execution by REC.</p>
4.20	TERMINATION CLAUSE	<p>Termination for RECL’s Convenience</p> <p>1 The RECL may at any time terminate the Contract for any reason by giving the bidder 4 weeks of notice of termination that refers to sub-Clause 4.20.1 hereof.</p> <p>2 Upon receipt of the notice of termination under Sub-Clause 4.20.1 hereof, the bidder shall either immediately or upon the date specified in the notice of termination</p> <p>a) Cease all further work, except for such work as the RECL may specify in the notice of termination for the sole purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition</p> <p>b) Terminate all subcontracts, except those to be assigned to the RECL pursuant to paragraph (d) (ii) below</p> <p>c) Remove all bidder’s Equipment from the Site, repatriate the bidder’s and its Subbidders’ personnel from the Site, remove from the Site any wreckage, rubbish and debris of any kind, and leave the whole of the Site in a clean and safe condition</p> <p>d) In addition, the bidder, subject to the payment specified in Sub-Clause 4.20.3 hereof, shall</p> <p>(i) Deliver to the RECL the parts of the Facilities executed by the bidder up to the date of termination</p> <p>(ii) To the extent legally possible, assign to the RECL all right, title and benefit of the bidder to the Facilities and to the Plant and Equipment as at the date of termination, and, as may be required by the RECL, in any subcontracts concluded between the bidder and its Subcontractors</p>

		<p>(iii) Deliver to the RECL all drawings, specifications and other documents prepared by the bidder or its Subcontractors as at the date of termination in connection with the Facilities.</p> <p>(iv) To continue the critical services like DC etc for a maximum period of six (6) months to enable RECL to adopt an alternative arrangement, with the same terms and condition as mentioned in the RFP.</p> <p>3 In the event of the termination of the Contract under Sub-Clause 4.20.1 hereof, the RECL shall pay to the bidder the Price, the properly attributable to the parts of the Facilities executed by the bidder as of the date of termination. However, no consequential damages shall be payable by the RECL to the bidder in the event of termination.</p> <p>4 Termination for bidder's Default</p> <p>The RECL, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith in the following circumstances by giving a notice of termination and its reasons thereof to the bidder, referring to this Sub-Clause 4.20.4 hereof:</p> <p>i) If the bidder becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the bidder is a corporation, a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the bidder takes or suffers any other analogous action in consequence of debt.</p> <p>ii) If the bidder assigns or transfers the Contract or any right or interest therein in violation of the provision of Clause 4.20.4 (Assignment) hereof.</p> <p>1. If the bidder</p> <ol style="list-style-type: none"> a) Has abandoned or repudiated the Contract b) Has without valid reason failed to commence work on the Facilities promptly or has suspended the progress of Contract performance for more than 4 (four) weeks after receiving a written instruction from the RECL to proceed c) Persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause d) Refuses or is unable to provide sufficient materials, services or labour (adequate resources) to execute and complete the Facilities in the manner specified in the contract hereof, at
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		<p>rates of progress that give reasonable assurance to the RECL that the Bidder can attain Completion of the Facilities by the Time for Completion.</p> <p>e) Have becomes defaulter to comply any law of the land having serious consequences and RECL have received communication / directions from any authority in that respect.</p> <p>Then the RECL may, without prejudice to any other rights it may possess under the Contract, give a notice to the bidder stating the nature of the default and requiring the bidder to remedy the same. If the bidder fails to remedy or to take steps to remedy the same within four (4) weeks of its receipt of such notice, then the RECL may terminate the Contract forthwith by giving a notice of termination to the bidder that refers to this Sub-Clause 4.20.2 hereof.</p> <p>2. Upon receipt of the notice of termination under Sub-Clauses 4.20.1 or 4.20.2 hereof, the bidder shall, and either immediately or upon such date as is specified in the notice of termination,</p> <p>a) Cease all further work, except for such work as the RECL may specify in the notice of termination for the sole purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean & safe condition</p> <p>b) Terminate all subcontracts, except those to be assigned to the RECL pursuant to paragraph (d) below</p> <p>c) Deliver to the RECL the parts of the Facilities executed by the bidder up to the date of termination</p> <p>d) To the extent legally possible, assign to the RECL all right, title and benefit of the bidder to the Facilities and to the Plant and Equipment as at the date of termination, and, as may be required by the RECL, in any subcontracts concluded between the bidder and its Subcontractors</p> <p>e) Deliver to the RECL all drawings, specifications and other documents prepared by the bidder or its Subcontractors as at the date of termination in connection with the Facilities.</p> <p>5. The RECL may enter upon the Site, expel the bidder, and complete the Facilities itself or by employing any third party at</p>
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the risk and cost of the bidder. The RECL may, to the exclusion of any right of the Bidder over the same, take over and use any Bidder's Equipment owned by the Bidder and on the Site in connection with the Facilities for such reasonable period as the RECL considers expedient for the supply and installation of the Facilities.

Upon completion of the Facilities or at such earlier date as the RECL thinks appropriate, the RECL shall give notice to the Bidder that such Bidder's Equipment will be returned to the Bidder at or near the Site and shall return such Bidder's Equipment to the Bidder in accordance with such notice. The Bidder shall thereafter without delay and at its cost remove or arrange removal of the same from the Site.

6. Subject to Sub-Clause 4.20.7 hereof, the Bidder shall be entitled to be paid the Price attributable to the Part of the Facilities executed as at the date of termination and for subsequent period, if any, on written request from RECL, and the costs, if any, incurred in protecting the Facilities and in leaving the Site in a clean and safe condition and rent of the Bidder's equipment, if any, used by the RECL. Any sums due to the RECL Bidder accruing prior to the date of termination shall be deducted from the amount to be paid to the Bidder under this Contract.

7. If the RECL completes the Facilities, the cost of completing the Facilities by the RECL shall be determined.

If the sum that the Bidder is entitled to be paid, pursuant to **Sub-Clause 4.20.6** hereof, plus the reasonable costs incurred by the RECL in completing the Facilities exceeds the Contract Price, the Bidder shall be liable for such excess.

If such excess is greater than the sums due to the Bidder under **Sub-Clause 4.20.6** hereof, the Bidder shall pay the balance to the RECL, and if such excess is less than the sums due the Bidder under **Sub-Clause 4.20.6** hereof, the RECL shall pay the balance to the Bidder.

The RECL and Bidder shall agree, in writing, on the computation described above and the manner in which any sums shall be paid.

In this Clause 4.20 hereof, the expression "Facilities executed" shall include all work executed, Installation Services provided, and all Plant & Equipment and Structures acquired (or subject to a legally binding obligation to purchase) by the Bidder and used or intended to be used for the purpose of the Facilities, up to and including the date of termination.

8. In calculating any money due from the RECL to the Bidder, account shall be taken of any sum previously paid by the RECL to the Bidder under the Contract, including any advance

		payment paid pursuant to Terms of Payment hereof.
4.21	No suspension of Work	<p>The obligations of the RECL and the Supplier shall not be altered by reasons of conciliation/ arbitration being conducted during the progress of works. Neither party shall be entitled to suspend the work on account of conciliation/arbitration and payments to the Supplier shall continue to be made in terms of the contract.</p> <p>Subject to the above including the sub-clauses that is pending conciliation or arbitration on any issue between the RECL and the Supplier, it shall be agreed that the RECL shall be entitled to claim any amount as reimbursement as per the claim in writing for any works done by the RECL from the outside agency for the default of the Supplier in respect of any item for which such conciliation or arbitration as stated above is pending and the Supplier shall jointly and severally be liable to pay such amount or amounts immediately on receipt of such demand from the RECL without demur, and in case of the award in such arbitration is given by the arbitrators in favour of the Supplier, then the amount/s under the award shall be refunded to the supplier, as the case may be by the REC, immediately on receipt of such award, if not challenged in a court of law.</p> <p>Risk Purchase Clause</p> <p>Notwithstanding what is stated above, it shall be agreed that the supplier (for the purpose of this clause who shall include the implementation partner) shall be responsible to RECL for implementation of the project and the supplier and implementation partner shall be jointly and severally liable for all claims of RECL not more than the contract value in respect of the work done or to be done by RECL from outside agencies for the default of the supplier or implementation partner as the case may be, till the termination of the contract by RECL under clause 4.20). This clause may be invoked during the period of project implementation and maintenance period with effect from the date of signing of the contract</p> <p>Default: Means non performance /no response w.r.t the assigned task within 21 days of the receipt of the written query/ reminder from the RECL sent through e-mail/ fax/ letter.</p>

RESPONSIBILITIES MATRIX

TABLE – A

S. No.	Activity	Primary Responsibility	Secondary Responsibility
1.0	Placement of Purchase Order	RECL	
2.0	Schedule For Testing	Bidder	RECL
3.0	Carrying out Testing	RECL	Bidder
4.0	Safe Delivery of Equipments	Bidder	
5.0	Installation, Commissioning & Integration of Equipments	Bidder	RECL
6.0	Issue Joint Acceptance Certificate	RECL	Bidder
7.0	Submission of Invoice with proper relevant documents	Bidder	RECL
8.0	Payment to Bidder	RECL	Bidder
9.0	Onsite Comprehensive Warranty Maintenance for Three years	Bidder	
10.0	Onsite Facilities Management for Three years	Bidder	
11.0	Training of RECL nominated staff	Bidder	RECL
12.0	Training to RECL nominated staff	Bidder	RECL
13.0	Certification examination of RECL nominated staff	Bidder	RECL
14.0	Submission of Quarterly Warranty Maintenance and Facilities Management Report	Bidder	

SECTION V
ANNEXURES

ANNEXURE – A**Technical Bid****Checklist for Bid Submission**

The following check-list must be filled in and submitted with the bid document:

1.0 EMD & Application Money :	Response	Reference page/tag etc	Remark, if any
1. Have you submitted the EMD and signed bid security form (annexure C) asked for in the tender?	Yes/No		
2. Have you submitted the requisite application money asked for in the tender, if applicable?	Yes/No		
2.0 Eligibility Criteria as per clause 1.2 of section 1			
1. Have you attached the ROC Certification and 5 years operation documents?	Yes/No		
2. Have you submitted the undertaking pertaining to single point of contact ?	Yes/No		
3. Have you attached the documents pertaining to 3 years of experience in IT infrastructure?	Yes/No		
4. Have you attached audited balance sheets of last three years/certificate from statutory auditor indicating the average turnover of Rs 10 crore or more ?	Yes/No		
5. Have you attached the OEM Authorized sales / channel Partner documents?	Yes/No		
6. Have you attached the Details of 2 projects executed which are at least 2 crore each and of similar nature?	Yes/No		
7. Have you enclosed details of at least two clients where you provide facilities management services of value >= 10 Lacs during the last three years ?	Yes/No		
8. Have you enclosed the documentary proof for net worth of Rs 5 Crore?	Yes/No		
9. Have you enclosed proof of having booked profit in the last two years?	Yes/No		
10. Have you attached the OEM authorization(s) addressed to the DGM (IT), RECL for the systems/ equipments and/or products?	Yes/No		
11. Have you enclosed details of branch office/head office	Yes/No		

for the locations where RECL have presence along with required off-site maintenance facilities and at least 50 service and support engineers in NCR of India?			
12. Have you enclosed proof of Sales Tax/VAT, Service Tax, PAN registration numbers?	Yes/No		
13. Have you enclosed valid Article of Association/ Partnership deeds etc. as issued by Registrar of Companies in India ?	Yes/No		
14. Have you attached self-undertaking with respect to CVC clause 1.2.17	Yes/No		
15. Have you attached self-undertaking of understanding the evaluation criteria as per clause 1.2.18	Yes/No		
3.0 Technical Bid:	Yes/No		
1. Has the bid document been issued to you?	Yes/No		
2. Have you attached the bid form shown in Annexure-B	Yes/No		
3. Have you attached the OEM certificate as per section II clause A.4 of the tender document ?	Yes/No		
4. Have you attached the complete required documents as per section III clause 3.8 of the tender document ?	Yes/No		
5. Have you attached the self undertaking as per clause section III clause 3.8 (VIII) of the tender document ?	Yes/No		
6. Have you attached the self undertaking as per clause section III clause 3.23.10 (II) of the tender document ?	Yes/No		
7. Have you attached the undertaking for compliance to tender technical specifications & tender terms & conditions (Annexure E)?	Yes/No		
8. Have you attached the filled in 'Tender Response Model Outline' (Annexure F)?	Yes/No		
9. Have you attached the filled in annexure H (Form#1 & #2)?	Yes/No		
10. Have you attached the systems compatibility sheet (Fully Met, Partially Met –with details, Not Met) and the roadmap to meet the gaps to meet the specifications as per Annexure K?	Yes/No		
11. Have you enclosed the original tender document duly signed and sealed on each page?	Yes/No		
12. Have you provided necessary documentary evidence supporting the technical specifications of the offered	Yes/No		

solution?			
13. Have you attached the technical solution along with power point presentation as per clause 3.8 (II) section III ?	Yes/No		
14. Have you attached a masked (price column) copy of price-bid ?	Yes/No		

4.0 Financial Bid:

1. Have you attached the bid form in the format shown in Annexure-I?	Yes/No
2. Have you attached the price schedule for the systems / equipment in the format specified in Annexure – J in the commercial offer?	Yes/No
3. Have you attached the price schedule for the optional items, if any in the format specified in Annexure – J in the commercial offer?	Yes/No

4.0 Please arrange your bid document for each part as given below:

1. EMD Demand Draft and Application Money (If applicable) ; below that
2. Eligibility Criteria Documents: the documents should be attached in the same serial order as specified in 2.0 above; below that
3. TECHNICAL BID: the documents should be attached in same serial order as specified in 3.0 above
4. FINANCIAL BID: the documents should be attached in same serial order as specified in 4.0 above

NOTE: If the bid is not submitted as per the format, the same is liable to be rejected.

**BID FORM
(Technical Bid)**

(To be submitted on the firm's letter head and signed by an authorized person)

To

The DGM(IT)
Rural Electrification Corporation Ltd.
Core-4, SCOPE Complex, 7 Lodhi Road
New Delhi 110 003

Ref: Bid document No.

Dated: _____

Sir,

Having examined the bidding documents, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply, install, commission, train and maintain goods and provide services as per the schedule of requirements of the tender and in conformity with the said bidding documents.

We undertake, if our bid is accepted, to deliver the goods and services in accordance with the delivery schedule specified in the bidding documents.

If our bid is accepted, we will submit a bank guarantee for the sum equivalent to 15% of the Contract Price valid for a period of 38 months for the due performance of the Contract, in the form prescribed by the Rural Electrification Corporation Limited

We agree to abide by this bid for a period of One Hundred and Eighty Days after the date fixed for opening and it shall remain binding upon us and may be accepted at any time before the expiration of that period. I/We undertake that on completion of the validity period, unless the I/We withdraw my/our bid in writing by giving a notice of seven working days, it will be deemed to be valid until such time that I/we formally withdraw my/our bid.

1. We declare:

- i) that we have a team of technically qualified engineers and have state-of-the-art infrastructure.
- ii) that our premises are equipped with all the facilities specified in the document.

2. We hereby offer to supply the Goods/Services at the prices and rates mentioned in the Financial Bid.

3. We enclose herewith the complete Technical Bid as required by you and as specified in Section III clause 3.8.

4. We have carefully read and understood the terms and conditions of the bid document and the conditions of the contract applicable to the bid document and we do hereby undertake to supply as per these terms and conditions.

5. Certified that the bidder is:

A sole proprietorship firm and the person signing the bid document is the sole proprietor/constituted attorney of the sole proprietor,

or

A partnership firm, and the person signing the bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/by virtue of general power of attorney,

or

A company and the person signing the document is the constituted attorney.

or

A consortium, and the person signing the bid document is the prime bidder of the consortium and he has authority to refer to arbitration disputes concerning the business of the consortium by virtue of the consortium agreement/by virtue of general power of attorney,

(NOTE: Delete whatever is not applicable. All corrections/deletions should invariable by duly attested by the person authorized to sign the bid document)

6. We do hereby undertake, that, until a formal work order is prepared and executed, this bid, together with your written acceptance thereof and placement of letter of intent awarding the work order, shall constitute a binding contract between us.

Dated this day of 2008

Signature of Bidder

Details of enclosures.

Full Address: _____

Telephone No. _____

Telegraphic Address: _____

Fax No. _____

E-mail

COMPANY SEAL

BID SECURITY FORM (EMD)

To,

The DGM(IT),
Rural Electrification Corporation Limited,
Core 4, Scope Complex, 7 Lodi Road,
New Delhi – 110 003

Ref: Bid Document No. _____

Sir,

Having examined the bidding documents, we, the undersigned, offer to supply, install, commission, train and maintain goods and provide services as per the schedule of requirements of the tender and in conformity with the said bidding documents.

We hereby submit a bid security / earnest money deposit of Rs 5,00,000/- (Rupees Five Lac Only) as per the tender terms and conditions vide Demand Draft No. _____ dated _____ drawn on _____ favouring _____

Dated this day of 2008

Signature of Bidder

Details of enclosures.

Full Address: _____

Telephone No. _____

Telegraphic Address: _____

Fax No. _____

E-mail

COMPANY SEAL

BANK GUARANTEE FOR EARNEST MONEY DEPOSIT

**Rural Electrification Corporation Limited
Core-4, SCOPE Complex,
7, Lodhi Road,
New Delhi**

Dear Sir,

In consideration of **Rural Electrification Corporation Limited Core-4, SCOPE Complex, 7, Lodhi Road, New Delhi** (hereinafter called the "Owner" which expression shall unless repugnant to the subject or context include its successors and assigns) having issued Notice Inviting Tender under specification No. _____ dated _____ M/S _____ having its registered office at _____ (hereinafter called the "Tenderer") who wishes to participate in the said tender for _____ have agreed to accept an irrevocable and unconditional Bank Bid Guarantee for an amount of Rs. _____ (Rupees _____) valid upto _____ on behalf of the Tenderer in lieu of cash deposit required to be made by the tenderer, as a condition precedent for participation in the said tender.

We, the _____ Bank, _____ Place, New Delhi a body corporate constituted under Banking Companies Acquisition and transfer of undertakings Act, 1970 having its Head Office _____, do hereby unconditionally and irrevocably guarantee and undertake to pay to the "Owner" immediately on demand without any demur reservation protest, contest and recourse to the extent of the said sum of Rs. _____ (Rupees _____). Any such claims/demands made by the said "Owner" on us shall be conclusive and binding on us irrespective of any dispute or differences raised by the tenderer.

This guarantee shall be irrevocable and shall remain valid upto _____, if any further extension of this guarantee is required, the same shall be extended to such required period on receiving instructions from _____ on whose behalf of this guarantee is issued.

Notwithstanding anything stated above, our liability under this guarantee shall be restricted to Rs. _____ (Rupees _____) and our guarantee shall remain in force upto _____ and unless a demand or claim under the guarantee is made on us in writing on or before _____ all your rights under the guarantee shall be forfeited and we shall be relieved and discharged from all liabilities thereunder.

We, the said Bank lastly undertake not to revoke this guarantee during its currency except with previous consent of the owner in writing and agree that any changes in the constitution of the said tenderer of the said bank shall not discharge our liability hereunder.

In witness where of the Bank, through its authorised officer, has set its hand and stamp on this day of 2008 at _____.

Witness
(with name and official address)

1.

2.

Signature
Name
(Designation with bank stamp)

Power of Attorney No.

PERFORMANCE SECURITY FORM

Ref. No. Bank Guarantee No

Dated

To,
Rural Electrification Corporation Limited

India

Dear Sirs,

1 In consideration of Rural Electrification Corporation Limited Core-4, SCOPE Complex,7, Lodhi Road, New Delhi (hereinafter called the "Owner" which expression shall unless repugnant to the subject or context include its successors and assigns) having entered into a contract No. _____ dated _____ (hereinafter called 'the Contract' which expression shall include all the amendments thereto) with M/s _____ having its registered/head office at _____ (hereinafter referred to as the 'Contractor') which expression shall, unless repugnant to the context or meaning thereof include all its successors, administrators, executors and assignees) and REC having agreed that the Contractor shall furnish to ONGC a performance guarantee for Indian Rupees/US\$ for the faithful performance of the entire contract.

2. We (name of the bank) _____ registered under the laws of _____ having head/registered office at _____ (hereinafter referred to as "the Bank", which expression shall, unless repugnant to the context or meaning thereof, include all its successors, administrators, executors and permitted assignees) do hereby guarantee and undertake to pay immediately on first demand in writing any /all moneys to the extent of Indian Rs./- (in figures) _____ [Indian Rupees/- (in words) _____] without any demur, reservation, contest or protest and/or without any reference to the Contractor. Any such demand made by REC on the Bank by serving a written notice shall be conclusive and binding, without any proof, on the bank as regards the amount due and payable, notwithstanding any dispute(s) pending before any Court, Tribunal, Arbitrator or any other authority and/or any other matter or thing whatsoever, as liability under these presents being absolute and unequivocal. We agree that the guarantee herein contained shall be irrevocable and shall continue to be enforceable until it is discharged by REC in writing. This guarantee shall not be determined, discharged or affected by the liquidation, winding up, dissolution or insolvency of the Contractor and shall remain valid, binding and operative against the bank.

3. The Bank also agrees that REC at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance, without

proceeding against the Contractor and notwithstanding any security or other guarantee that REC may have in relation to the Contractor's liabilities.

4. The Bank further agrees that REC shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time exercise of any of the powers vested in REC against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of REC or any indulgence by REC to the said Contractor(s) or any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

5. The Bank further agrees that the Guarantee herein contained shall remain in full force during the period that is taken for the performance of the contract and all dues of REC under or by virtue of this contract have been fully paid and its claim satisfied or discharged or till REC discharges this guarantee in writing, whichever is earlier.

6. This Guarantee shall not be discharged by any change in our constitution, in the constitution of REC or that of the Contractor.

7. The Bank confirms that this guarantee has been issued with observance of appropriate laws of the country of issue.

8. The Bank also agrees that this guarantee shall be governed and construed in accordance with Indian Laws and subject to the exclusive jurisdiction of Indian Courts of the place from where the purchase order has been placed.

9. Notwithstanding anything contained hereinabove, our liability under this Guarantee is limited to Indian Rs./ (in figures) _____ [Indian Rupees/- (in words) _____] and our guarantee shall remain in force until _____.(indicate the date of expiry of bank guarantee)

Any claim under this Guarantee must be received by us before the expiry of this Bank Guarantee. If no such claim has been received by us by the said date, the rights of REC under this Guarantee will cease. However, if such a claim has been received by us within the said date, all the rights of REC under this Guarantee shall be valid and shall not cease until we have satisfied that claim.

In witness whereof, the Bank through its authorised officer has set its hand and stamp on this day of 20 at

WITNESS NO. 1

(Signature)

Full name and official
address (in legible letters)

(Signature)

Full name, designation and
address (in legible letters) with Bank stamp

Attorney as per Power of

Attorney No.....

Dated

WITNESS NO. 2

(Signature)

Full name and official
address (in legible letters)

All correspondence with reference to this guarantee shall be made at the following
address:

Rural Electrification Corporation Limited

Core 4, Scope Complex,

7 Lodi Road

New Delhi – 110 003

UNDERTAKING ON COMPLIANCE OF TECHNICAL SPECIFICATIONS AND TENDER TERMS & CONDITIONS

I/We hereby undertake that I/we have read, studied and understood the technical specifications (Section I, Section II, scope of work and Annexure K) and tender terms and conditions completely.

I/We hereby undertake that we shall comply with the technical specifications and tender terms and conditions and there are no deviations of any manner in this regard from my/our side.

I/We hereby undertake to provide uninterrupted and timely support for the supplied systems/sub-systems including spare parts for a period of 6 years (including the warranty period of 3 years). After the warranty maintenance of three years, if RECL decides to go in for in-house maintenance of systems or through a third party, I/We shall supply the spares to RECL or a party designated by them. In case of the item/spare part being not available due to any reason the I/we shall provide an equivalent or latest item/spare part in lieu of the original item/spare part subject to the approval of the RECL. I/we also commit to undertake to provide on-site comprehensive maintenance for a further period of 3 years at the discretion of RECL.

I/We hereby undertake to agree execute the purchase order with bill of material as equal and/or super-set and/or sub-set of technically qualified accepted equipments/products/systems and subsystems, items of their brands and models for the entire range of equipments/products/systems covered by Annexure K of the tender for the prices specified in price schedule by me/us in Annexure J.

I/We hereby undertake that we shall comply with the section – II scope of work and requirements and there are no deviations of any manner and/or sort and/or form in this regard from my/our side. I/We hereby undertake that my/our offered bid is not based on any presumptions and/or assumptions and in the case of a failure my/our bid should be summarily rejected.

I/We undertake to be the single point of contact for RECL and shall be solely responsible for all warranties, upgrades, guarantees etc, offered by the OEM and/or partners including consortium partners and system integration and facilities management and for the entire scope of work as per the service levels defined in the tender document.

I/We hereby undertake that I/We shall provide the technical solution as proposed by me/us in the technical design detailed by me/us in our technical bid.

I/We undertake that my/our bid is valid for a period of 180 days from the date of bid opening. I/We undertake that on completion of the validity period, unless the I/We withdraw my/our bid in writing by giving a notice of seven working days, it will be deemed to be valid until such time that I/we formally withdraw my/our bid.

Signature of Authorised Signatory
Name of the Signatory
Company Name
Date
Place
Company Seal

TENDER RESPONSE MODEL OUTLINE

The following notes offer guidance to proposing suppliers in the form of a model outline for their response document. All the headings indicated below must be addressed in the sequence shown, providing as much relevant detail as possible. (Conformance to this outline will assist the subsequent evaluation and selection activities, and any variations should be documented).

Additional headings and information may be provided by the proposing supplier where they are required to include additional details or explanations.

1. Description Of The Proposing Bidder

Specifically include legal status, ownership, and the name of the person within the company who is responsible for this project.

2 Descriptions Of Any Proposed Third Parties

Provide similar information to that required in 1. above.

3. Relationships Between Proposing Bidder And Any Nominated Third Parties

Provide descriptions of the trading, commercial and legal relationships with any third party nominated in the response.

4. The Proposing Supplier's General Understanding Of The Project Requirements And The Proposed Total Solution

5. The Main Features Of The Proposed Solution And Any Areas Of Risk

6. Upgrade Strategy

Describe the strategy suggested for future upgrade of the supplied systems and any impact this strategy may have on operation etc.

7. Documentation

Describe the documentation that will be provided.

8. Backup And Disaster Recovery

Describe the backup and disaster recovery measures that will be provided.

9. Maintenance And Support

Describe the maintenance and continuing technical support services, escalations etc that will be provided for the proposed systems.

10. Implementation Activities And Timing

Provide detailed time schedule for the proposed implementation activities including the testing, delivery, installation, commissioning and maintenance of systems,

11. Requirements For Office Staff Involvement

Details of the requirements of involvement of RECL staff in the project activities such as design, specification, development, testing, training, and related project activities.

12. Benchmarking/Testing Procedures And Test Data Specification

Details of the proposed benchmarking/ testing procedures for equipments/systems.

13. Installation

Details of the procedures to be followed for the installation of equipments/systems

14. Warranties And Guarantees

Details of the warranty and guarantee conditions.

15. On-Site Facilities Management

Describe the on-site facilities management services, escalations etc that will be provided for the proposed systems.

16. References And Experience In Appropriate Fields

Details of relevant references (including contact names) and experience of the proposing supplier in the supply, installation, commissioning and maintenance of similar systems environments.

17. Other Relevant Information

Any other information, details, and observations that the proposing bidder considers relevant to the understanding and delivery of their proposed solution.

Dated this day of 2008

Signature of Bidder

Details of enclosures.

Full Address: _____

Telephone No. _____

Telegraphic Address: _____

Fax No. _____

E-mail

COMPANY SEAL

Proforma of Certificate for Joint Inspection Report after Successful Commissioning of the Equipment

No.

Dated:

M/s _____

Sub: Certificate of commissioning of equipment (Computer/Server, Networking Equipment, SAN Storage etc.)

This is to certify that the equipment as detailed below has/have been received in good condition along with all the standard and special accessories (subject to remarks in para 2). The same has been installed and commissioned.

- (a) Contract No/ Purchase Order No/ Work Order No.: _____ Dated: _____
(b) Description of Equipment: _____
(c) Date of Commissioning and proving/acceptance test: _____

1. Details of equipments/ accessories/ spares/ etc. not yet supplied and recoveries to be made on that account:

Sl. No.	Description	Amount to be Recovered

2. The proving test has been done to our entire satisfaction and users have been trained. The supplier has fulfilled his contractual obligations satisfactorily

OR

The supplier has failed to fulfil his contractual obligations with regard to the following:

- (a).....
(b).....
(c).....
(d).....

3. The amount of recovery on account of non-supply of equipments, accessories and spares etc. is given under Para No. 2.

4. The amount of recovery on account of failure of the supplier to meet his contractual obligations is as indicated at Sr. No. 3.

For Supplier
Signature.....
Name.....
Designation.....

FORM # 1
DEVIATIONS /EXCLUSIONS SCHEDULE

To

The DGM(IT)
Rural Electrification Corporation Limited
Core 4, Scope Complex,
Lodi Road
New Delhi - 110003

Ref: Bid document No

Dated-----

Sub: Supply, Installation, Commissioning and Training of Equipment / Products and offered Solution for effective and efficient implementation of ORACLE 11i ERP in RECL.

Ref: Tender No. xxxxxxxx

Dear Sir,

We declare that the following are the only deviations and variations and exceptions/exclusions to the services as outlined in your Bidding Documents. Except these deviations, subject to the approval and acceptance by the RECL, the entire work shall be performed as per your requirements.

Clause No.	Statement of Deviations/Exclusions and Variations

Date: _____
Place: _____

Signature _____
Name _____
Designation _____
Common Seal _____

Bid Letter
(On the letter head of the firm submitting the bid document)

To

The DGM(IT)
Rural Electrification Corporation Limited
Core 4, Scope Complex,
Lodi Road
New Delhi - 110003

Ref: Bid document No

Dated-----

Sub: Supply, Installation, Commissioning and Training of Equipment/ Products and offered Solution for effective and efficient implementation of ORACLE 11i ERP in RECL.

Ref: Tender No. xxxxxxxx

Sir,

Having examined the Bidding Documents, including Addenda Nos. *[insert numbers, if any]*, the receipt of which is hereby acknowledged and having submitted the technical bid for the same, we, the undersigned, hereby submit the financial bid for supply of goods and services as per the aforementioned subject and as per and in conformity to the schedule of requirements and in conformity with the said bidding documents.

We hereby offer to supply the Goods / Services at the prices and rates mentioned in the Commercial Bid/ Price schedule Annexure - J.

We do hereby undertake, that, in the event of acceptance of our bid, the supply of Goods/Services shall be made as stipulated in the schedule to the Bid document and that we shall perform all the incidental services.

The prices quoted are inclusive of all charges including supply, installation, commissioning and training charges as per the schedule of requirements including the relocation charges (as and when applicable).

We enclose herewith the complete Financial Bid as required by you. This includes:

1. Bid Letter
2. Price Schedule

We, the undersigned, offer to supply, install, implement, commission, train, integrate and put into operation the Servers, Storage, network, security etc, and allied items under the above-named Contract in full conformity with the Bidding Documents for the sum quoted in price schedule (hereinafter called “the Total Bid Price”) or such other sums as may be determined in accordance with the terms and conditions of the Contract. The break-up of the above amounts are given in the Price Schedule attached herewith and are made part of this bid.

We undertake that in case our bid is accepted, we:

- (1) Shall furnish the required advance payment security and performance security in the form, in the amounts, and within the times specified in the Bidding Documents.
- (2) Declare that the following are our prices in Indian Rupees on firm price basis for the entire project.
- (3) Declare that we shall be solely responsible for arranging Import License / foreign exchange (if any) for any materials, components and bought out items that may be required to be imported for the purpose of performing the work under this proposal and accordingly our bid price include all the customs & import duties and levies including license fees etc. payable by us and you shall not be liable for any issues in this regard whatsoever. We further confirm that any increase or decrease in the custom duty / exchange rate shall be borne by us.
- (4) Shall pass on any reductions in statutory taxes, duties, levies etc and our own price reductions (as per the terms of the tender or otherwise) to RECL.

We agree to abide by this bid, which, in accordance with Invitation To Bid and all other sections etc. of the tender (including all Annexures and other Documents, if any accompanying the Invitation to Bid) consists of this letter, the Price Schedule, the Bid Security, letter of authorization, documents establishing conformity, list of deviations and Attachments through [*specify: **the number of attachments***] to this Bid Form, for a period of 180 days from the date fixed for submission of bids as stipulated in the Bidding Documents, and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period and subject to unless we formally withdraw our bid in writing by giving a notice of at least seven working days, it will be deemed to be valid until such time..

We declare that the quoted price (and prices quoted for each component, the break-up of which is given in the Price Schedule) are firm and shall not be subject to any variation for the entire period of the assignment. We further declare that the quoted prices include all taxes as on the date of bid submission, duties and levies payable by us under aforesaid assignment.

Our Annual Maintenance Charges (AMC) is quoted per annum basis and will be valid, for a period of 3 years from the completion of 3 years warranty period as stipulated in the tender, subject to acceptance by RECL, New Delhi at its sole discretion.

We have given details of deviations and exclusions (clause wise) taken with reference to bidding documents provisions, along with justification for the services not covered in our offer.

We agree to abide by our offer for a period of 180 days from the date fixed for opening of the bid documents or any extended validity period and that we shall remain bound by a communication of acceptance within that time. We agree that on completion of the validity period, unless the We withdraw our bid in writing, it will be deemed to be valid until such time that we formally withdraw (in writing) our bid in writing by giving a notice of at least seven working days.

Until the formal final Contract is prepared and executed between us, this bid, together with your written acceptance of the bid and your notification of award, shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this *[insert: **number**]* day of *[insert: **month**]*, *[insert: **year**]*.

Signature

Name

Designation and Common Seal...

Duly authorized to sign this bid for and on behalf of *[insert: name of Bidder]*

Price Schedule

TABLE – I

SL No	Description of Item (Specify Make and Model) (A)	Quantity (B)	Unit Rate (C)	Taxes per unit (D)	Rates for extended warranty / AMC for 3 years/ year (E)	Total F=(B*(C+D)+E (F)
1	ITSM/EMS, Anti-Virus, DNS /DHCP, NMS/LMS	5	In words In figures	In words In figures	In words In figures	In words In figures
2	AAA server	2	In words In figures	In words In figures	In words In figures	In words In figures
3	Application Server (SSC)	1	In words In figures	In words In figures	In words In figures	In words In figures
4	Database Server (SSC)	1	In words In figures	In words In figures	In words In figures	In words In figures
5	Central Router (DC, CO)	2	In words In figures	In words In figures	In words In figures	In words In figures
6	Internet Router	1	In words In figures	In words In figures	In words In figures	In words In figures
7	Point-to-Point/SSC/ Remote Router	20	In words In figures	In words In figures	In words In figures	In words In figures
8	Central switch	1	In words In figures	In words In figures	In words In figures	In words In figures
9	Distribution switch (DC)/ Central switch (CO) / SSC	4	In words In figures	In words In figures	In words In figures	In words In figures
10	LAN access Switch/SSC/ Remote Switch	32	In words In figures	In words In figures	In words In figures	In words In figures
11	Central Firewall	1	In words In figures	In words In figures	In words In figures	In words In figures
12	Central IPS	1	In words In figures	In words In figures	In words In figures	In words In figures
13	Internet Firewall	2	In words In figures	In words In figures	In words In figures	In words In figures
14	Internet IPS	2	In words In figures	In words In figures	In words In figures	In words In figures
15	Central management Console	1	In words In figures	In words In figures	In words In figures	In words In figures
16	42" LCD Screen	01	In words In figures	In words In figures	In words In figures	In words In figures
17	Heavy Duty Line Matrix printer	1	In words In figures	In words In figures	In words In figures	In words In figures
18	Colour MFP printer	1	In words In figures	In words In figures	In words In figures	In words In figures
19	PC	6	In words In figures	In words In figures	In words In figures	In words In figures
20	Rack (42U for DC/SSC) Appropriate size for ZO/PO	As required (breakup to be given)	In words In figures	In words In figures	In words In figures	In words In figures
21	UPS (For SSC/ZO/PO/ Palika Bhawan)	18	In words In figures	In words In figures	In words In figures	In words In figures
22	Anti-Virus Software (server based enterprise software)	01	In words In figures	In words In figures	In words In figures	In words In figures
23	EMS/ITSM S/w (Quote	01	In words	In words	In words	In words

SL No	Description of Item (Specify Make and Model) (A)	Quantity (B)	Unit Rate (C)	Taxes per unit (D)	Rates for extended warranty / AMC for 3 years/ year (E)	Total $F=(B*(C+D))+E$ (F)
	prices of each module separately, sub-section)		In figures	In figures	In figures	In figures
24	LAN NMS (Quote price of modules separately)	01	In words In figures	In words In figures	In words In figures	In words In figures
25	WAN NMS (Quote price of modules separately)	01	In words In figures	In words In figures	In words In figures	In words In figures
26	DNS Software	01	In words In figures	In words In figures	In words In figures	In words In figures
27	LDAP software	01	In words In figures	In words In figures	In words In figures	In words In figures
28	DHCP	01	In words In figures	In words In figures	In words In figures	In words In figures
29	CO infrastructure building expenses (along with breakup)		In words In figures	In words In figures	NA	In words In figures
30	SSC infrastructure building expense (along with breakup)		In words In figures	In words In figures	NA	In words In figures
31	ZO/PO network cabling expense including jack panel etc (along with breakup)		In words In figures	In words In figures	NA	In words In figures
32	Data Centre Out-sourcing	06 (Years) (Give year-wise breakup)	In words/year In figures	In words In figures	NA	In words In figures
33	Link Cost (Give detail for each link as per Annexure K para "Bandwidth Table")	As per Annexure K para "Bandwidth Table"	In words/year In figures Kindly provide separate for each link	In words In figures Kindly provide separate for each link	NA	In words In figures Kindly provide separate for each link
34	Bandwidth Cost (Give detail for each link as per Annexure K para "Bandwidth Table")	As per Annexure K para "Bandwidth Table"	In words/year In figures Kindly provide separate for each link	In words In figures Kindly provide separate for each link	NA	In words In figures Kindly provide separate for each link
35	Miscellaneous (Any item not covered may be quoted here with separate sub-section)	01	In words In figures	In words In figures	In words In figures (If applicable)	In words In figures
36	Sub Total – A					

TABLE – II

Sl.No.	Description of Item (A)	Quantity (B)	Unit Rate (C)	Taxes per unit (D)	Total F=10*(C+D) (F)
1	CCNA or equivalent Training Cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
2	CCNA or equivalent Certification Exam(s) Cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
3	CCNP or equivalent Training Cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
4	CCNP or equivalent Certification Exam(s) Cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
5	Enterprise Management software certification training cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
6	Enterprise Management software certification exam cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
7	WAN NMS certification training cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
8	WAN NMS certification exam cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
9	LAN NMS Certification training cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
10	LAN NMS Certification Exam cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
11	Supplied Firewall Administration Training Cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
12	Supplied Firewall Administration Certification Exam(s) Cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
13	Supplied IDS/IPS Administration Training Cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
14	Supplied IDS/IPS Administration Certification Exam(s) Cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
15	Supplied Operating System Certification .Training (Basic & Advance System Administration) cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
16	Supplied Operating System Certification Exam(s) (Basic & Advance System Administration) cost	Complete Track Per candidate	In words In figures	In words In figures	In words In figures
117	Bidder's Training Cost for providing training on operational and administrative aspects of the solution proposed for 10 officials.	Per Official	In words In figures	In words In figures	In words In figures
18	Cost of FMS Personnel as per Scope of	Per Person	In words	In words	In words

SI.No.	Description of Item (A)	Quantity (B)	Unit Rate (C)	Taxes per unit (D)	Total F=10*(C+D) (F)
	Work and SLA for three years extendable to further period of three years (Minimum Two Persons in)	Per Month	In figures	In figures	In figures
19	Cost of commissioning of the existing equipments and products		In words In figures	In words In figures	In words In figures
20	Cost of formulation of IT Security Policy	Complying CERT/BS/ISO/RBI etc guidelines	In words In figures	In words In figures	In words In figures
21	Cost of formulation of BCP-DRP	- DO -	In words In figures	In words In figures	In words In figures
22	Cost of implementation of BS 7799/ISC 27001/RECL IT Security policy	- DO -	In words In figures	In words In figures	In words In figures
23	Cost of implementation of BCP-DRP policy	- DO -	In words In figures	In words In figures	In words In figures
24	Any other item (Give detail breakup)		In words In figures	In words In figures	In words In figures
25	TOTAL (B)				

Grand Total (TCO) = Sub Total A + Sub Total B

The bidder quoted with lowest TCO will be the L1 bidder.

Note:

- a. All prices to be quoted in Indian Rupees only. No advance payment shall be made.
- b. All items must be quoted failing which the bid is liable to be rejected.
- c. All taxes, duties, levies including service tax etc., should be mentioned
- d. Price shall be deemed to be inclusive of all accessories, equipment etc required for full functionality of the proposed solution and ERP application as per the RECL requirement.
- e. The prices quoted against items under table I includes cost of installation and commissioning of the same.
- f. The bidder should enclose a statement clearly specifying make and model for all items of Table – I
- g. In Table II, Item No.15 & 16 (Bidder must give separate cost for each OS supplied, in case of default the quoted price shall be deemed to be inclusive of the cost for item no. 15 and 16 for each individually supplied OS.)
- h. The cost of bandwidth in Table I , shall be deemed to be inclusive of all charges for all locations in order to establish complete corporate MPLS VPN along with the backup link.

Technical Compliance

TABLE – I

SL No	Description of Item (Specify Make and Model) (A)	Make (B)	Model (C)
1	ITSM/EMS, Anti-Virus, DNS /DHCP,		
2	AAA server		
3	Application Server (SSC)		
4	Database Server (SSC)		
5	Central Router		
6	Internet Router		
7	Point-to-Point/SSC/ Remote Router		
8	Central switch		
9	Distribution switch (DC)/ Central switch (CO)		
10	LAN access Switch/SSC/ Remote Switch		
11	Central Firewall		
12	Central IPS		
13	Internet Firewall		
14	Internet IPS		
15	Central management Console		
15	Central management Console		
16	42" LCD Screen		
17	Heavy Duty Line Matrix printer		
18	Colour MFP printer		
19	UPS		
20	Anti-Virus Software		
21	EMS/ITSM S/w (Quote prices of each module separately, sub-section)		
22	LAN NMS (Quote price of modules separately)		
23	DNS Software		
24	LDAP software		
25	DHCP		
26	CO infrastructure building expenses (along with breakup)		
27	SSC infrastructure building expense (along with breakup)		
28	Data Centre Out-sourcing		
29	Miscellaneous (Any item not covered may be quoted)		

SL No	Description of Item (Specify Make and Model)	Make	Model
(A)	(B)	(C)	(C)
	here with separate sub-section)		

TABLE – II

Sl.No.	Description of Item (A)	Compliance Yes/No (B)	Remarks , if any (C)
1	CCNA or equivalent Training Cost		
2	CCNP or equivalent Certification Exam(s) Cost		
3	Enterprise Management software certification		
4	WAN NMS training		
5	LAN NMS training		
6	Supplied Firewall Administration Training Cost		
7	Supplied Firewall Administration Certification Exam(s) Cost		
8	Supplied IDS/IPS Administration Training Cost		
9	Supplied IDS/IPS Administration Certification Exam(s) Cost		
10	Bidder's Training Cost for providing training on operational and administrative aspects of the solution proposed for 10 officials.		
11	Cost of FMS Personnel as per Scope of Work and SLA for three years extendable to further period of three years (Minimum Two Persons in)		
12	Cost of commissioning of the existing equipments and products		
13	Cost of formulation of IT Security Policy		
14	Cost of formulation of BCP-DRP		
15	Cost of implementation of BS 7799/ISC 27001/RECL IT Security policy		
16	Cost of implementation of BCP-DRP policy		
17	Any other item (Give detail breakup)		

LIST OF EXISTING ERP SERVERS

Sl. No.	Type of Servers	Quantity	MAKE	MODEL	Power Req
1	Production Application Server	02			
2	Production Database Server	02			
3	QA Database Server	02			
4	QA Application Server	02			
5	Development Server	02			
6	Discoverer Server	01			
7	Portal Server	01			
8	Backup Server	01			
9	External SAN Storage	01			
10	SAN Switch	02			
11	LDAP Authentication Server	01			
12	LTO Tape Cartridge	150			
13	Hardware management Console	01			
14	42 U Rack				
15	Backup Management Software	01			
16	Switch	02			
17	Firewall, IDS/IPS	01			
18	UPS	01			
19	Hardware Load Balancer	01			
20	LTO Tape Drive	01			
21	Oracle RAC (for Production & QA DB servers)	02			

Annexure K Technical Specifications

Note:

- The technical specifications given in this annexure are indicative only and not exhaustive in any manner. The bidder shall be deemed to have examined all requirements for successful implementation of the scope of the work.
- The bidder shall be responsible for providing support for a further period of 3 years beyond 3 + 3 years period mentioned in the main RFP document. However the same will be as per REC discretion and the cost for the last 3 years (after 3 + 3 years) will not be included in TCO calculations

PART I: SERVER SPECIFICATIONS

The servers proposed to be procured for the various modules for Training, anti-virus, DNS etc are as indicated below. Bidders shall clearly state the Recovery Point Objective (RPO) and Recovery Time Objective (RTO) achievable from their solution.

The details of the servers to be tentatively deployed are as follows :

Note: The zones, quantity and server type may vary and shall depend on actual implementation.

Code :

- 1) DMZ : De-Militarized Zone
- 2) MZ : Militarized Zone

DC SERVER REQUIREMENT

SNo.	ERP functionality	Zone	Quantity	Server
1	ITSM & EMS Server	DMZ	1	Rack Mountable (RM) / Blade (Windows)
2	Anti-Virus Server	DMZ	1	RM/Blade (Windows)
3	Primary DNS, DHCP Secondary LDAP including software	DMZ	1	RM/Blade (Windows)

4	Secondary DNS, DHCP Primary LDAP	DMZ	1	Existing (not to be quoted)
5	AAA Authentication	MZ	1	RISC
6	42 U rack	As required		
7	Central Management Console	1		
8	NMS & LMS server	DMZ	1	RM/Blade (Windows)

SSC SERVER REQUIREMENT

S.No.	ERP functionality	Zone	Quantity	Server
1	Application Server	MZ	1	RISC
2	Database Server	MZ	1	RISC
3	AAA Server	MZ	1	RISC
4	Anti-Virus, DNS, DHCP, LDAP etc	DMZ	1	RM/Blade (windows)
5	Racks	As required		42 U
6	UPS	As required		

DC NETWORK REQUIREMENT

S.No.	Functionality	Quantity	Specification
1	Central Router	1	
2	Internet Router	1	
3	Point-to-Point Router (for data replication purpose)	1	Same as Remote Router
4	Central Switch	1	Full Redundancy with no SPOF
5	Distribution Switch	2	L3
6	Central Firewall & IPS	1	Active-Active
7	Internet Firewall & IPS	2	Active-Active
8	LAN Access Switch	6	
9	LAN NMS software	1	
10	EMS & ITSM software	1	
11	WAN NMS software	1	
12	Enterprise Anti Virus	1	

	Software		
13	Any equipment supplied for DC should have redundant power supplies. Static Switch(es) must be provided for the equipment that does not support redundant power supply.		

SSC NETWORK REQUIREMENT

S.No.	Functionality	Quantity	Specification
1	Router	1	Same as Remote Router
2	Switch	2	Same as Remote Switch
3	Router (for data replication)	1	Same as Remote Router. For Point to Point link between Delhi and Hyderabad

CO & Palika Bhawan NETWORK REQUIREMENT

S.No.	Functionality	Quantity	Specification
1	Central Router	1	CO (Same as DC)
2	Central Switch	1	CO (Same as S.No 5 of DC n/w req)
3	Access Switch	1	CO (same as remote)
4	LAN Access Switch	4	CO, same as Remote switch (48 ports)
5	Racks (for CO)	As required	Size as per requirement
6	Remote Router	1	Palika Bhawan
7	Remote Switch	2	Palika Bhawan
8	Racks (for palika Bhawan)	As required	Size as per requirement
9	UPS	1	Size as per requirement (Palike Bhawan)

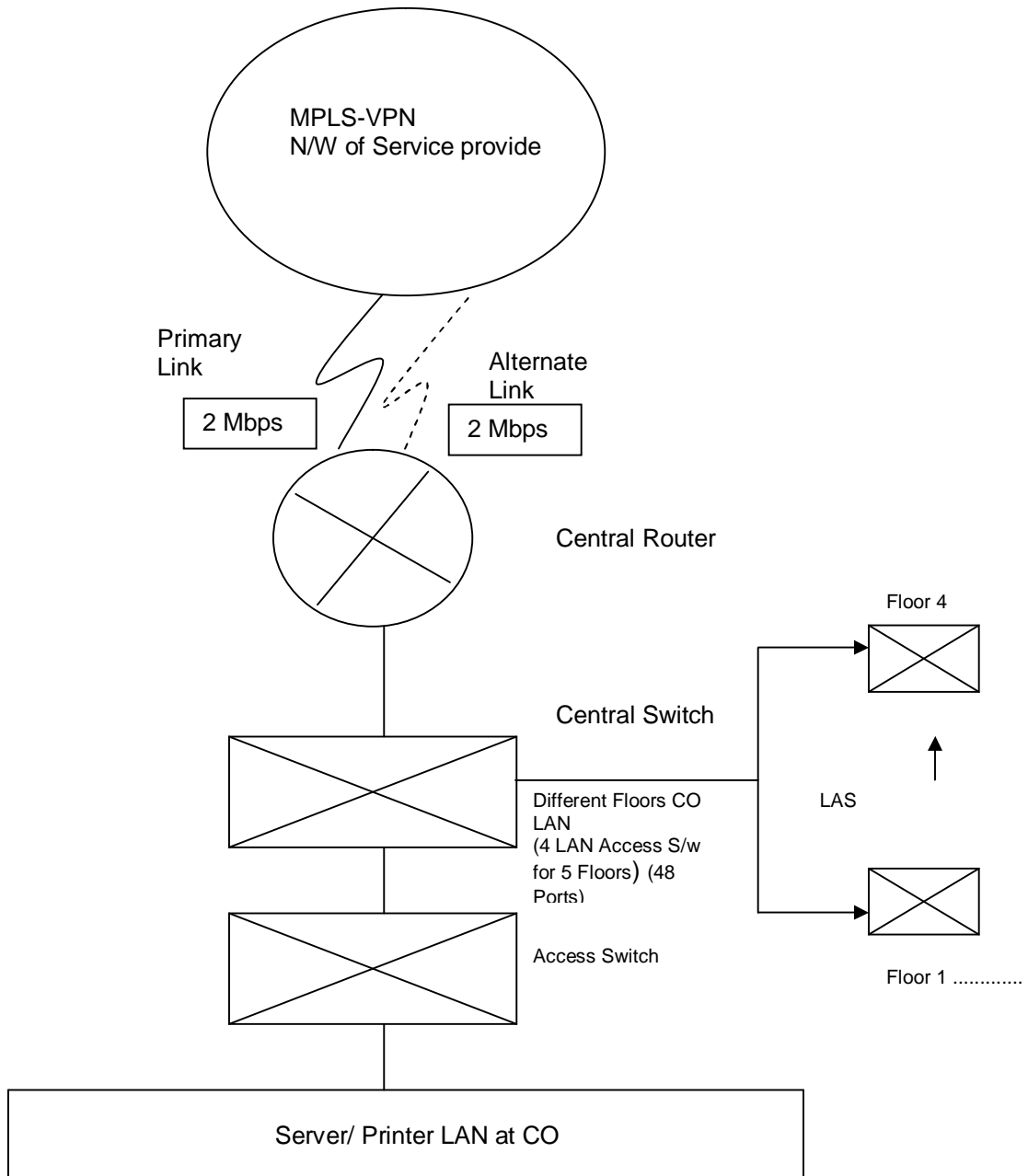
REMOTE NETWORK REQUIREMENT

S.No.	Functionality	Quantity	Specification
1	Remote Router	1	At each ZO/PO
2	Remote Switch	1	At each ZO/PO
3	Racks	1	Size as per requirement
4	UPS	1	Size as per requirement

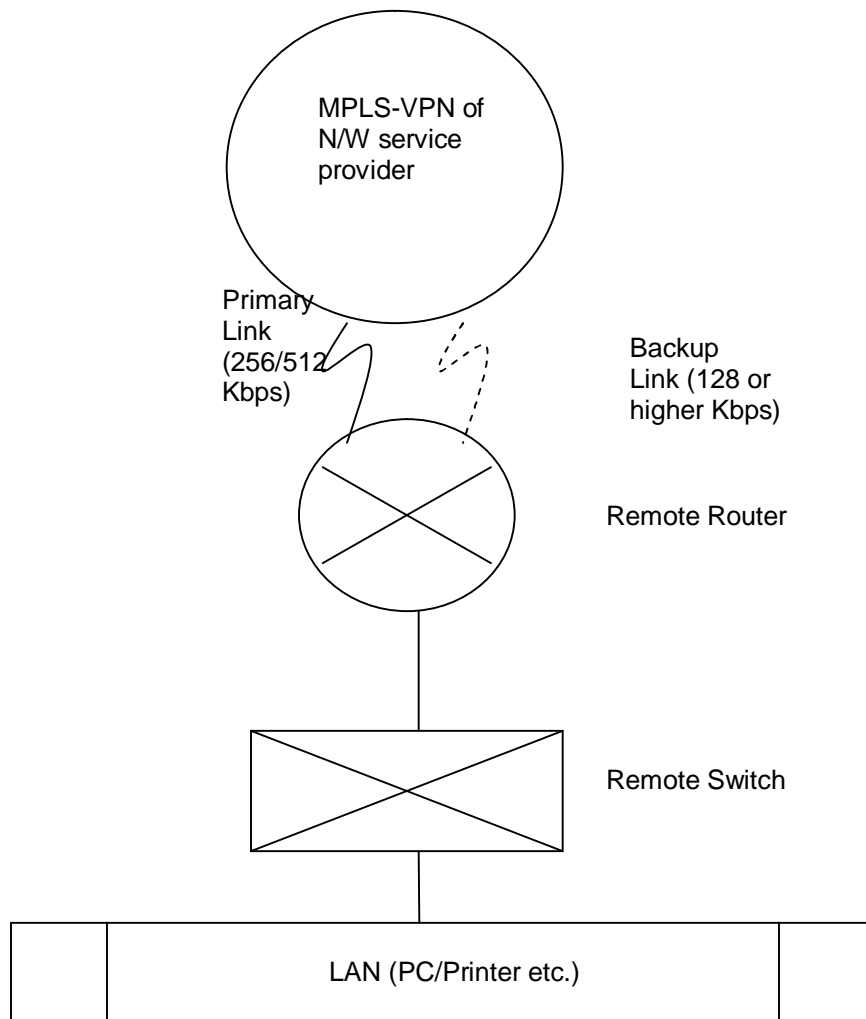
RECL CO MISC REQUIREMENT

S.No.	Functionality	Quantity	Specification
1	Heavy Duty network	1	

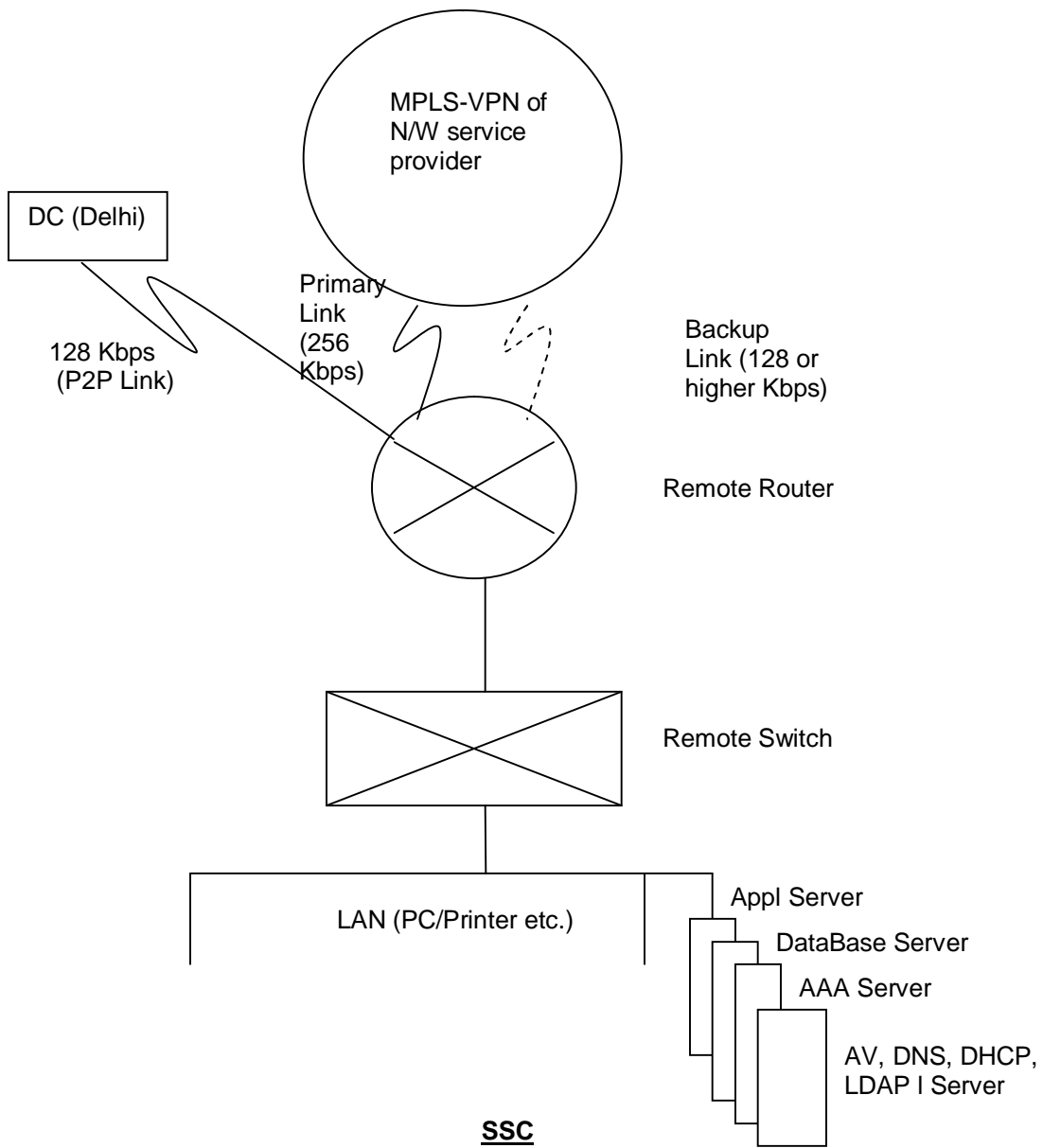
	Line Matrix printer (1500 lpm) with ETH port		
2	Color MFP all-in-one at-least 30 ppm	1	
3	42" LCD	1	
4	PC	6	

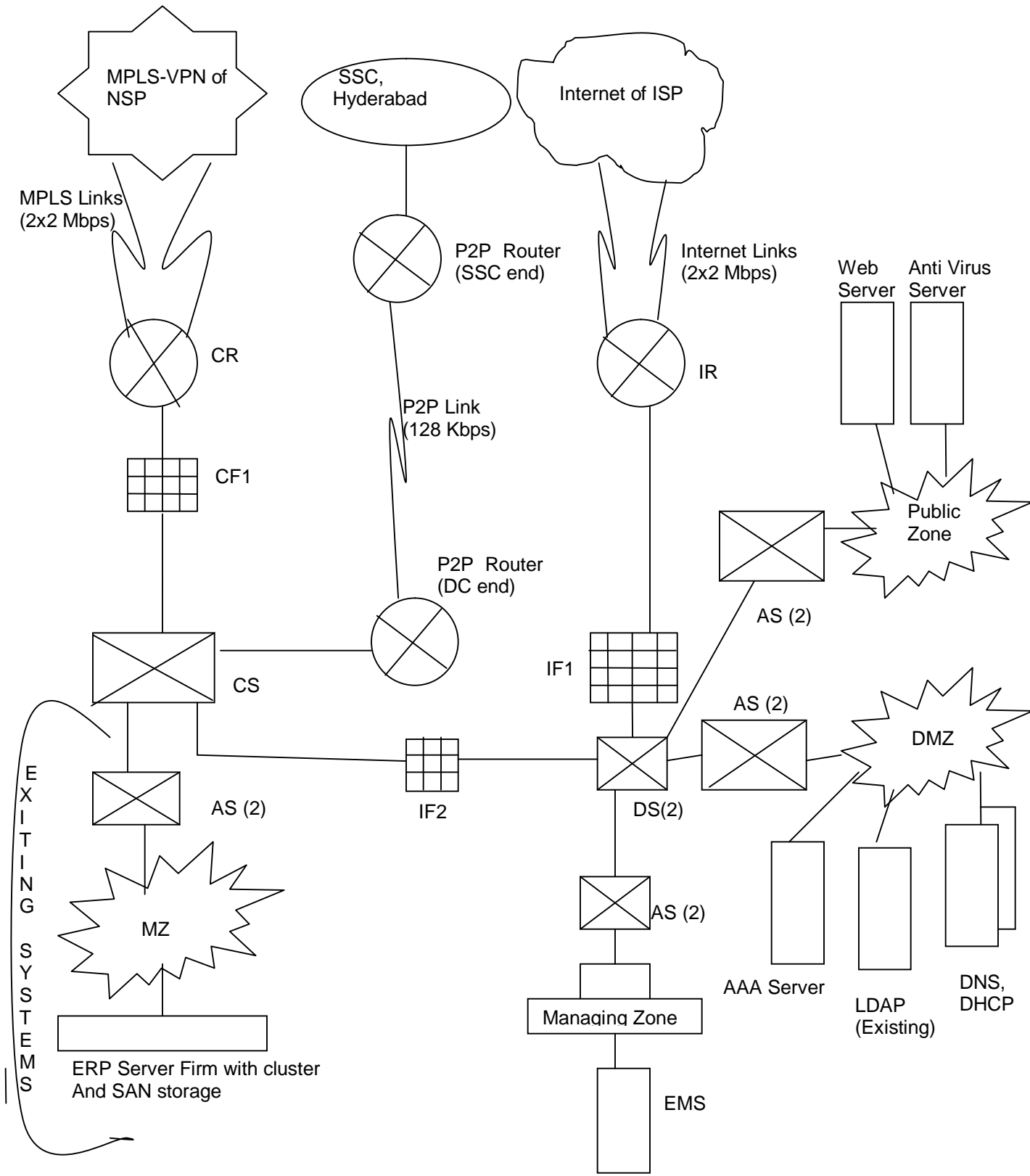


CORPORATE OFFICE



ZO/PO/Palika Bhawan





Data Centre Logical Diagram

Abbreviations:

- CR-Central Router
- CF-Central Firewall
- AS-Access Switch
- DS-Distribution Switch
- MZ – Militarized Zone
- IR-Internet Router
- CS-Central Switch
- IF-Internet Firewall
- SW-SAN Switch
- DMZ – De-Militarized Zone

Servers in MZ:

- a) Production Database Servers
- b) Production Application Servers
- c) Quality Assurance (QA) Database Servers
- d) Quality Assurance (QA) Application Server
- e) Discoverer Server
- f) Backup Server
- g) AAA Authentication Server
- h) Hardware Load Balancer

Servers in DMZ

- a) Development Server
- b) ITSM/ EMS Server
- c) Anti Virus Server
- Portal Server
- DNS, LDAP, DHCP Servers

Out of the server list given above, some of servers and storage have already been procured by RECL and are in place. Rest are described in this tender. This new along with existing ones will be relocated into the proposed Dare Centre mentioned in this tender. **A. SERVER specification**

Serial – 1,2,3,4,8 of DC & 4 of SSC : (64 Bit Intel or equivalent Servers)

Sl.	Features	Specifications Required
1.	Make& Model	
2.	Form Factor	2 U / blade
3.	CPU	2 x 64 bit Dual Core CPU @ 3.00 GHz with 2 MB L2 Cache Memory and 1000 MHz FSB
4.	Slots	Minimum of 3 nos. of 64 bit PCI-E/PCI-X Slots (at least one free slot)
5.	Chipset	OEM approved Chipset
6.	System Management Processor	Integrated Management Processor or equivalent with full Out-of-Band Remote Systems Management facility, Graphical User Interface including highly secure remote power control
7.	Memory	8 GB PC2-5300 667MHz Fully Buffered ECC DDR2-SDRAM DIMM (Interleaved memory) up gradable up to 32 GB with 4GB DIMM
8.	Memory Protection Features	Active Memory features such as Memory Mirroring & Online Spare

Sl.	Features	Specifications Required
9.	Disk Controllers	Integrated Dual Channel Serial Attached SCSI (SAS) Disk Controller
10	Hard Disk Bays	Minimum of 4 x 3.5" SAS Hot-Swap Hard Disk front accessible bays
11	Hard Disk Drives	3 x 300 GB 15K Hot-Swappable 3.5" SAS Hard Disk Drives
12	RAID Controller	RAID Controller with 256 MB Cache & Battery Backup Unit. Should support RAID 0 and 5.
13	Optical Drive	Combo CD-RW & DVD-ROM Drive
14	Ethernet Adapter	Dual Port 10/100/1000 Mbps Gigabit Ethernet Adapter with Wake-on-LAN & Alert-on-LAN
15	Video	16MB DDR memory with capability to display complex graphics
16	Power Supply & Fans	Should have redundant Power Supply Units and adequate fans for cooling with N + 1 redundancy
17	Ports	At least 3 nos. of USB 2.0, 1 each Serial, RJ-45, Keyboard, Mouse & Video Ports
18	Diagnostics LEDs (Front Panel)	Should have LED based indicators for indicating failed components within the Server (visual indication of system well-being)
19	Predictive Failure Analysis (PFA)	PFA should be available for Processors, VRMs, Memory, HDDs, Power Supply & Fans in conjunction with Systems Mgmt. Software
20	System Management and Diagnostics	Integrated Management Processor or equivalent to monitor Environment, event recording and Alert notification through visual Diagnostics, Power Mgmt. Features for monitoring actual power usage & providing power consumption capping details
21	System Software	Server Management software with the device drivers
22	OS Compatibility	MS Windows Server 2003 & R2 (Ent. and Std. Edn.) 32 & 64-bit, Red Hat Enterprise Linux 4.0 32 & 64-bit, Novell Netware Open Enterprise Server 6.5, VMWare ESX Server 3.0 (OS to be quoted as per software requirement)

Serial – 5 (DC), 3 (SSC): AAA Server

AAA server	
Processor	
Processors	100 jops.
Processor Type	RISC
Cache per processor	Level 2: 1 MB on-chip.
Main Memory	
Main Memory	8 GB
Standard/Integrated Interfaces	
Network	2 * 1-Gb Ethernet Adapter.
I/O Subsystem	DVDROM-Drive, keyboard, mouse & Color Monitor, 2 * 4 GB Fibre Channel HBA Adapter.
Mass Storage and Media	
Internal disk	3 * 146 GB (15K-RPM SCSI/FC-AL) disks.
Software	
Operating system	Solaris / AIX / HP-UX / RH Linux

AAA Feature Requirements

- 1) Should be a hardware based appliance solution for Authentication, Authorization and Accounting and 802.1x implementation.
- 2) Should be a clustered solution with at least two appliances so that there is no single point of failure of the AAA implementation for all regions.
- 3) Shall perform AAA function for all configured networking devices that includes routers, switches, firewalls, IDS etc in the network.
- 4) Should support RADIUS in conformance to the following IETF RFCs –
 - o RFC 2138, Remote Authentication Dial In User Service
 - o RFC 2139, RADIUS Accounting

- RFC 2865, RFC 2866, RFC 2867, RFC 2868, RFC 2869
- 5) Should provide login authentication functionality.
 - 6) Upon successful login, the system shall be configurable in way so that command access to certain devices for a particular username can be restricted.
 - 7) The system should log failed attempts of authentication and command execution.
 - 8) Should allow the network administrators to control who can log in to the network from wired connections, What privileges each user has in the network, What accounting information is recorded in terms of security audits or account billing, What access and command controls are enabled for each configuration administrator
 - 9) Should support downloadable ACLs for any Layer 3 devices like routers, firewalls.
 - 10) Should support user and administrative access reporting, dynamic quota generation and time based restrictions based time of day and day of week
 - 11) Should support PAP, CHAP and MS-CHAP, EAP-MD5, EAP-TLS password protocols.
 - 12) Should support PEAP to provide a new, secure, and client-server authentication method for wireless networks.
 - 13) Should support packet-filtering mechanism to block traffic on all but the apart from necessary AAA-specific TCP and User Datagram Protocol (UDP) ports.
 - 14) Should support SSL for administrative access
 - 15) Should support integration with Windows user database and LDAP database.
 - 16) Should allow the main network administrator to control whether other network administrators can change passwords during Telnet sessions.
 - 17) Should support PKI
 - 18) Should support Network Time Protocol for time synchronization with the network.
 - 19) Should be integrated with the offered Security management system.
 - 20) Should support Windows user database integration for authentication function
 - 21) Should support access connection type of wired/wireless LAN, dialup, broadband, and virtual private networks (VPNs)
 - 22) Should be integrated with the offered Antivirus mediation server to determine antivirus posture at network access
 - 23) Should support HTTP port allocation feature to configure the range of TCP ports used by the AAA system for administrative HTTP sessions.
 - 24) Should support the following features –
 - Automatic service monitoring, database synchronization, and importing of tools for large-scale deployments
 - Lightweight Directory Access Protocol (LDAP) and Open Database Connectivity (ODBC) user authentication support
 - Flexible 802.1X authentication type support including Extensible Authentication Protocol Transport Layer Security (EAP-TLS), Protected EAP

- (PEAP), EAP-Flexible Authentication via Secure Tunneling (EAP-FAST), and EAP-Message Digest Algorithm 5 (EAP-MD5)
 - Downloadable access control lists for any Layer 3 device
 - Device command set authorization
 - Network access restrictions
 - User and administrative access reporting
 - Dynamic quota generation
 - Restrictions such as time of day and day of week
 - User and device group profiles

Serial 6 (DC Server), 5 (SSC Server), 5, 8 (CO), 3 (Remote Network): Rack

42U RACK : Qty to be specified by the bidder
Rack : OEM Enterprise class rack and all its accessories to house all Servers & other related equipment.
Front door (Black) for High Perforation (2m racks)
Side Panel (Black)
PDU to Wall Power cord 14', 200-240V/24A, UTG0247, IEC309 P+N+G
Field Integration Indicator, Ship Empty Rack
Power Distribution Unit Specify - Base/Side Mount, Universal UTG0247 Connector
Should have enough Power Distribution Units to take care of all the servers power connectivity
Should be configured with a OEM 16port KVM switch
Should have single console to monitor all the servers in toggle mode
Should have rack-mountable 17" TFT with Keyboard & Mouse for Console (only for CO)

Size of the remote Racks are to be determined according to solution.

Rack features

- The racks required for housing the all servers, routers, LAN switches, firewall, IPD/IDS etc included in this tender.
- All items covered under the scope shall be offered in rack-mounted configuration in OEM racks.
- All racks in the scope of this contract shall be painted in the same color, (preferably black)
- 1 No. additional Racks for housing existing systems should be provided of the same make and colour. This rack should be equipped with 8 port KVM switch.

Serial 7 (DC server) : Central Management Console

Description
Rack-mounted Hardware .Management Console
1 GB system memory
1 Serial Port
2 Nos Integrated 10/100/1000 Mbps Ethernet Port
4 Nos USB Ports
2 Nos Integrated Graphics Ports
1 No. External Modem
80 GB Serial ATA HDD
DVD-RAM for backup
17" Flat Panel Monitor
Redundant Power Supply
USB Keyboard and Mouse
Power Cable, Power Cord and all necessary Accessories

Serial : 1 (SSC) Application Server

Processors	Estimated tpmc / oltp 50,000 ratings per server, should be supported by 3 rd party audited benchmark results. Should be field upgradable to 1,00,000 tpmc/oltp OR Estimated Spec JBB 2005 50000 field ratings upgradeable to Spec JBB 2005 100000 per server. Should be supported by 3rd party audited benchmark results
Processor Type	RISC
Cache per processor	1 MB or above level 2 cache.
Main Memory	Min12 GB upgradable to 32 GB
Standard/Integrated Interfaces	
Network	2 * 1-Gb Ethernet Ports
I/O Subsystem	DVDROM-Drive, keyboard, mouse
Mass Storage and Media	
Internal disk	3 * 146 GB (15K-RPM SCSI/FC-AL OR 10K-RPM SAS/FC-AL) disks.
Operating system	Solaris / AIX / HP-UX / RH Linux
MISCELLANEOUS	Rack Mount

Serial : 2 (SSC) Database Server

Processors	Estimated tpmc / oltp 50,000 ratings per server, should be supported by 3 rd party audited benchmark results. Should be field upgradable to 1,00,000 tpmc/oltp OR Estimated Spec JBB 2005 50000 field ratings upgradeable to Spec JBB 2005 100000 per server. Should be supported by 3rd party audited benchmark results
Processor Type	RISC
Cache per processor	1 MB or above level 2 cache.
Main Memory	Min12 GB upgradable to 32 GB
Standard/Integrated Interfaces	
Network	2 * 1-Gb Ethernet Ports
I/O Subsystem	DVDROM-Drive, keyboard, mouse
Mass Storage and Media	
Internal disk	Min 2.5 TB raw data (15K-RPM SCSI/FC-AL OR 10K-RPM SAS/FC-AL) disks.
Operating system	Solaris / AIX / HP-UX / RH Linux
MISCELLANEOUS	Rack Mount

Serial – 1 & 2 (CO): Miscellaneous

- 1. Heavy duty printer : Line matrix heavy duty network (with Ethernet configurable, standard parallel, serial) printer with printing capacity with at least 1500 lpm (draft upper case mode) and OCR & barcode printing capability.**
- 2. Colour multi-function all-in-one (print/fax/copy/scan) with printing capacity of at least 30 ppm (both color & B/W) with flatbed ADF scanner.**

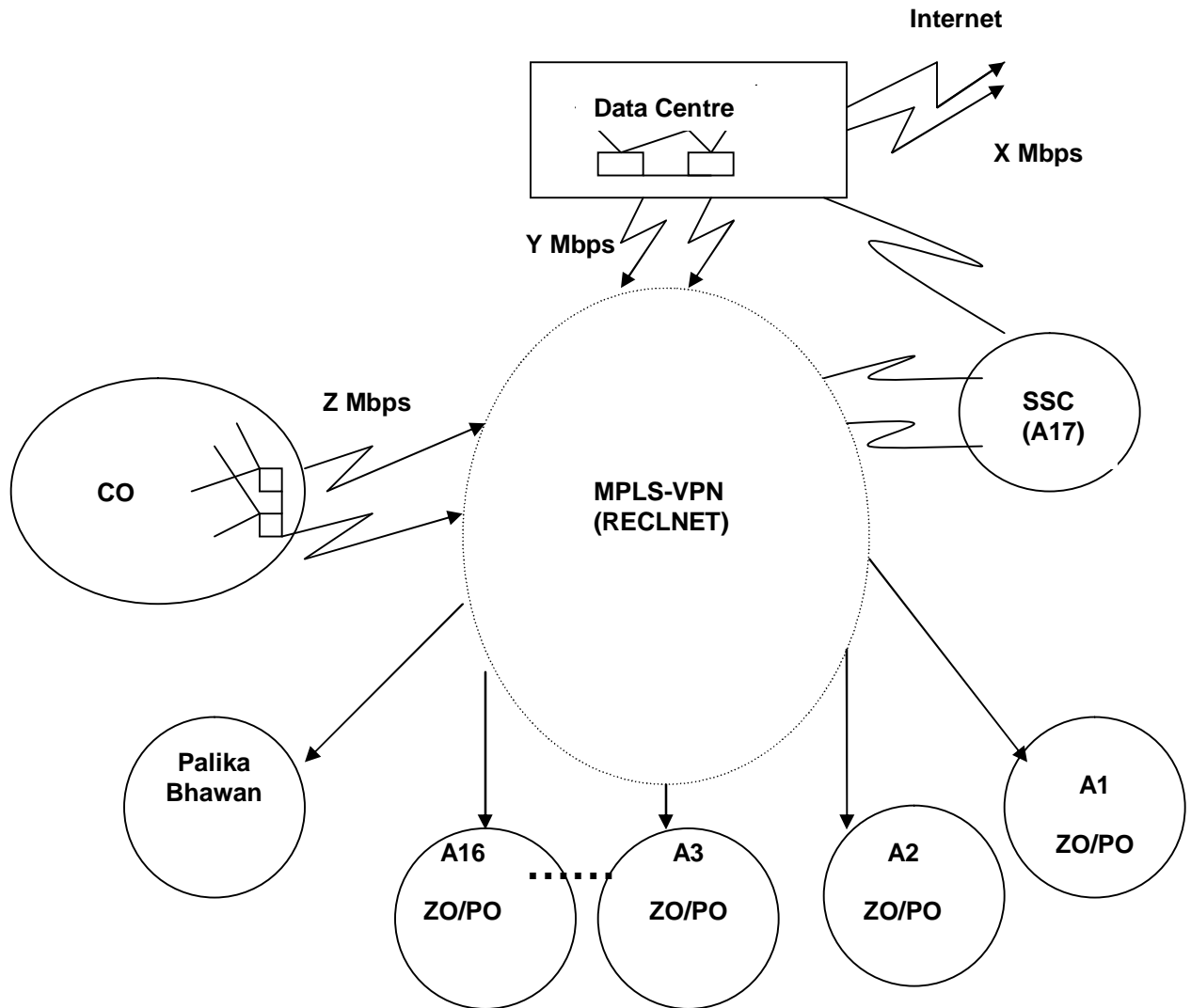
Serial – 4 (CO): Miscellaneous

Desktop Computer (PC)

S. No.	Item	Description
1.	CPU	Intel Core 2 Duo 2.66 GHz (E6750) or higher, 4 MB L2 cache and 1333 MHz FSB
2.	Motherboard.	Intel Q35 or higher
3.	Memory	1 GB DDR2 667 MHz or higher RAM upgradeable up to 4 GB
4.	Hard Disk Drive	160 GB Serial ATA HDD (7200 rpm or higher)
5.	FDD	1.44 Floppy Disk Drive
6.	Monitor	15" TFT XGA Monitor
7.	Keyboard	PS2 104 Keys bilingual Keyboard (English and Hindi Remington)
8.	Mouse	Two button Optical Scroll Mouse
9.	Cabinet	Small form factor
10.	Combo Drive	16 X DVD RW Combo
11.	Networking features	10/100/1000 NIC
12.	Ports	1 serial, 1 parallel, 6USB (2 front), 1 VGA
13.	Security	Power on password, setup password, locking chassis with external lock facility
14.	Certification	Windows, Linux
15.	OS	Windows Vista Business preloaded licensed with media and documentation and recovery CDs/DVDs
16.	Preloaded software	Norton/ McAfee/ Trend-micro antivirus (Latest version) with 1 year License
17.	Manageability Features	Pre-failure alert for HDD, Remote support, SNMP manageability etc
18.	Warranty & Maintenance	3 years on site comprehensive with OEM

B. NETWORK SPECIFICATION

WAN DIAGRAM



$$Y = \{ \sum (A_1 + \dots + A_N) + Z \} / 2.5$$

X should be minimum required but scalable e.g. 25% of Y

Y should be dedicated bandwidth (1:1)

Z should be dedicated bandwidth (1:1)

A₁ to A₁₇ should be shared bandwidth (1:4)

Logical Diagram

2. Equipment distribution matrix

	Equip. Type	24-Port N/w S/w	48-Port N/w S/w	Distribution Switch	Remote Location Router	Central/ P2P Router
SL	Location					
1	Mumbai	1	NIL	NIL	1	-
2	Bangalore	1	NIL	NIL	1	-
3	Bubaneswar	1	NIL	NIL	1	-
4	Kolkota	1	NIL	NIL	1	-
5	Chandigarh	NIL	1	NIL	1	-
6	Guwahati	1	NIL	NIL	1	-
7	Hyderabad	1	NIL	NIL	1	-
8	Jammu	1	NIL	NIL	1	-
9	Jaipur	1	NIL	NIL	1	-
10	Jabalpur	1	NIL	NIL	1	-
11	Chennai	1	NIL	NIL	1	-
12	Lucknow	NIL	1	NIL	1	-
13	Patna	1	NIL	NIL	1	-
14	Shilong	1	NIL	NIL	1	-
15	Shimla	1	NIL	NIL	1	-
16	Trivandrum	1	NIL	NIL	1	-
17	Vadodra	1	NIL	NIL	1	-
18	CIRE	1	NIL	NIL	1	1
19	DC	6	NIL	2 (DS) + 1 (CS)	1 (Internet)	2
20	CO	4	1	1	NIL	
21	SSC (Incl Hyd ZO/PO	1	Nil	1	NIL	
22	Palika Bhawan	NIL	2	NIL	1	NIL

Bandwidth Table

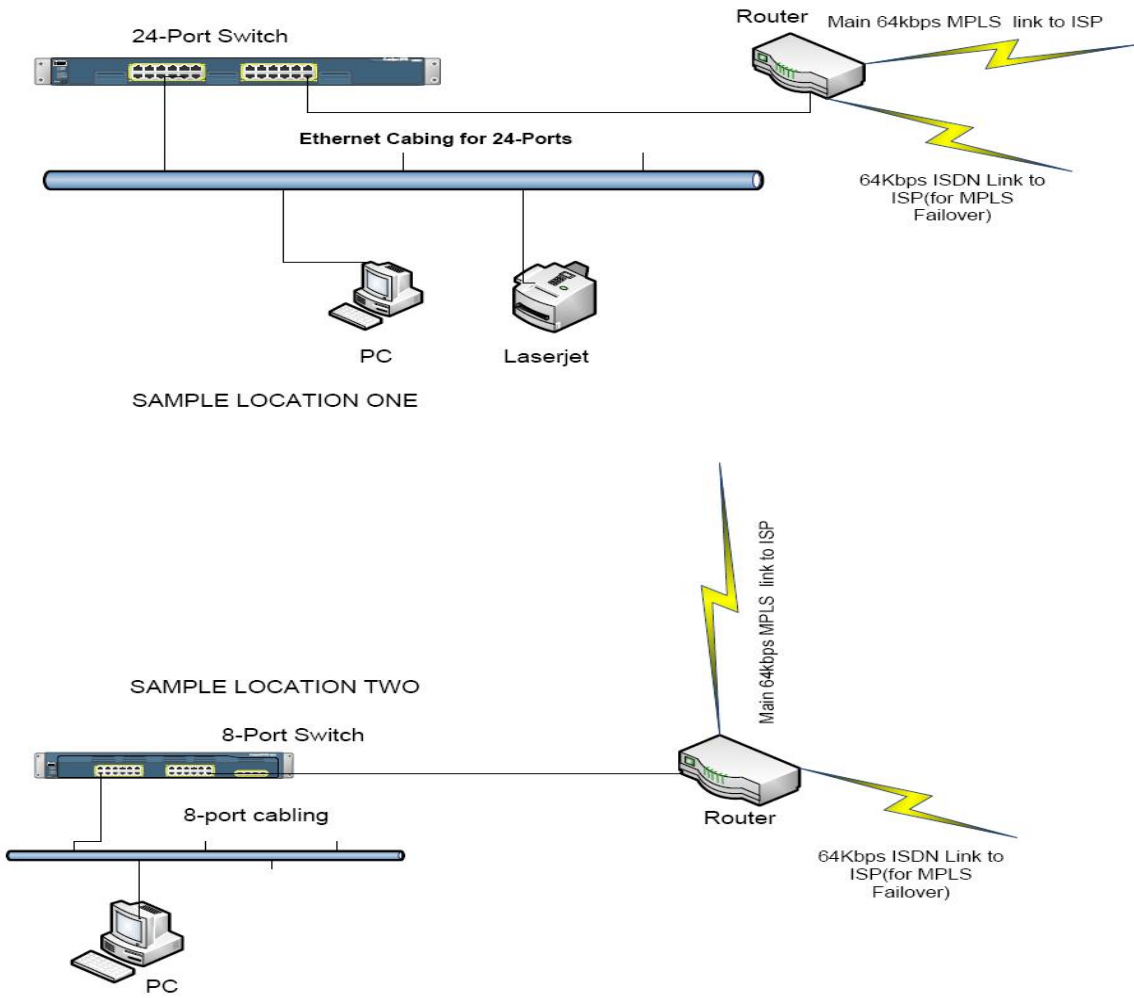
	Equip. Type	MPLS Access Data Rate	
SL	Location	Backup Link (128 kbps)	MPLS (kbps)
1	Mumbai	1	256
2	Bangalore	1	256
3	Bubaneswar	1	256
4	Kolkota	1	512
5	Chandigarh	1	512
6	Guwahati	1	256
7	Hyderabad	1	512
8	Jammu	1	256
9	Jaipur	1	256
10	Jabalpur	1	256
11	Chennai	1	256
12	Lucknow	1	512
13	Patna	1	256
14	Shilong	1	256
15	Shimla	1	256
16	Trivandrum	1	256
17	Vadodra	1	256
18	CIRE/ SSC	1	256
		1(Data replication)	128
19	DC	2 (1 + 1) Leased Line + 1 LL for Data replication	2 x 2Mbps + 128
20	Copporate	2	2 x 2Mbps
22	Palika Bhawan	1	256

The Primary and secondary links must be independent (including last leg) and must have separate routing paths (in terms of port diversity, route diversity). The bandwidth requirements have been arrived at on the basis of near-tern projections, and the solution, therefore, must provide for flexibility for upward revision of requirements in the future. Similarly, bandwidth and other requirements have been calculated taking into consideration other applications, like Mail, Internet in addition to ERP usage. At each location, the bidder should assure that under no circumstances both the links are down. The design of the solution must meet the SLA requirements as specified in this regard.

Note: (1) The bandwidth for DC & Corporate office is to be calculated as per the design specified in the Logical Diagram given above and price to be factored for the same.
(2) The bidder must size the number of ports as per the requirements and the solution offered by him in its technical and financial bid.

Connectivity diagram for remote locations

CONNECTIVITY DIAGRAM FOR REMOTE LOCATIONS



The bandwidth of backup link is given in section 2 above.

Serial 1 (DC n/w) & 1 (CO): Central Router Specification

A. Router Architecture requirements:

1. The architecture should be based high speed CPU with high port densities.
2. 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.
3. Integrated hardware for offload of encryption services processing supports DES, 3DES, and AES 128, AES 192, and AES 256 encryption modes without the need for separate modules.
4. Software features offer support for identifying, preventing, and adapting to security threats and maintaining a self-defending network,

B. High Availability Requirements

1. Should support Router Redundancy Protocol.
2. The software on the router must have online software reconfiguration to ensure that changes made to a router configuration take place with immediate effect.
3. It must be possible to fast boot the router to ensure that for software upgrades can be done with minimum network downtime.
4. High MTBF values should be available to ensure long life of router hardware.
5. Redundant power supply (RPS)

C. Must be extendable for Voice and IP telephony Support (Internal / External) in future

Miscellaneous Hardware Requirements

- i. Flexible Rack Mounting Configurations.
- ii. The Router should have two integrated 10/100/1000 interfaces and one SFP based gigabit port
- iii. The router should have USB 1.1 ports (for future use with USB Flash memory, security tokens for secure Software configuration distribution, and off platform storage of VPN credentials)
- iv. Health LEDs, LCD, etc for all modules to indicate operational status of the module.
- v. The router should have adequate flash memory to ensure storage of multiple router software images. The router software must support the flash file system to easily store and load multiple images.
- vi. The router should have adequate memory to store router configuration for a minimum of 1500 Node Network. Sufficient RAM must be available for proper router operation.
- vii. Extensive debugging capabilities to assist in hardware problem resolution.
- viii. The router should be provided with six serial ports supporting at least 2 Mbps speeds
- ix. Router should be provided with redundant power supplies
- x. The router should have capability to have integrated LAN switching modules
- xi. Support for unequal path loadbalancing.
- xii. Support for router load balancing using single instance and use of multiple MAC address for load balance between upto 4 routers.
- xiii. The router should have at least two free usable Network Module slots for expansion
- xiv. The Network interface modules should have a complete range of LAN & WAN interfaces as indicated below:

- i. LAN Interface Two integrated 10/100/1000BaseTX interfaces
One integrated SFP (small form factor pluggable) slot
- ii. WAN Interface 2 x Sync serial interfaces (V.35) for speeds from 64kbps up to 2Mbps
- iii. ISDN interfaces 1 x The Router should be able to support ISDN BRI interface.
- iv. Flex- Ports All the Serial Ports should be Flex-Configured for RS-232/V.35 interface

Performance Requirements:

- i. The router must support packet forwarding rates (before encryption) of at least 500,000 64 byte packets per second on a single chassis.
- ii. A fully loaded chassis must have less than 80% CPU utilization with the above expanded configuration.

Router Software Features.

- i. Should have the routing protocols like OSPF, BGP, RIP V1 & V2
- ii. The router should support HSRP / VRRP
- iii. Software to be supplied with IPSec 3DES Encryption and the IPSec implementation should be IETF compliant
- iv. Should support SSL VPN feature
- v. Should support Anti virus integration for regular patch updation and secure access to the network
- vi. Should support traffic monitoring feature like delay, jitter and allocated bandwidth
- vii. Should have IPS, firewall functionality.

Serial 2 (DC n/w) : Specifications for Internet Router (DC)

Architecture

- 1) Router shall have modular configuration. Router shall have 2 No. 10/100 Base TX Port as per IEEE 802.3u specification. The Fast Ethernet port should support full duplex capabilities.
- 2) Router shall have 2 WAN ports supporting V.35. These ports shall support synchronous serial transmission and shall be operable up to speed of 2 Mbps in the sync mode.
- 3) Router should have at least 128 MB Flash and at least 256 MB DRAM
- 4) Router should have 2 Nos of Sync / Async port
- 5) The Router shall have enough CPU Capacity and Memory so as to efficiently meet all the functionalities laid down in the specifications. The bidder should specify the offered CPU and memory model.
- 6) Router shall support aggregate Packet forwarding rate greater than 75,000 of 64 byte packets per second.
- 7) Router shall support Upgrade of Software through Flash Memory.
- 8) Router should be configured with hardware base encryption card to offload encryption processing from CPU.
- 9) Router shall support on-line software reconfiguration to implement changes without rebooting.
- 10) Router shall support a console port with RS-232 / RJ-45
- 11) Interface for configuration and diagnostic purposes.
- 12) Redundant power supply (RPS)

Software Details

- 1) The router shall support following protocols:
 - i. ARP, RARP, ICMP, DHCP, BOOTP, TFTP, IGMP and DNS
 - ii. Network Address Translation (NAT) as per RFC 1631
 - iii. TCP selective acknowledgement options as per RFC 2018
 - iv. Support for both TCP and UDP at layer 4
 - v. Classless Inter Domain Routing (CIDR)
- 2) The router shall support following WAN protocols:
 - i. PPP as per RFC 1661.
 - ii. Multi-link PPP as per RFC 1717.
 - iii. ISDN.
 - iv. HDLC.
 - v. Frame Relay.
- 3) The Router shall support following IP routing protocols:
 - i. RIP Version 2
 - ii. OSPF Version 2 as per RFC 1583
 - iii. OSPF on Demand as per RFC 1793
 - iv. Static and dynamic routing
 - v. Support for IPv6 routing
- 4) Router shall be able support following quality of service (QoS) features:

- i. Resource reservation protocol (RSVP).
- ii. Internet Group management protocol Version 3 (IGMP Version 3).
- iii. Weighted Fair Queuing (WFQ) / Weighted Round Robin (WRR).
- iv. Weighted Random Early Detection (WRED).
- v. IP Precedence i.e. Priority based on TOS field of IP V 4.
- vi. Multicast Routing supports through PIM Sparse / Dense mode.
- vii. Compression of RTP header as per RFC 2508 for real time traffic like voice and video.
- viii. Should support standard based compression.
- ix. Should support ISP link load balancing irrespective of the link availability from one or more ISPs

5) The Router shall be able support following security features:

- i. Access list based on Network Address
- ii. Access lists based on Network Address, Mask, Protocol Type & Socket Type.
- iii. Access List Violation logging And Accounting
- iv. MD 5 Route Authentication as RFC 1321 for RIP & OSPF.
- v. Controlled SNMP Access through the use of SNMP with MD5 Authentication
- vi. Multiple Privilege levels to provide different level of access.
- vii. Remote Authentication Dial in user service (RADIUS) as per RFC 2138
- viii. IPsec 3DES & AES encryption features
- ix. Firewall & IPS (Internal / External)
- x. Support for SSL VPN and Anti Virus Integration for patch updation and secure access.

6) Router shall support Network Management through:

- i. SNMP, RMON support, MIB II and I.
- ii. Software Upgrade through FTP or TFTP.
- iii. TELNET Client and Server.
- iv. NTP as per RFC 1305, integrated DHCP Server

7) Router shall have debugging features to display and analyze various types of packets.

Serial 3 (DC n/w), 1 & 4 (SSC n/w), 6 (CO) & 1 (Remote) : Specifications for Remote router

A. Router Architecture requirements

- i. The architecture should be based on high speed CPU.
- ii. Integrated Hardware based encryption.
- iii. Should be a multi-service capable router
- iv. The router should have provision for hardware based compression engine by providing an internal slot on the mother-board.
- v. The Router should be a Single Box configuration and modular, so that the purchaser has the flexibility to use the appropriate choice of interfaces as and when required.
- vi. Routers should be capable of supporting VPN with standard user identification and authentication mechanisms (by adding appropriate hardware/software)

B. High Availability Requirements

- i. Support for Hot Standby Router Redundancy Protocol. / VRRP
- ii. The software on the router must have online software reconfiguration to ensure that changes made to a router configuration take place with immediate effect.
- iii. It must be possible to fast boot the router to ensure that for software upgrades can be done with minimum network downtime.
- iv. High Mean Time Between Failure values should be available to ensure long life of router hardware.

C. Miscellaneous Hardware Requirements

- i. Should have modular slots for data interface cards.
- ii. The router should have adequate flash memory to ensure storage of multiple router software images. The router software must support the flash file system to easily store and load multiple images. Also the support to save configuration File to the Flash Memory.
- iii. Minimum of 128 MB Flash and 256MB DRAM.
- iv. Extensive debugging capabilities to assist in hardware problem resolution.

D. Interface Modules support

The Network interface modules should have a complete range of LAN & WAN interfaces as indicated below:

- i. LAN Interface 2 x 10/100BaseTX interfaces as per IEEE 802.3u.
All Fast Ethernet interfaces should support full duplex capabilities.
- ii. VPN Encryption The Router should support the Hardware VPN encryption Module.
- iii. Flex- Ports All the Serial Ports should be Flex-Configured for RS-232/V.35 interface
- iv. ISDN interfaces The Router should have 1 ISDN BRI interface.
- v. WAN interfaces The Router should have 2 x E1 interfaces

E. Performance Requirements

- i. The router should have a minimum of 75 kbps throughput.
- ii. A fully loaded chassis must have less than 80% CPU utilization with the above expanded configuration.

F. Router Software Features.

- i. Should support the standard routing protocols with QOS for Voice & Video Applications.
- ii. To support (when required by a software upgrade) IPSec 3DES Encryption; the IPSec implementation should be IETF compliant

G. Router Functional Requirements:

- i. To support Virtual Private Network Capability
- ii. To support Quality of Service Policy Management Capability
- iii. Should support Class of Service, Prioritization, and Low Latency Queuing
- iv. Should currently support Network address translation
- v. Should support Voice over IP,
- vi. Should support cRTP to compress voice (RTP) streams

Other General Specifications:

A. Software Specifications:

1. *IP Routing Protocols:*
 - i. RIP
 - ii. OSPF
 - iii. OSPF Over Demand Circuits
 - iv. Support for BGP4.
 - v. Support for IPv6 routing.
2. Network Address Translation (NAT) should be available in the delivered configuration.
3. *WAN Protocols:*
 - i. PPP
 - ii. Multilink PPP
 - iii. Frame Relay
 - iv. Compression- TCP/IP Header
 - v. Standard based compression
4. Proper Congestion Management should be taken care by eliminating Network congestion and attempting to toss non-routing packets instead of routing packets when the link is overloaded.
5. *Multicasting and QoS:*
 - i. Support for WFQ, CAR and IP Precedence
 - ii. Internet Group Management Protocol (IGMPv2)
 - iii. Multicast Routing support such as DVMRP or Protocol Independent Multicast (PIM) or MOSPF.

6. *Bandwidth Optimization:*
 - i. Dial-Backup
 - ii. Dial-on-Demand
 - iii. Bandwidth on Demand
 - iv. Data/Header Compression
 - v. Inactivity timeouts.

7. *Accounting:*
 - i. Network Time Protocol.
 - ii. Packet & Byte Counts.
 - iii. Start Time Stamp & End Time Stamps.
 - iv. Input & Output interface ports.
 - v. Type of service, TCP Flags & Protocol.
 - vi. Source & Destination IP addresses.
 - vii. Source & Destination TCP/UDP Addresses.

8. Security
 - i. Support for Standard Access Lists and Extended Access Lists to provide supervision and control.
 - ii. Support for Firewalling
 - iii. Controlled SNMP Access.
 - iv. Control SNMP access through the use of SNMP with MD5 authentication.
 - v. Implement Access Lists on the router to ensure SNMP access only to the SNMP manager or the NMS workstation.
 - vi. Optional VPN Acceleration Module.
 - vii. IPSec,DES, 3DES and AES Support.
 - viii.It should be possible to integrate with Anti-Virus software for antivirus defense.
 - ix. Multiple Privilege Levels.
 - x. Support for Remote Authentication Dial-In User Service (RADIUS) and AAA.
 - xi. MD5 Route Authentication.
 - xii. PPP PAP & CHAP support.

9. Other required features
 - i. Ethernet Interface of the Router should support 802.1Q
 - ii. To support IPSec, GRE and L2TP or L2F
 - iii. To support DHCP Client / Server functionality

Serial 4 (DC n/w) : Specification for Central Switch

Architecture:

The switch architecture should meet following specifications:-

- 1) The switch should be chassis based wherever number of slots is more than one. The chassis based switch must have at least nine slots. Out of nine slots at least seven slots should be available for line cards.
- 2) The switch must have 1+1 power supply redundancy. The switch should support both AC and DC supply.
- 3) Switch should have 48 port 10/100/1000 Base T modules and should have non blocking performance.
- 4) Switch should have 24 port based SFP with SX interface and performance of line card should be non blocking.
- 5) All the line cards must be hot swappable. The hot insertion and removal of one line card should not impact traffic flow on the other cards.

Processor:

The switch central processor must support following features:-

- 1) The switch backplane bandwidth at minimum should be 600 Gbps
- 2) The switch must support hardware based layer 2- 4 forwarding and rate should be upto 375 Million Packets Per Second with 64 byte packet size.
- 3) There should be no performance degradation for advanced layer 3 and 4 services such as QoS and security implementation.
- 4) The switch must support hardware based Access Control Lists (ACLs).
- 5) The switch must support hardware based multicast management.
- 6) The switch must support 50,000 unicast / multicast entries.
- 7) The switch must support at least 4096 VLANs.
- 8) Should have support for at least 30,000 MAC entries.

Layer 2 Protocol Features:

The switch must support following Layer 2 related features:-

- 1) Hardware assisted Layer 2 forwarding.
- 2) Layer 2 switch ports and VLAN Trunks.
- 3) IEEE 802.1Q based Layer 2 VLAN encapsulation.
- 4) The switch should support IEEE 802.1d spanning tree and spanning tree enhancement standards 802.1s and 802.1w
- 5) Centralized VLAN management through NMS.
- 6) Should support at least 4096 active VLANs.

- 7) The switch should support link aggregation as per IEEE 802.3ad.
- 8) Internet Group Management Protocol (IGMP) snooping version 1, 2, and 3.
- 9) The switch should support link aggregation and port Trunking across line cards of upto 16Gbps within and across the chassis for higher performance for investment protection.
- 10) The switch should support Jumbo Frames (up to 9216 bytes) on all ports.
- 11) The switch should support Unidirectional Ethernet
- 12) Unidirectional Link Detection or equivalent to detect uni-directional fiber links to avoid network performance disruption.

Layer 3 Protocol Features:

The switch must support following Layer 3 related features:-

- 1) Should support for both IPv4 and IPv6 stack.
- 2) Static IP routing.
- 3) Routing Information Protocol (RIP) ver 2.
- 4) Should support Open Shortest Path First (OSPF) ver 2 routing protocol.
- 5) Should perform IPv6 routing
- 6) Should perform policy based routing – routing based on source and destination IP Address and Port address.
- 7) IGMP versions 1, 2 and 3.
- 8) IGMP Filtering on access and trunk ports.
- 9) IP Multicast Routing Protocols
- 10) Source Specific Multicast (SSM),
- 11) Should support Internet Control Message Protocol (ICMP) version 4 and ICMPv6 support.
- 12) Should support IP version 6 in hardware.
- 13) Should support IPv6 static route, IPv6 route redistribution
- 14) Support for IPv6 security – Access Control lists (standard & extended), SSH over IPv6
- 15) The switch should support for IPv6 Multicast.
- 16) Should support IPv6 stateless auto-configuration, IPv6 neighbor discovery and, Neighbor Discovery Duplicate Address Detection
- 17) Should support IPv6 Quality of Service
- 18) Should support IPv6 dual stack
- 19) Should perform IPv6 transport over IPv4 network (6to4 tunneling).

Quality of Service:

The switch must support following QoS related features: -

- 1) The core switch should support per-port and per-VLAN QoS configuration.
- 2) Should support for four queues per port in hardware.
- 3) The core switch should have the Strict priority queuing feature.
- 4) Should support QoS policies based on DSCP and IP Precedence. The switch should support the following DiffServe standards –
 - RFC 3260 - New Terminology and Classifications for DiffServ
 - RFC 2475 - An Architecture for Differentiated Services
 - RFC 2474 - Definition of the DiffServ Field in the IPv4 & IPv6 headers
- 5) Should support traffic classification and marking based on IP Precedence or DSCP.
- 6) Should support Classification and marking based on full Layer -4 information.
- 7) Should support ingress and egress policing based on Layer 3-4 information.
- 8) Support for traffic shaping and egress policing including the support for burst traffic.
- 9) The core switch should support for congestion avoidance features.

Standards Compliance:

- (a) IEEE 802.3 : 10 Base T
- (b) IEEE 802.3u : 100 Base -TX
- (c) IEEE 802.3 : 100 Base-FX
- (d) IEEE 802.1s
- (e) IEEE 802.1w
- (f) IEEE 802.3ad
- (d) IEEE 802.3x, 802.3x, 802.3ab : Gigabit Ethernet
- (e) IEEE 802.1Q, 802.3 : VLAN Trunking and Tagging
- (f) IEEE 802.1D, 802.1w, 802.1s : Spanning Tree Protocol
- (g) IEEE 802.1x : Security.

Security Features:

The switch must support following security features:-

- 1) Support for RADIUS/ TACACS as per RFC 1492 based authentication to restrict unauthorized users from altering the configuration.
- 2) Should support IEEE 802.1x user authentication with VLAN assignment and Guest VLAN extension.
- 3) Should support hardware based Layer 2-4 access control list (ACL) on all ports. The access list parameters may be any combination of source and destination IP or subnet, protocol type (TCP/UDP/IP etc), source and destination port. The access list should not

degrade the performance of the switch. The access list should be able to generate log on both success and failure for security reasons.

- 4) Should support VLAN ACLs at Layer 2.
- 5) Should support Port ACLs.
- 6) Should support private VLANs on both access and trunk ports.
- 7) Should support port security.
- 8) Should support IP source guard or equivalent.
- 9) Should support Unicast port flooding blocking and Unicast MAC filtering.
- 10) Should support Dynamic Address Resolution Protocol (ARP) inspection.
- 11) Should support community private VLAN.
- 12) Should support Secure Socket Lauer (SSH) based access to the switch. Should support configuration access lists to restrict telnet or SSH access only from selected NOC workstations.
- 13) Should have the capability to validate ARP packets in the Ethernet network to enable the network administrator to intercept, log & discard ARP packets with invalid MAC address to IP address bindings and to stop "man-in-the-middle" attacks.
- 14) Should support DHCP snooping to provide security by filtering untrusted DHCP messages and by building and maintaining a DHCP snooping binding table.
- 15) Should support MAC address based port security feature to statically assign a particular MAC for a port or to limit the maximum allowed MAC address on a switch port for which the switch should forward traffic.
- 16) The switch should support control of SNMP traffic through access list.
- 17) The switch should support MD5 authentication for RIP, OSPF protocols.
- 18) Must support hardware based Denial of Service (DoS) attack prevention through TCP intercept.
- 19) Should support CPU Rate limiting and control plane policing feature to make sure the switch is always available for management.
- 20) Should support hardware assisted NAT as per RFC 1631
- 21) The switch should have provision for integrated hardware based firewalling through hardware upgrade.
- 22) The switch should have provision for integrated intrusion detection and intrusion prevention system through hardware upgrade. The IDS should support both inline and stealth mode and should support at least 1500 signatures.

Serial No. 5 (DC n/w), 2 (CO): Specification for Distribution Switch

Architecture:

The switch must support following architectural features:-

- 1) 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.
- 2) The switch should have hot pluggable GBIC or SFP port with support for 1000BaseSx, LX and ZX interfaces.
- 3) The switch backplane bandwidth at minimum should be 32 Gbps switch fabric.
- 4) The switch must support 38 Mpps forwarding rate.
- 5) There should be no performance degradation for advanced layer 2 to Layer 4 services such as QoS and security implementation.
- 6) The switch must support hardware based Access Control Lists (ACLs).
- 7) The switch must support at least 8000 MAC addresses.
- 8) The switch must have at least 32 MB maximum packet buffer shared by all ports.
- 9) The switch must have at least 16 MB DRAM for switch operating system.
- 10) The switch should support of IPv6 in hardware and software.
- 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.
- 12) The switches should be software upgradeable to support IPv6 unicast routing protocols like OSPFv3.
- 13) The switch should have a dedicated stacking port of at least 30Gbps bandwidth for scalability of the solution.

Layer 2 Protocol Features:

The switch must support following Layer 2 related features:-

- 1) Hardware assisted Layer 2 forwarding.
- 2) Layer 2 switch ports and VLAN Trunks.
- 3) IEEE 802.1Q based Layer 2 VLAN encapsulation.
- 4) It should be possible to have the VLAN configuration done centrally. To achieve it, the switch should have the feature that enables addition, deletion, and modification of VLANs for all switches in the LAN by just configuring this switch only from both CLI and NMS.
- 5) Should support at least 128 active VLANs and 256 VLAN IDs per switch.
- 6) IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for rapid convergence.

- 7) IEEE 802.1s Multiple Spanning Tree (MSTP) to group VLANS into a spanning tree instance with each instance having a spanning tree topology independent of other spanning tree instances.
- 8) Internet Group Management Protocol (IGMP) snooping version 1, 2, and 3.
- 9) Should support Link Aggregation Protocol as per IEEE 802.3ad
- 10) The core switch should Uni-directional link detection (UDLD) feature to detect uni-directional fiber links to avoid network performance disruption.
- 11) IEEE 802.1D STP support for redundant backbone connections and loop free networks.
- 12) The switch should support frame size of 9000 bytes on Gigabit Ethernet interfaces.

Quality of Service:

The switch must support following QoS related features: -

- 1) The access switch must support end-to-end QoS in the network.
- 2) The switch must support QoS access control lists (ACL) on all ports to ensure proper policing and marking on per packet basis using ACLs. Upto four queues per port must be supported for QoS implementation.
- 3) The switch must support QoS classification of incoming packets for QoS flows based on Layer 2, Layer 3 and Layer 4 fields such as MAC address, destination MAC address, 16 bit Ethertype, source and destination IP address and TCP source and destination port number.
- 4) Queuing and Scheduling must be able to be configured on a per physical port.
- 5) The switch must support metering/policing of incoming packets to control the flow of incoming packets. The switch must support 6 policier per Ethernet and 60 per Gigabit Ethernet port.
- 6) The switches support marking/remarking based on the following mappings from DSCP to 802.1p and 802.1p to SCP.
- 7) The switch must support 14 well known and widely used DSCP values and must also support classifying and reclassifying packets based on these values.
- 8) The switch must support 802.1p overrides at ingress ports.
- 9) The switch must support four queues per egress port.
- 10) Queuing must allow for Weighted Round Robin (WRR) or Shaped Round Robin as the method for providing switching resource for low priority queues.
- 11) The scheduling mechanism must allow for expedited or strict priority routing for all high priority traffic.
- 12) The switch must support dynamic buffering limiting congestion avoidance mechanism.
- 13) There should be no performance penalty for QoS functions.
- 14) The switch must support QoS requirement for VoIP deployment.

Standards Compliance:

- (a) IEEE 802.3 : 10 Base T
- (b) IEEE 802.3u : 100 Base -TX
- (c) IEEE 802.3 : 100 Base-FX
- (d) IEEE 802.1s : Multiple Spanning Tree
- (e) IEEE 802.1w: Rapid Spanning Tree
- (f) IEEE 802.3ad : Spanning Tree Protocol
- (d) IEEE 802.3x, 802.3x, 802.3ab : Gigabit Ethernet
- (e) IEEE 802.1Q, 802.3 : VLAN Trunking and Tagging
- (f) IEEE 802.1D, 802.1w, 802.1s : Spanning Tree Protocol
- (g) IEEE 802.1x : port based Security
- (h) IEEE 802.3af : Power Over Ethernet (Wherever PoE enabled switches has been asked)
- (j) IEEE 802.p class of service (CoS) prioritization.
- (k) IEEE 802.3ah: Full duplex Ethernet over a single strand of fiber

Security Features:

The switch must support following security features:-

- 1) Support for RADIUS based authentication to restrict unauthorized users from altering the configuration. Support of TACACS as per RFC 1492.
- 2) Should support IEEE 802.1x user authentication with VLAN assignment and Guest VLAN extension.
- 3) Filtering of incoming traffic flows based on Layer 2, Layer 3 and Layer 4 ACPs prevents unauthorized data flows. Should support time based access list.
- 4) Should support VLAN ACLs.
- 5) Should support configuring access lists to restrict telnet or SSH access only from selected NOC workstations.
- 6) Should support private VLANs.
- 7) Should support port security. Switch must prevent unauthorized stations from accessing the switch by restricting the number of concurrent MAC addresses allowed to access the port.
- 8) Should support Unicast port flooding blocking and Unicast MAC filtering.
- 9) Should support Dynamic Address Resolution Protocol (ARP) inspection.
- 10) Should support community private VLAN.

- 11) Should have capability to validate ARP packets in the Ethernet network to enable the network administrators to intercept, log and discard ARP packets with invalid MAC address to IP address bindings and to stop “man-in-the-middle” attacks.
- 12) Should support DHCP snooping to provide security by filtering untrusted DHCP messages and by building and maintaining a DHCP snooping binding table.
- 13) The router should have capability of blocking all IP traffic on layer 2 access or trunk Ethernet ports except for DHCP packets that are captured by the DHCP snooping process.
- 14) Should support rate limiting and Committed Information Rate (CIR) which guarantees bandwidth in increments as low as 1 Mbps.

Serial No. 8 (DC n/w), 2 (SSC n/w), 3, 4 & 7 (CO), 2 (Remote): Specification for LAN Access Switch

Specifications for Switch

Architectural Features

The offered switch should have the following architectural features:

- 1) Should have a minimum of 24/ 48 10 /100 Mbps Fast Ethernet auto and provision for 2 10/100/1000 /SFP/GBIC Base T Gigabit / Ethernet uplink ports
- 2) Should have adequate on board memory to meet all the features and requirements as mentioned in the tender.
- 3) Support for a minimum of 8000 MAC addresses
- 4) IEEE 802.1Q VLAN Support – Port based VLANs
- 5) IEEE 802.1x
- 6) RADIUS / AAA Support
- 7) All ports can auto-negotiate between 10Mbps/100 Mbps, half-duplex or full duplex and flow control for half-duplex ports.
- 8) A minimum of 16 Gbps switching fabric capacity for 24-port switch and a minimum of 32 Gbps for 48 port switch.
- 9) Should have throughput at least 6 Mpps for 24 port and 12 Mpps for 48 port.
- 10) Support IGMP Snooping with Broadcast Control.
- 11) Support for IPv6

Performance

- 1) Multi-layer ACL and QoS control
- 2) Should support Per-port bandwidth control
- 3) 802.1p Priority Queues, port mirroring
- 4) The switch must support Port Mirroring, Port Trunking and 802.3ad LACP Link Aggregation port trunks
- 5) Support IEEE 802.3x flow control for full-duplex mode ports.

- 6) Support 802.1D Spanning Tree and IEEE802.1W RSTP, multiple Spanning Tree (V2)
- 7) Support based on 802.1p priority bits with at least 4 priority queues.
- 8) Support for flow control.
- 9) Support for PVST/ PVST+ or multiple STP groups.
- 10) Support 802.1Q VLAN, IGMP snooping.

Protocol and Traffic

- 1) Simple Network Time Protocol support
- 2) Multicast filtering per port should be supported
- 3) Switch should support traffic segmentation
- 4) Traffic classification should be based on user-definable application types: TOS, DSCP, Port based, Mac address, IP address, TCP/UDP port number

Management

- 1) Switch needs to have a serial console port for management via a console terminal or PC
- 2) Must have support SNMP upto ver.3
- 3) Support Web-based management, Web GUI traffic monitoring
- 4) Web management should enable management for a minimum of 15 geographically distributed switches through a common browser window or through common NMS.
- 5) CLI management and out of band management support. and IP filtering on the management interface
- 6) Must have have TFTP support

Layer 2 Features

The offered switch should have the following Layer-2 features:

- 1) L2 Switching Support
- 2) Spanning-Tree Protocol (IEEE 802.1D)
- 3) Per port broadcast, unicast and multicast storm control

Security Features

The offered switch should have the following security features:

- 1) Multi-Level access security on switch console to prevent unauthorized users
- 2) Support for 802.1x port based authentication
- 3) 802.1x with Port Security
- 4) Port Security based on the MAC address of a user's device
- 5) System Event Logging
- 6) Syslog
- 7) Support RADIUS/ TACACS+.
- 8) SSHv2 and SNMPv3 support
- 9) DHCP snooping
- 10) Support for at least 250 Access Control entries.
- 11) IGMP snooping

Network Management

The offered switch should have the following Network Management Features:

- 1) Embedded support for Web based management using standard web browser.
- 2) Support for SNMP v1/v2/v3
- 3) Switch must be remotely managed via one telnet session for all module configuration
- 4) The switch should have a provision of alarm notification for providing automated e-mail notification of network errors and alarm thresholds.
- 5) Support for SPAN port functionality for measurement using a network analyzer or RMON probe or Port Mirroring.
- 6) Real Time Multi-Port Statistics
- 7) Device and Port Groupings for Navigation and Policy Management
- 8) Multi Vendor Support
- 9) Private and Enterprise MIB
- 10) Access Rights
- 11) Traffic Volume/Error/Congestion Monitoring
- 12) TFTP Download/Upload Software

13) Physical dimensions should comply with 19" wide industry rack and 1RU height

Serial 6 & 7 (DC) : Specifications for the Firewall and IPS

Note: The design and specification for firewall is tentative. Vendor should submit technical solution which should meet all the requirement. However separate appliance must be proposed for any feature whenever there is a possibility of performance degradation beyond 10% for inclusion of that feature.

The firewall and IPS for DC should be offered such that these can be configured into Active-Active firewall / IPS pair, in case of necessity, in future.

Appliance Specifications:

BOQ = 1 pair to be provided with IPS functionality & one with Firewall functionality only.

Hardware Architecture -:

1. The appliance should have multi-bus system Architecture
2. The appliance should have Firewall, VPN, Full IPS functionality.
3. Should support unlimited Users/Nodes

PERFORMANCE SPECIFICATIONS -:

1. The Firewall Throughput should be at least 450 Mbps
2. Should support concurrent threat mitigation throughput (Firewall + Intrusion prevention) of at least 200 Mbps
3. Should support VPN Throughput of at least 400 Mbps
4. Should support IPSec VPN Peers of at least 400
5. Should support at least 200,000 Concurrent Sessions
6. Should have at least 4 Integrated Gigabit Ethernet port
7. Should support inbuilt support for IPSEC VPNs with DES/ 3DES and AES support
8. Should have integrated VPN accelerator
9. Should support upto 150 VLANs
10. Network Time Protocol (NTPv2 or better) Client
11. Should have high availability Active/Active and Active/Standby
12. Should support ports for Console and Auxiliary connectivity
13. Should support high availability features like Active/Active & Active/Passive

High Availability Requirements

1. On power up the appliance should use built-in system monitoring & diagnostics before going online to detect failure of hardware.
2. The appliance should support Stateful failover to prevent session losses to be minimal.
3. The appliance should support an integrated hardware based VPN accelerator.
4. The appliance should support in rack serviceability with easy access to the main board.
5. IKE keepalive should be supported that allows the devices to detect a dead remote peer for IPSEC redundancy.
6. The software on the firewall should support online software reconfiguration to ensure that changes made to a firewall configuration take place with immediate effect.
7. Intelligent environmental design to ensure low failure rates due to environmental conditions.
8. High mean time between failure values should be supported to ensure long life of firewall hardware.
9. Active/Standby failover services as a cost-effective high availability solution,
10. Deliver advanced Active/Active failover services where both Firewall Security Appliances in a failover pair actively pass network traffic simultaneously and share state information bi-directionally.
11. Redundant power supply (RPS)

Miscellaneous Hardware Requirements

1. The firewall should support a minimum DRAM of at least 512MB and should be upgradeable to higher memory as needed.
2. A minimum of 128 MB flash memory is required for storing the operating system and the configuration file.
3. Flexible Rack Mounting Configurations
4. Support for Health LEDs, LCD etc for all modules to indicate operational status of the module.
5. Extensive debugging capabilities to assist in hardware problem resolution.

Software Requirements

The firewall should support the following software features.

- Support for OSPF
- Support for LAN Based Failover
- Support for VLAN (802.1Q trunking)

- The firewall should be RFC 1918 compatible with support for Static & Dynamic Network Address Translation and also Port Address Translation
- Support for bi-directional NAT
- VPN tunneling support
- The firewall should support configurations through a command Line interface as well as a GUI based
- Support for cut-through proxy/web-auth
- Support for NAT-T (NAT Transparency)
- Support for fix-up (to support fix-up protocols like H.323, SIP, FTP etc)

Network Management

1. Telnet client and server functionality support is must.
2. The firewall must support FTP or TFTP for easy software upgrades over the network.
3. Dedicated Out-of-Band Management Interface
4. Network management services should be provided using standards based protocols like SNMP & SNMP V2 . The following MIBs should be supported :
SNMP get, SNMP trap, MIB II, Firewall MIB, Syslog MIB
5. Real time alerting & notification features and Syslog support.

Fire walling features support include :

- **Application/Protocol Inspection Engines:**
 - L2 transparent firewalling
 - Advanced HTTP Inspection Engine
 - Method Policing for HTTP methods defined in the RFC as well as extension methods.
 - Port 80 Misuse detection
 - NAT support for RTSP Inspection Engine
 - H.323 Inspection Engine enhancements (T.38 and GKRCs)
 - FTP Inspection Engine with command filtering support (GET, PUT etc.)
 - Stateful ICMP Inspection Engine
 - Sun RPC TCP Inspection Engine
 - NIS+ Inspection Engine
 - All inspection engines have the ability to be enabled or disabled via configuration
 - Ability to configure inspection engines on an interface, network, or host basis
- Outbound ACLs
- Configuring NAT policy will not be required to pass traffic through the device. NAT no longer a prerequisite for firewalling
- Option to pass traffic between interfaces with the same security level
- URL filtering performance enhancements

VPN Features support include -:

- TCP based NAT transparency
- VPN Hub, client-to-client routing; traffic u-turn on interface
- Block VPN clients by OS and type
- Support for Diffie Hellman Group 7 (ECC) and VPN Client
- OSPF routing
- IKE DoS safeguards (Aggressive Mode knob)
- Support for n-tiered X.509 certificate chaining
- Manual X.509 certificate enrollment (PKCS 10/7 support)
- 4096-bit RSA support
- Support for SSL VPN

Authentication, Authorization and Accounting (AAA) Features:

- Support multiple RADIUS accounting servers
- Accounting for management traffic - generates AAA accounting records for management connections to the device.
- Native Window NT/Active Directory user authentication support (VPN only)
- Native SDI/RSA SecurID user authentication support (VPN only)

IPS features support should include -:

1. Support for hybrid IDS/IPS services that allow a single sensor to operate simultaneously both as an IDS sensor and an IPS sensor.
2. Should support deep inspection services for Web traffic, which provide granular control over HTTP sessions for improved protection from a wide range of Web-based attacks
3. Support HTTP security services, including RFC compliance enforcement, protocol anomaly detection, protocol state tracking, response validation, Multipurpose Internet Mail Extensions (MIME) type validation and content control, Uniform Resource Identifier (URI) length enforcement.
4. Support advanced FTP inspection services, including protocol anomaly detection, protocol state tracking, Network Address Translation (NAT) and Port Address Translation (PAT) support, and dynamic port opening and closing
5. Delivering a wide array of inline packet drop actions, including the ability to drop single malicious packets, all packets within a flow that contains multiple malicious packets, and all packets from the attacker's IP address.
6. IPv6 environment attacks identification through the inspection of IPv4 traffic being tunneled into IPv6
7. Should support policy-based QoS services, with support for LLQ and Traffic Policing for prioritizing latency-sensitive network traffic and limiting bandwidth usage of administrator-specified applications
8. Support advanced protection from known and unknown network and application layer attacks, DoS attacks, and malware, including worms, network viruses, Trojan horses, spyware, and adware

9. Should Provides specialized safeguards to "scrub" network traffic to prevent "detection evasion" attempts, including IP fragmentation reassembly and normalization, TCP stream reassembly and normalization, TCP evasion control, as well as IP antispoofing and deobfuscation services
10. Provides on-device event correlation capabilities to quickly identify and stop new threats and optionally reduce the number of events sent to centralized monitoring systems for analysis
11. Should have variety of technologies to defend businesses from many popular forms of attacks, including DoS attacks, fragmented attacks, replay attacks, and malformed packet attacks
12. Should support Zero-Downtime Software Upgrades
13. Should be able to support the following generic features
 - a. Attack detection mechanisms, Stateful Signatures
 - b. Traffic Anamoly detection
 - c. Protocol Anamoly detection (Zero day coverage)
 - d. Backdoor detection
 - e. Attack Response mechanisms
 - f. Drop connection, Close connection, Session packet log
 - g. Session summary, E-mail, Custom Log
 - h. Attack notification mechanisms
 - i. Session packet log, Session summary, SNMP, Syslog, Webtrans
 - j. Worm Protection / Trojan Protection, Spyware/Adware/Keylogger protection
 - k. Other malware protection
 - l. Protection against attack proliferation from infected system
 - m. Reconnaissance protection, Request & response side protection
 - n. Compound attacks (combined stateful signatures & protocol anomalies)
 - o. Create Custom Attack signatures
 - p. Application Layer Gateways, H323, SIP, MGCP, HCCP
 - q. Attack Editing (port range etc), Stream Signatures, Protocol thresholds
 - r. At least 3600 number of attacks covered
 - s. Detailed threat descriptions and remediation / patch information
 - t. Enterprise security profiler, ASIC based firewall for steady & consistent performance
 - u. Create and enforce appropriate application usage policies
 - v. Attacker and target audit trail and reporting, Deployment modes: Inline or Inline tap
 - w. Frequency of update: Daily or emergency

Serial 6 (SSC), 8 (Palika Bhawan), 4 (Remote) : Uninterrupted Power Supply

Specification:

- 1) The bidder should size and quote for offline UPS for ZO/PO with half an hour battery backup
- 2) The bidder should size and quote for online UPS for CO with One hour battery backup
- 3) Capacity of the UPS should be calculated as per power requirements of all kinds of equipments (server, switch, SAN storage etc) at 70% load factor.
- 4) The UPS should be On-Line and Modular (n+1 failover)
- 5) The UPS should support Remote Manageability (SNMP / Web GUI for monitoring Status)
- 6) UPS should have power factor 0.75
- 7) Should have its own battery bank
- 8) The offer should be submitted with racks and inter-connectors
- 9) Electrical cabling from Input to UPS and cabling and DB from UPS to server are to be done by the bidder
- 10) The bidder has to ensure three phase power supply from UPS. All necessary power distribution (supply and installation) as per requirement of various equipment is in scope of the bidder.
- 11) Earthing, if required, to be done by the bidder.

Serial 9 (DC): LAN Network Management Software (LMS)

Suitable network management software for managing the WAN, DC & SSC LAN, Corporate & Remote LAN

General Features

- 1) The NMS should be able to manage the switches, routers and firewall and IPS.
- 2) The NMS should offer intelligent, automatic discovery of network devices to create topology views of the network.
- 3) The NMS should give topology status indications.
- 4) The NMS should be capable of configuring, managing, and monitoring VLANs.
- 5) The NMS should discover end stations and IP phones connected to switch ports and identify user locations based on user ID.
- 6) The NMS should trace Layer 2 and Layer 3 connectivity between two points (such as devices, servers, or phones) in the network.
- 7) The NMS should intelligently analyze fault conditions, detecting problems before they become network disruptions
- 8) The NMS should be capable of integrating with IP Telephony, Security and Wireless management platforms to deliver a unified management platform.
- 9) The NMS should be able to interpret fault conditions at both the device and VLAN levels.
- 10) The NMS should offer detailed software and hardware inventory reporting.
- 11) The NMS should offer automated update engines for device software and configuration changes.
- 12) The NMS should offer wide collection of switch- and router- analysis tools accessible from a single location; third-party applications should be able to link to the tool center.
- 13) The NMS should offer centralized change-audit logging.
- 14) The NMS should display a browser representation of router and switch devices, color-coded to indicate operational states, with access to configuration and monitoring tools.
- 15) The NMS should provide network response and availability information for WAN networks.
- 16) The NMS should simplify the identification of devices contributing to latency and network delays and allow WAN managers to manage the effectiveness of Internet and quality of service (QoS) features to be implemented in the network.
- 17) The NMS should control user access to applications, helping ensure that only appropriate classes of users can access tools that change network parameters versus read-only tools.

18) The NMS should be capable of management of upto 500 or more network devices.

Regulatory and Standards Compliance

Safety -:

- UL 1950
- CSA C22.2 No. 950
- EN 60950 IEC 60950
- AS/NZS3260, TS001

Serial 9 (DC): Enterprise Management Software

Enterprise Management Software	
Network Management	For LAN, WAN & Ethernet
Server Performance Management	
Desktop & Server Configuration Management (Software Patches / upgrade roll-out)	
Incidence Management & Trouble Ticketing for Facility Management	
Reporting	

All the modules given above should be comprehensive and should contain all the features of a standard module. The price for each module to be quoted separately. In addition to this, the bidder should be able to submit standard report for each of the above components from it's own managed Operation centre, if required.

Serial 11 (DC) : WAN Network Management Software (WAN NMS)

NMS Features

General Features

- 1) The NMS should be able to manage the switches, routers and firewall and IPS.
- 2) The NMS should offer intelligent, automatic discovery of network devices to create topology views of the network.
- 3) The NMS should give topology status indications.
- 4) The NMS should be capable of configuring, managing, and monitoring VLANs.
- 5) The NMS should discover end stations and IP phones connected to switch ports and identify user locations based on user ID.
- 6) The NMS should trace Layer 2 and Layer 3 connectivity between two points (such as devices, servers, or phones) in the network.
- 7) The NMS should intelligently analyze fault conditions, detecting problems before they become network disruptions
- 8) The NMS should be capable of integrating with IP Telephony, Security and Wireless management platforms to deliver a unified management platform.
- 9) The NMS should be able to interpret fault conditions at both the device and VLAN levels.
- 10) The NMS should offer detailed software and hardware inventory reporting.
- 11) The NMS should offer automated update engines for device software and configuration changes.
- 12) The NMS should offer wide collection of switch- and router- analysis tools accessible from a single location; third-party applications should be able to link to the tool center.
- 13) The NMS should offer centralized change-audit logging.
- 14) The NMS should display a browser representation of router and switch devices, color-coded to indicate operational states, with access to configuration and monitoring tools.
- 15) The NMS should provide network response and availability information for WAN networks.
- 16) The NMS should simplify the identification of devices contributing to latency and network delays and allow WAN managers to manage the effectiveness of Internet and quality of service (QoS) features to be implemented in the network.
- 17) The NMS should control user access to applications, helping ensure that only appropriate classes of users can access tools that change network parameters versus read-only tools.
- 18) The NMS should be capable of management of upto 300 network devices.

Serial 12 (DC) : ANTI-VIRUS FOR GATEWAY

- 19) Must protect against all kinds of viruses, trojan horses and worms including: boot sector, master boot sector, memory resident, file multipartite, macro, stealth and polymorphic
- 20) The proposed systems must scan Floppy disks, CD ROM and Network Drives automatically in real-time when accessed
- 21) The proposed systems must scan compressed file archives in ZIP, ARJ and Microsoft Compressed formats
- 22) The proposed systems must provide a variety of ways to handle viruses, including: cure, rename, move, report, delete or purge
- 23) The proposed systems must have the capability to automatically copy a file before curing - creating a temporary backup
- 24) The proposed systems must have heuristic scanning to allow rule-based detection of unknown viruses
- 25) The proposed systems must have network quarantine feature that isolates infected users automatically
- 26) be configurable to use either of these engines / signatures.
- 27) The proposed systems must automatically log-off client workstations which attempt to upload an infected file
- 28) The proposed systems must allow administrator to view, configure and manage other NT and NetWare anti-virus servers from a single administrative console
- 29) The proposed systems must allow centralized management through a centralized repository containing information about all agents and policies within the organization
- 30) The proposed systems must automatically discover all machines with antivirus installed. It must collect information such as the OS version, antivirus version, IP address, Mac Address etc.
- 31) The proposed systems must allow grouping of Servers and workstations running antivirus software into hierarchical domains for management and scanning
- 32) The proposed systems must provide a mechanism for developing and distributing policy to each system with respect to scheduling scan jobs, real-time scan settings, signature distribution, alerting and analysis.

- 33) The proposed systems must allow management of servers or workstations across segmented networks
- 34) The proposed systems must have support for multiple alerting mechanisms including pager, email, fax notification
- 35) The proposed systems must have client lockdown to prevent desktop users from changing real-time settings
- 36) The proposed systems must have options to customize network broadcast intervals, detection heartbeats and server time-outs
- 37) The proposed systems must have hands-free updates down to the desktop
- 38) The proposed systems must provide incremental updates rather than distribution of the whole signature each time
- 39) The proposed systems must ensure real time protection even during the signature and engine updation process.
- 40) All binaries from the vendor that are downloaded and distributed must be signed and the signature verified during runtime for enhanced security
- 41) The proposed systems must support Windows 2000, NT, NetWare and Windows desktop systems
- 42) The proposed systems must be 100% certified to protect against “in the wild viruses” by the ICSA
- 43) The proposed systems must be industry standard and certified.

ENTERPRISE ANTI-VIRUS

Protection

- 44) The proposed systems must scan Floppy disks, CD ROM and Network Drives automatically in real-time when accessed
- 45) The proposed systems must scan compressed file archives in ZIP, ARJ and Microsoft Compressed formats
- 46) The proposed systems must provide a variety of ways to handle viruses, including: cure, rename, move, report, delete or purge
- 47) The proposed systems must have the capability to automatically copy a file before curing - creating a temporary backup
- 48) The proposed systems must have heuristic scanning to allow rule-based detection of unknown viruses
- 49) The proposed systems must have network quarantine feature that isolates infected users automatically
- 50) The proposed systems must protect against all kinds of viruses, trojan horses and worms including: boot sector, master boot sector, memory resident, file multipartite, macro, stealth and polymorphic
- 51) The proposed systems must automatically log-off client workstations which attempt to upload an infected file
- 52) The proposed systems must allow administrator to view, configure and manage other Windows and NetWare anti-virus servers from a single administrative console
- 53) Management
- 54) The proposed systems must allow administrator to view, configure and manage other Windows and NetWare antivirus servers from a single administrative console
- 55) The proposed systems must allow centralized management through a centralized repository containing information about all agents and policies within the organization
- 56) The proposed systems must automatically discover all machines with antivirus installed.
- 57) The proposed system must collect information such as the OS version, antivirus version, IP address, Mac Address etc.
- 58) The proposed systems must allow grouping of Servers and workstations running antivirus software into hierarchical domains for management and scanning

- 59) The proposed systems must provide a mechanism for developing and distributing policy to each system with respect to scheduling scan jobs, real-time scan settings, signature distribution, alerting and analysis.
- 60) The proposed systems must allow management of servers or workstations across segmented networks
- 61) The proposed systems must have support for multiple alerting mechanisms including pager, email, fax notification
- 62) The proposed systems must have client lockdown to prevent desktop users from changing real-time settings
- 63) The proposed systems must have options to customize network broadcast intervals, detection heartbeats and server time-outs
- 64) Signatures
- 65) The proposed systems must have hands-free updates down to the desktop
- 66) The proposed systems must provide incremental updates rather than distribution of the whole signature each time
- 67) The proposed systems must ensure real time protection even during the signature and engine updation process
- 68) All binaries from the vendor that are downloaded and distributed must be signed and the signature verified during runtime for enhanced security
- 69) The proposed systems must support UNIX, NetWare and Windows desktop systems and servers
- 70) The proposed systems must be 100% certified to protect against “in the wild viruses” by the ICISA
- 71) The proposed systems must be industry standard and certified
- 72) The antivirus and spy ware solution should have a single web based management console.
- 73) It should integrate with security management solution by allowing logs to send to security management solution.

MISCELLANEOUS NOTE

- Monitor need not be quoted for rack mountable servers which will be managed by management console
- All the equipment should be scalable.
- All components shall be rated for continuous operation
- Availability of spares and support for the system during the warranty period as well as for a further minimum period of 3 years from completion of warranty
- The Bidder shall provide all other H/W items that are not explicitly mentioned herein but are required to full-fill the intended specifications by the Bidder in the bid. The Specifications parameters are indicative and any item of higher rating will be preferred.
- No item should be offered whose end-of-sale has been declared by the OEM or has been declared to be under phase out.
- All RISC based system shall have the same generation of processors. Similarly, all the EPIC based systems should have the same generation of processors.
- All servers should be rack maintainable and supplied with OEM rack and OEM console.
- Vendor should give processor road map for the quoted processor.
- Complete technical design of the DC, SSC, CO and individual remote locations are to be included in the technical bid. Design of DC to be made in such a way that there is no SPOF.
- The bidder should include mapping of CPU vis-a-vie the benchmark (TPCC/specJBB etc., details rating along with technical design). The bidder should offer the product as used during the benchmark to REC.
- The Oracle benchmarking parameters if available should also be provided in the technical solution.

2 Expandability / Scalability and Spare Capacity

Each server box should be capable of expanding as mentioned in the spec by adding processor and memory (By using the same type of processors and memory as offered), if required.

Each server should have at least one free PCI slot for future expandability.

DB-Application Server LAN (Dedicated LAN to Connect DB & Applications Servers)

DB servers and Application servers are to be interconnected for each ORACLE application, using either separate switches or using a central switch with Zoning/VLAN configuration. DB & CI servers and Application Servers shall be interconnected through a dedicated Gigabit Ethernet LAN. The switches should be redundant with no SPOF.

Bidder's responsibility also includes cabling, converters, patch chords, connectors etc.

3 ERP Production system copy and backup server

ERP production system will be placed in the Data Center and Backup will be taken at the DC as per backup policy. In addition to this, data will also be sent to SSC with pre-defined interval and form (log data, incremental backup etc.) as per Backup policy, using automated tools so that at the end of each day, both the data at DC & SSC are at sync. In addition, in

case of complete failure at DC, limited operational should be provided by the SSC. DC Servers & s/w tools are in place.

4 Software/OS

- Partition management software having dynamic configuration feature with GUI interface.
 - Latest version of 64-bit OEM UNIX/Linux or Microsoft Windows wherever applicable Operating System for each partition with unlimited user.
 - The OS license shall be provided to support all servers / partitions with separate independent instances of the OS in each server /partition.
 - Minimum one license for each Operating System supplied in the tender. For JAVA Dev. Kit, C and C++ Compiler & Development Package, minimum 2 Nos. of licenses to be provided. The license should be capable to work on the network.
- 5 All network and security devices should be rack mountable and provisioning of rack as defined above, to be made for these also.
- 6 Heavy duty printer: Line matrix heavy duty network (with Ethernet configurable, standard parallel, serial) printer with printing capacity with at least 1500 lpm (draft upper case mode) and OCR & barcode printing capability.
7Colour multi-function printer all in one (print/fax/copy/scan) with printing capacity of at least 30 ppm (both color & B/W) with flatbed

Schedule of Requirement – Data Centre Services

1. Introduction

The following section A & B will describe in detail the technical requirements with respect to:

- (1) Section A : Outsourcing Data Centre (DC) services and
- (2) Section B : Building up of Standby Server Centre (SSC) and infrastructure at CO

In connection with implementation of IT infrastructure for Oracle e-business suite (ERP) project undertaken by the corporation.

To mitigate any catastrophic risks to the enterprise data, it has been decided to establish the SSC at The Central Institute for Rural Electrification (CIRE) premises at CIRE Campus, NPA Post, Shivrampally, N.H.7, Hyderabad - 500052.

RECL at present is, in addition to the Corporate office at Delhi, having 5 Zonal Offices (ZO), 17 Project Offices (PO) and one Training College (CIRE). The proposed ERP system will cater the need of entire RECL and users to access the system from all it's offices and CIRE. Thus there is a requirement to built a high availability, seamless infrastructure set-up consisting of DC, SSC, network (WAN & LAN) across the organization to facility the same, which is the objective of floating the present tender.

Accordingly, RECL plans to house its DC servers and other IT equipment in 3rd Party data centers. The servers will be running many online and offline applications and will be critical for the business environment of RECL. For such kind of services RECL intends to appoint a Data Centre Service Provider (SP) who is willing to provide the services, as the discretion of RECL, on 24 x 7 x 365 basis for over at least a period of 6 years.

SECTION A

2. Overview

RECL plans to host its central servers, storage, security equipment, WAN equipment, LAN equipment etc in a Data Centre (DC) having state of the art facilities & processes meeting industry standards. It also plans to setup a Standby Server (SSC) sites at CIRE, Hyderabad.

The generic requirements which the DC should comply to include the following: -

- Rack space / space for housing the servers, other equipment.
- Space arrangement for seating system administrators & Facility Management personnel.
- All the sites should have adequate IT infrastructure.
- Provisioning for adequate and back up power.

Annexure K – Part II : Data Centre Services Requirements

- Precision AC environment and appropriate protection against unauthorized physical access (caging, electronic & biometric access lock, CCTV surveillance camera etc), Fire hazard etc.
- The DC should be connected with fiber links running at least from 2 different network service providers. In addition, the DC service provider should permit entry to any / all network service providers appointed by RECL.
- The DC should preferably be situated at a raised ground level/1st Floor/2nd Floor. In any case, the data center should not be located on the top floor of the building.
- Should provide sufficient & safe physical storage space.
- The DC should have adequate administrative and support staff.
- Site should be running uninterrupted on 24 x 7 x 365 basis.
- The Service Provider (SP) should have experience of running the data center for 3 yrs (this condition can be relaxed to 2 years subject to bidder providing satisfactory list of clients as mentioned in eligibility criteria) and must have plans to continue operations for at least 5-8 yrs.
- The SP should be able to adhere to the minimum SLA specified.
- For each specified criteria mentioned below, the bidder is required to indicate compliance in clear terms.

For SSC, the Prime vendor has to take responsibility to carry out the entire work of building the SSC and the infrastructure at CO as per requirement

The Prime Vendor will be responsible to supply, install, commission hardware, network, security solutions and all peripheral equipments at DC & SSC and maintain the complete infrastructure along with facility management services. The scope also includes shifting and accommodating the existing servers running for legacy system of the corporation to DC. This tender envisages the creation of entire infrastructure to establish a state of the art facility to host DC and SSC services etc at the designated site, also providing for adequate protection against threat such as fire etc. and catering to adequate physical and electronic security etc.

The bidder is to clearly mention the detail design, list of equipments along with make, model, brand, measurement, quality, quantity, colour scheme, unit price etc wherever applicable for all types of active, passive components in their respective offer.

3. DC Specification Requirement

3.1 Location & Space of the Facilities

3.1.1 Location:

The Service Provider shall provide the Data Center Services as per the following schedule:

SITE	LOCATION	Service Window	Approximate Space requirement	Ready site should be available latest by@
Data Center Site	Delhi	24x7x365	300	As per activity time list

@ Services should commence after the award of the contract and within 30 (thirty) days from the date the RECL Servers and Storage Systems are delivered at the Data Centre and the Standby Server sites. In any case clear and ready site should be available for RECL or its Vendors to place equipment at site latest by the date mentioned above. In addition to the above additional space will be required for staging area and sitting arrangement for 3 personnel. The DC space has been calculated taking into consideration single rack space requirement of around 44 sq. ft. and provision of around 10 racks.

3.1.2 The RECL may provide following inputs to the bidder for proper delivery of Data Center Services:

- 3.1.2.1 RECL would provide the bidder services of Application software support agreements.
- 3.1.2.2 RECL may provide necessary particulars relating to warranty & AMC contracts for all existing hardware with the respective vendors for maintenance/support for which the Service Providers may have to coordinate if specified by the RECL in the Contract at the respective co-location site.
- 3.1.2.3 The Service Provider and their personnel shall not alter / change / replace any hardware component under warranty or AMC of third party unless expressly instructed in writing by the Purchaser.
- 3.1.2.4 The Bidder and their personnel shall not without consent of the RECL install any hardware or software not purchased / owned by the RECL.

3.1.3 Space

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.

All equipment in the data center would be mounted on racks, specification of which has already been given in the annexure K. Based on the dimension, the bidder has to submit the estimated floor area requirement and total floor area requirement, taking into consideration all the provisions of around the rack space and future expansion. All payments would be based on the actual floor space used.

SP shall follow the guidelines provided regarding the physical site (including guidelines regarding the site design, construction, security, characteristics and physical access controls) as specified under the IT Act, 2000, The Information Technology (Certifying Authority) Rules, 2000, the guidelines issued under the said Rules as well as any other guidelines issued separately regarding the site security by the Controller of Certifying Authorities (CCA), Ministry of Communication and Information Technology Act.

The details regarding the guidelines for the Certifying Authority site is available at the web site of CCA at <http://www.cca.gov.in>. The SP is required to download and study the above mentioned documents from the above site before submitting their tender bid.

It may be noted that the equipment, personnel and processes for the cryptographic operations of the certifying authority shall not be the SP's responsibilities. However, the SP shall provide personnel for handling the physical site security on a 24X7X365 basis. "

3.2. Location of Building

Proposed building housing the Data Centre should not be located in an area known to be susceptible to natural disasters such as flood or water logging, frequent grid failure etc. The data center location should be easily accessible from Metro area and should have adequate infrastructure in terms of roads, power, telecommunication etc. It would be preferable if the data center facility is housed within an existing complex to provide an additional layer of security at the gate.

3.3. Building Infrastructure

The structure of building shall be capable of withstanding external disturbances such as earthquakes, flooding, water seepage, etc. The foundation should be slab on grade with a 5 feet riser. External walls shall be constructed of brick or reinforced concrete of sufficient thickness to resist forcible attacks. Ground level windows shall be fortified with sturdy mild steel grills or impact-resistant laminated security glass. All internal walls shall be from the floor to the ceiling and tamper-proof.

3.4. Building Strength & Standard Compliance

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.

3.5. Building Ownership

It is preferable that the ownership of the building should be with the SP. In case of leased premises, the SP shall ensure that the period of lease with the owner exceeds 8 years from the date of awarding the contract. The SP shall pay all taxes, levies & duties and comply with the rules and regulations as laid by the Government.

3.6. Building Insurance

The building/ property shall be insured on a comprehensive basis against all kinds of disasters.

3.7. Building Security & Surveillance

The building shall be guarded by Security Guards preferably armed on 24x7 basis. Apart from physical security, the data center shall have sufficient number of color video cameras, IP based CCTV /Closed Circuit Video Surveillance. SP shall have arrangement to continuously scan the images from all cameras and video recordings kept for a period of at least three months to be provided free of cost to the purchaser on demand. Some external cameras should be placed for monitoring outside environment also. The nearest police station must be contactable on a direct telephone line on 24x7 basis. RECL shall have the right to deploy its own security personnel at any time if required. Designated RECL officials shall have the right to inspect the Data Centre facility at any point of time without any prior notice or intimation.

3.8. Interference to the Building

The building shall be located away from interference generating equipment so that the Radio Frequency Interference (RFI) & Electromagnetic Interference (EMI) is avoided/ minimized. The facility shall also be adequately shielded from all sorts of RFI and EMI radiations, preferably with a Faraday's cage built around the buildings. The building shall be provided with Lightning protection as per the relevant approved code of practice.

3.9. Susceptibility of building to Hazards & Industrial Pollution

The facility shall be located away from potential sources of chemical, nuclear and industrial pollution such as factories, manufacturing facilities, sewage treatment plants, Hazardous smoke, fumes/ vapour releasing units to avoid degradation of equipment.

3.10. Protection of the building from vibrations

The building shall not be located in sites near major sources of vibration such as railway stations, airports, mines, etc. which can generate continued or intermittent vibrations.

3.11. Proximity to neighboring structure

The building shall preferably be isolated from the neighboring buildings and structures to minimize the risk of susceptibility to activities not associated with the operations of the Data Centre.

3.12. Emergency Services for the Building

The building shall need to have adequate access for entry of personnel to carry out duties towards emergency services such as Fire Brigade, etc to provide access to the building structure in event of an unforeseen eventuality. The premises shall have access for delivery trucks. Emergency Fire Exit including escape staircase shall be kept free of any obstacles all the time. The building shall have provision for parking of emergency power generation & air-conditioning vans essential during prolonged outage of such essential services.

3.13. Building Management Services (BMS)

The building shall be provided with automated Building Management Services system and integrated with services such as Fire-Fighting, Emergency Alarms, CCTV surveillance system, Public Address system etc for alerting/ evacuation of the occupants in case of an unforeseen eventuality. The lifts in the building should have sufficient space and load bearing capacity for carrying the equipments as and when desired.

3.14. Utility feeds and services

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.

3.15. Cable path and entrances

The cable paths and entrances to the building shall be fully sealed to ensure that the pests such as Rodents, Birds, etc. do not enter into the building or the Data Centre. SP should have deployed anti rodent control system, which keeps the pest out of data centre/location of the building without killing them.

3.16. Protection of building from Termites & similar insects/pest

The building shall be adequately protected from infections of Termites/ White Ants and other similar insects, which weaken the building structure. Provisioning of ultrasonic pest repellent should be made. The service provider will ensure the timely and regular pest control activities in the building.

3.17. Building evacuation procedure

Procedures for the safe evacuation of personnel in an emergency shall be visibly pasted/ displayed at prominent places in the building. Periodic training & evacuation drills shall be conducted to ensure all time readiness for all occupants including RECL personnel if deployed on regular basis.

4. Data Center Specifications

The proposed Data Centre for RECL is meant for performing "Critical Services". The SP shall therefore adequately plan for high availability for infrastructure and for the necessary operational support to maintain an uptime of 99.982% p.a. on a 24X7 basis corresponding to the Tier 3 data center requirements of the Uptime Institute (Downtime in a year shall not exceed 1.6 hours). SP shall provide details of the existing set-up including Floor diagram, LAN & WAN diagram. The Infrastructure requirement for the Data Centre is as listed below: -

4.1. Location of the Data Centre

The Data Centre shall not be located in the topmost floor of the building if same is a high-rise one. It shall also not be located in the basement or on the ground floor. The Data Centre shall need to be preferably located on the lower floors. There should not be any exterior windows in the data center allowing passers-by to see inside the center.

4.2. Floor Strength

Data Centre Floor strength area shall be designed to carry loads exceeding 600 Kg/ sq. meter. In case of any specific requirement for higher load bearing capacities, the SP shall do necessary strengthening of the floor.

4.3. Provision of Dedicated Space

Secured Data Centre space in form of Cage space shall be provided for housing the server racks and other equipments.

4.4. Data Centre Standards

SP shall follow the latest industry standards for its Data Centre such as IT Infrastructure Library (ITIL) & IT Service Management (ITSM), BS 7799 Security standard, ISO 9000 or SUNTONE. Any OEM certification related to the processes and standards of data centre can be indicated and the same shall be preferred.

4.5. Partitions

All the partitions within the Data Centre area need to be Fire retardant/resistant to safeguard against fire hazards.

4.6. Provision for expansion

Space requirements for Data Centre at respective locations have been specified. However, there should be a provision for the expansion/ scalability of the Data Centre if required in future. Considering the existing space requirements and future expansion, the allocation of space shall be done accordingly.

4.7. Floor Height

Illuminated & usable clear space of at least 8 feet to 8.5 feet shall be provided between the false floor & false ceiling for housing the Data Centre equipment. The raised floor height should be 24” and in any case should not be less than 18”.

4.8. Entry Process inside the data centre

The entry of personnel into the Data Centre shall be restricted. No person should be allowed access into the facility or building without proper clearance and required to be escorted at all time. Only pre-authorised officials shall be allowed into the Data Centre using authentication procedures. The floor space shall be divided into multiple zones for restriction of physical movement and entry into the Data Centre. The entrance to the building shall be guarded by Security Guards and each visitor shall be scrutinized and frisked before entry into the building. At the reception, the Security officials shall log details of all visitors. Scanning of all personnel before entry into data Centre is mandatory. At the second level, entry to the Data Centre main entrance shall be using a proximity card coupled with password based numeric access control. Entry into the core Data Centre shall be based on Biometric access control. Image of each entrant shall be captured on the CCTV for Security records. Security officials shall monitor all the entrances including the reception on 24x7 basis. SP shall be able to submit report of personnel visited the RECL DC for any particular period on regular basis, if so required.

4.9. Provisioning of Data Centre staging Area

It is preferable that a staging area be provided to pack, unpack, and handle the equipments and to reduce the possibility of entry of air-borne particles and contaminants in the Data Centre.

4.10. Material movement in the data centre

Adequate access shall be provided to allow entry of material from loading dock, freight elevator or appropriate entrances. The doors to the Data Centre shall be built to ensure unobstructed entry of equipment into the Data Centre. The flooring shall be smooth, free of encumbrance with required ramps to allow passage of the equipment into the Data Centre. Access to the services area such as AHU rooms, UPS Room, etc. shall preferably have separate entry & exit to avoid interference to the operations in the Data Centre. Sufficient width shall be available in the corridor, aisles and doorways for passage of equipment to the Data Centre.

4.11. Emergency exits

The Data Centre shall have Emergency exit leading out of the building for evacuation in an unforeseen eventuality. Similarly, such an emergency exit shall be available for the Administration Area. These exits shall be clearly indicated on signboard and the passage shall be illuminated. Special arrangements must be in place for evacuation for physically handicapped personnel.

4.12. Isolation from Contaminants

The Data Centre shall be isolated from contaminant producing activities or equipment such as photocopier rooms, machine shop, kitchen, loading docks, etc. The fumes released from the exhaust from the generators & similar sources shall be located away from the Air-Handler Units serving the Data Centre.

4.13. Air-conditioning and temperature controls

The Data Centre shall be provided with fully redundant microprocessor based Precision Air-conditioning system using redundant Air Handling Units (AHU) & Chillers. The cool air feed to the Data Centre shall be bottom-charged or downward flow type using the raised floor as supply plenum using perforated aluminium tiles for airflow distribution. The return airflow shall be through ducts on false ceiling to cater to the natural upwardly movement of hot air. The temperature inside the Data Centre and the racks / enclosures shall be maintained continuously at 20+/- 2 degree of Celsius. It should have automated installed system to monitor and control the temperature and humidity. Two emergency Well water supply should be available for the cooling tower if city water is cut off.

4.14. Air Quality Level

The Data Centre shall be kept at highest level of cleanliness to eliminate the impact of air quality on the Hardware and other critical devices. The Data Centre shall be deployed with efficient air filters to eliminate and arrest the possibility of airborne particulate matter which may cause air-flow clogging, gumming up of components, causing short-circuits, blocking the function of moving parts, causing components to overheat, etc. Air filters to provide upto 0.5 Micron particulate shall be deployed. Within the Data Centre, the air should not contain more than 500,000 particles per cubic foot of air of size 0.5 micron or higher.

4.15. Relative Humidity (RH) requirement

Ambient RH levels shall need to be maintained at 50% \pm 5 non-condensing. In the case of data centers located in coastal areas, RH levels should be maintained at 55% \pm 5 non-condensing.

4.16. Temperature & Relative Humidity Recorders

Records of events for the last 7 days shall be recorded and presented whenever required.

5. Fire Management Systems

5.1. Standards and practices

The Data Centre shall be fully protected from Fire using State-of-the-art Automatic Smoke/ Heat Detection/ Alarm & Fire Control mechanism using Code of Practices approved by agencies such as Bureau of Indian Standards (BIS), British Standards Institute (BSI) or National Fire Protection Association (NFPA). The alarms need to be monitored on a 24 x 7 basis & logged for providing reports.

5.2. Fire detection and suppression system specifications

The Fire system shall deploy High Sensitivity Smoke/ Heat Detectors (HSSD) and/ or Very Early Smoke Detection Appliance (VESDA) to allow swift detection of heat and/or smoke. Sufficient number of photoelectric sensors should be deployed throughout facility (over head and under floor) for detecting sparks. Fire suppression system shall deploy FM-200 (ETG-5) based gas suppression systems with cross-zoned detector systems for all locations including raised floor area. All these should be integrated to the BMS. Additionally, Portable Extinguishers (Carbon-di-oxide based extinguishers preferred) shall be placed at strategic stations throughout the Data Centre. Signs indicating the location of the extinguisher shall be placed high enough to be seen over tall cabinets & racks across the room. Tile lifters shall be located at each extinguisher station to allow access to the sub-floor for inspection & for addressing a fire. The Data Centre Fire Management System shall be tested once a month as a part of Routine Maintenance and certified to ensure functionality at all times and logs kept of all such inspection and certificates.

5.3. Water detection System

Water detection systems should be installed in all areas that may be susceptible to leakage.

6. Power supply and related cabling

6.1. Mains power feed

The clean power to the data centre should be fed from preferably two sources of power (Transformers / Substations) through two different circuits. The power feeding should be sufficient to cater the wattage requirement of all the equipment housed in the data centre. The data center should have a committed 99.6% power availability backed by SLAs. The power provisioning per sq ft should be at least 60 watts. Each rack should be provided single/ three phase power from at least forty power sockets (2*20) of 5/ 15 Amp capacity for complete redundancy. Half the sockets shall be active at any point in time and in the event of failure of any power socket or the customer's SMPS, the passive power socket shall become active automatically. Racks should be provided with a power input of 3 KVA/ 5 KVA depending on the requirement. Power supply to each rack should be provided through separate feeds from each UPS.

6.2. UPS

The Data Centre shall be provided with On-line Uninterrupted Power Supplies to provide single-phase 230V or 3 phase/ Neutral AC to the desired load. The UPS shall be fully redundant with at least n+1 configuration. The back-up time shall be at least 30 minutes for full load operation during which alternative feed shall provide the input power. The UPS shall be able to cater to 150% of the load to accommodate fault overload conditions. The UPS shall be provided with adequate surge/ spike suppression & isolation/ regulation to control the incoming power and protect the load. The UPS shall also be provided with by-pass to isolate it for carrying out repair, maintenance or modification without interruption to the load. It is preferable to have the power fed to the equipment sourced from different UPS. The Load shall be connected through a Static switch

to provide power redundancy till the respective racks. The Static switch shall be rated to switchover to the alternate source within about 5-6 ms when both input sources to static switch are in synch & within 15-20 ms if they are out of synch. The Power system shall not have any Single Point of Failure (SPOF). Internal full time battery charges with automatic charge monitoring and automatic sensing of power outage condition should be provided.

6.3. Back-up Diesel Generator (DG) set

In event of unforeseen eventuality in the Power system leading to failure of AC mains input supply, DG Set shall be required to be provided till AC mains power resumes and is stable. In such a case, the DG set shall come on-line automatically within 10 seconds of AC mains failure. The DG sets shall be rated for full load operation including the Air-conditioning load, Lighting load, etc and shall be operated once every month to ensure continuous availability. The Generator should kept in a sound proof area to allow continuous operation without disturbance to the community.

6.4. Arrangement for continuous fuel supply for Diesel Generator sets

The service provider should have adequate storage facility of fuels for running DG set in the eventuality of erratic fuel supply situation. The fuel should be stored under the appropriate licensing scheme of the Government of India. The storage capacity should be enough to keep the DG set running continuously for 3 days.

6.5. Earthing / Grounding

The Data Centre shall be provided with a continuous dedicated Earthing for the entire power system so as to avoid a ground differential. The connection to the earth or the electrode system shall have sufficient low resistance to ensure prompt operation of respective protective devices in event of a ground fault, to provide the required safety from an electric shock to personnel & protect the equipment from voltage gradients which are likely to damage the equipment. The Earth Resistance shall not exceed 5 ohm. Relevant IEEE/ BIS standards for grounding of Sensitive Electronic equipment should be adopted. There should be separate earthing for the servers and other electronic equipments.

6.6. Signal Reference Grid

The Data Centre shall be provided with a Signal Reference Grid (SRG) to provide an equal potential plane of reference over a broad range of frequencies using a network of low impedance conductors installed throughout the facility under the raised floor.

7. Local Area Network (Passive Components)

7.1. Provisioning of separate LAN for RECL

RECL shall be hosting its sensitive business applications in the equipment co-hosted in the Data Centre. The prime vendor to implement the data Centre LAN in consultation with the Server & Storage vendor. The DC LAN, in any case, shall not be interconnected to the LAN of the SP for

security reasons. The Data Centre Passive equipment (other than those relating to the storage area network) would have to be supplied, installed and maintained by the SP in its premises.

7.2. LAN Passive Components & Standards

The LAN Passive components up to the patch cord level shall be compliant to Category 6 EIA/TIA 568-B.2.1 standards. Each node shall be tested for satisfactory operation based on certification parameters valid for the entire warranty period of 20 years. All nodes in the Data Centre shall be clearly marked, labeled & documented for future reference. For security reasons in case RECL desire a separate LAN cabling consisting of around 30 nodes adhering to the Cat-6 EIA/TIA standards should be laid by SP.

7.3. Passive Components maintenance

Maintenance of the LAN Passive components shall be done by the SP. Provision of additional Passive nodes whenever required shall need to be provided based on requests.

7.4. Active Components Maintenance

Maintenance and management of active components shall be the responsibility of the Prime Vendor.

7.5. Wireless LAN

Use of Wireless LAN in the Data Centre shall be strictly prohibited.

7.6. Equipment Enclosure

Servers are expected to use its standard enclosures for which a closed cage is required. For Housing LAN, security equipment, rack mounted server, Jack / Patch panels 42 U Racks should be provided and quoted for separately. Each rack shall be securely grounded to the SRG and cables shall be neatly passed into the Rack using appropriate bushing and cable ties.

7.7. KVM Control Devices

The provisioning for Keyboard, Video Display Unit and Mouse Unit (KVM) if required shall be made available by the SP.

7.8. General

All the requirement and responsibilities mentioned above and below for SP shall also construed to be the responsibilities of Prime Vendor.

8. Wide Area Network

8.1. Termination of WAN equipment

The WAN equipment shall be placed in the Data Centre for providing connectivity from all the locations within the country to the Data Centre. Accordingly, the SP shall allow for entry of the redundant optic fiber cables into the building on a diverse path from different service providers (preferably) leading to the proposed Data Centre as specified in this Tender. The SP shall make provision for space allocation of the terminal equipment (if required) within its Optical room/ Communication room by providing the necessary infrastructure such as power, Air-conditioning, Environmental protection equipment, etc. The terminal equipment shall connect to the respective Routers, and further to the LAN, which shall extend upto the exclusive premises provisioned for RECL by the Service Provider.

8.2. Support of WAN including equipment

WAN shall be installed, maintained and managed as part of the network component of this tender.

8.3. Telecommunication facilities

Data Centre shall be provided with redundant Telecommunication facilities from at least two different Service Providers. The terminal equipment deployed shall be capable of automatically switching over to alternate path within 50 ms without any loss of connectivity. The terminal equipment should adhere to the network security specifications and standards. The terminal equipment should be under the continuous security auditing process.

9. Managed Services

9.1. Operation Support

The Primary vendor will have the responsibility to carry out the operations support for the day to day operations such as: -

- Help Desk support
- User Management
- System Administration
- Back-up Administration
- Database Administration
- Operating System installation & reinstallation
- Operating System configuration & reconfiguration
- Patch Management
- Job scheduling & scripting
- Application administration
- System performance, utilization monitoring & reporting
- Network & Security Administration using specialized monitoring tools
- On-site vaulting of Data Media
- Off-site vaulting of Data Media (Single trip per day)
- PCs and work station on LAN nodes
- Internet Connection

10. Equipment Insurance

It will be the responsibility of the service provider to have the total comprehensive insurance of the equipment housed in the DC site naming RECL as a beneficiary. The insurance amount will be 110% of the procurement value of respective equipment. The insurance may be renewed time to time as required during the currency of the agreement.

11. Data Centre Code of Conduct

RECL may sign a separate agreement with the DC service provider to define all terms and conditions and SLA parameters required for operation and maintenance of the DC. It is expected that this contract agreement shall also frame a code of conduct of the general behavior of the staff from both the sides on mutually agreeable basis and shall be adhered to during the currency of the agreement. In such case, the prime vendor has to express his commitment in writing to abide by the terms and conditions of the contract and be ultimately responsible for the same.

12. Statutory requirement/approvals

The SP shall provide copies of the following clearance/ approvals as required:

- Seismic Compliance of the building structure to Zone IV or better.
- Clearance from Fire authorities.
- Clearance from Electrical Inspector.
- Lease Agreement (in case DCSP has leased the premises housing the Data Centre from a different agency/ owner).
- Explosive License copy in case of storage of Diesel beyond prescribed Limit.
- Third party audit of Data Centre security.
- Third party audit of Data Centre infrastructure
- Insurance documentation for the equipments insured in Data Centre and the building.
- Agreement details with diesel/petrol retail outlets.

Section B

Schedule of Requirement – Corporate Office & Standby Server Center (SSC)

1. Introduction

RECL plans to have scaled down Business continuity and Disaster Recovery sites, called Standby Server Center (SSC), to protect against loss of data and disruption of operations. The data replication from the centralized servers/storage from main DC to SSC site shall be done in a predefined asynchronous manner through dedicated links having the adequate bandwidths between the main site and the SSC site. The floor area requirement at the SSC site would be that of a single rack unit. The detail specifications of the Corporate office & SSC site is given in the following paragraphs.

SCOPE OF WORK

Broadly, it is envisaged to create the following infrastructure and the Scope of the Work at the Corporate Office & at the DRC, which includes, but not limited to, the following activities:

- Building a network cum UPS room & training facility at the corporate office
- Building a SSC at CIRE, Hyderabad

To carry out the above, following detail activity is to be done:

- Interior & Civil Work
- Electrical Works
- Environment works – Air Conditioning System
- Fire Protection System
- Physical Security – Access Control System
- Communication Works – LAN cabling, Telephone wiring (for SSC only)
- Facility Management

1.0 DETAIL SCOPE

1.1 INTERIOR & CIVIL WORK

The proposed infrastructure at Corporate Office will be at 1st floor. The present site is at present partially vacant and partially occupied. The vacant site will be handed over immediately and the occupied site will be handed over in phases but not later than 15 days from starting of the work at site. The proposed area will be 450 sq ft.

The proposed SSC location is on 1st floor. The vacant site will be handed over to the successful bidder. The total floor space provided for this purpose is around 150 Sq. ft. with 100 sq. ft for server & network, the present layout & the plan drawing of the proposed premises is available at Appendix I and Appendix II.

The proposed SSC location is at The Central Institute for Rural Electrification (CIRE) premises at CIRE Campus, NPA Post, Shivrampally, N.H.7, Hyderabad - 500052
The following item of work & activities form the part of the scope of this tender

1.1.1 Preparation of Architectural & other drawings

The floor space available at CO will be approximately 450 sq ft. The space needs to be allocated for the following:

- Network room (including UPS, Printer etc) : 100 sq ft
- Training room (for 20 participants) : 300 sq ft
- Conference room (for around 6 persons) : 50 sq ft

The floor space available at SSC will be approximately 150 Sq ft. This space needs to be allocated for the following:

- Server and network room – 100 Sq. ft
- Electrical, UPS and Telecom room – 50 Sq ft.

Scope of work under this section includes preparation of layouts, detail architectural designs, plan and design related to the entire jobs being carried out in this tender. The layout and architectural design are to be based on the broad layout as provided at Appendix II. The site will be opened for inspection on as-is where-is basis till the pre-bid discussion. However, the successful bidder during implementation phase may submit alternate aesthetic scheme for approval of REC. The alternate scheme in that case should be at least the same as defined in appendix II. The actual work would be carried out as per the final approved drawing. RECL during construction stage may suggest modification in the plans / designs / drawings which shall be taken up for implementation after due discussion and deliberations.

The drawings, layout and the broad design including types of materials etc. on which the offer is based and on which the work will be carried out should be submitted along with the technical bid.

1.1.2 Demolition / Dismantling works

This would encompass removal of all existing structures, false ceiling, old fire sprinkler systems, flooring, walls etc. which are not as per the final approved drawings.

This would also include carting the debris away from the premises / campus to a pre-determined spot or their disposal off so as not to infringe upon any local bye-laws or as directed by the authorities.

However, while framing their offer for the total jobs, suitable rebates in the rates, considering sale proceeds of any of the dismantled items, are to be offered by the bidders.

1.1.3 Masonry / Brick / Construction works

This would include all masonry jobs as per prevalent standards and as per the approved architectural drawing. All brick work, re-routing of hume/drain pipes, making of walls, RCC work, plastering work etc, if any, fall under this category. The scope also include

obtaining of any permission, if any, from statutory or other authorities for construction of such work

1.1.4 Glazing works

Scope includes all glasswork to be carried out as per the approved drawing and also provision of glass walls wherever necessary. The Server room windows is to be replaced with tinted double layer of toughened glass, maintaining a space of about 3 inch approx. between the two glass walls. For the remaining operations areas also, the present windows are to be replaced with fixed glasswork.

1.1.5 Fire protection system

The proposed fire systems should be integrated with the building fire protection system, if required.

1.1.6 Creation of Rooms / partitions

This includes supply, detailed engineering design and installation of space / rooms as per the broad guidelines above.

1.1.7 False ceiling

Supply and fixing of false ceiling. This has to be aligned properly with the existing false ceiling off the rest of the floor. This would be carried out as per the approved drawing. POP works to be carried out as per the approved drawing, for applicable areas.

1.1.8 Access Flooring

Scope includes providing and fixing access floor system as per the specs. The access floor should be made of good quality anti-static floor tiles. The access floor system shall provide for adequate resistance. The Bidder will also inform RECL about the load bearing capacity of the existing floor required for this purpose.

1.1.9 Paint, Polish and Finishing work

Scope includes the paintwork, which needs to be carried out on the entire SSC area as per the approved drawings and plan and color scheme. This shall also include scarping existing paint and wall finishes with appropriate agents and providing and applying on all exposed surfaces of walls, columns, beams, ceiling, etc. as directed, plastic emulsion paint after leveling the surface to a smooth finish with the help of putties, etc. and having a base coat of approved primer before applying three coats of paint. It also includes providing & applying on all ceiling areas, hidden above the false ceiling, old bound distemper. All finishing works to be done as per the approved drawing.

1.1.10 Aesthetics improvement

The drawing should be made keeping in mind the aesthetics of the buildings. Properly and aesthetically designed tiles, wall coverings to be used to enhance the looks of the Centers. Venetian blinds are to be provided for all the exposed glass surfaces in line with room décor.

1.1.11 Furniture & upholstery

This included supply, detailed engineering, design & installation of furniture required in conference room, network room, server room etc.

All upholstery work will be first class standard workmanship with webbing, no sag springs, coiled springs, padding filling and covering fabrics will be tufted & corded as shown on drawing & as approved by the Engineer in-charge. Furnishing fabrics, color pattern, substance to be specified along with the drawing.

This also includes supply and installation of a 4-hour fireproof medium sized cabinet for storing the backup media at each of DC & DRC.

1.1.12 Wood work

Scope includes wood work as per the approved drawing & design. Plywood / medium density fireboard / blackboard / teak particleboard/ veneered board etc. as specified shall only be used.

1.1.13 Office equipment

This included supply, design & installation of office equipment such as vacuum cleaners, writing boards in conference rooms, projection system in conference room, air curtains, door mats, foot mats etc.

1.1.14 Signage and Graphics

The activities includes impressive brass signage at the entrance and graphics of the data center equipment, laminated drawings, signage of various rooms, facilities fire exits etc.

1.2 SCOPE OF WORK FOR ELECTRICAL WORKS

Design engineering, supply, installation, testing & commissioning of electrical system for the CO & DRC, vendor to give complete scheme along with the complete technical features / makes. Single line diagrams for all electrical wiring to be prepared and prior approval to be obtained from REC, before execution of the same

The electrical work includes the following major activities:

- 1.2.1 Removal of all existing fittings, fixtures, wires, lighting, if any
- 1.2.2 Detailed engineering, design, supply & installation of electrical wiring and fittings.
- 1.2.3 Laying of redundant cables from the DG Set up to the electrical panel. Scope includes connecting the main panel and any modifications required for that purpose to the electrical panel located in the UPS room.
- 1.2.4 Supply, installation, design, testing and commissioning of the electrical panel and the distribution panel to be located in the UPS Room, and distribution arrangements for utility purposes
- 1.2.5 Provision of emergency power supply to operational area. Electrical distribution should be so planned so that at least 30% of lighting load shifts to backup source in case of power failure.

- 1.2.6 The scope shall include, preparation of & submission of detailed cable schedule for distribution of power in the premise and approval by RECL before starting the work
- 1.2.7 Earthing for the LT panel location, for UPS, for Network Room and for IT equipment: Design, supply, installation, testing & commissioning of copper plate electrode earthing system as per IS 3043, for the entire SSC load including designing, supply, laying, connecting required sizes of copper earthing strips with all fixing accessories from the earth pits, providing dedicated earth link mounted on 12 mm thick bakelite sheet with tinned copper strip suitable for termination of the earth strips with Zinc Cadmium nut bolts, spring washer etc. complete
The earthing system shall be redundant. The scope shall include all civil work associated with the construction of earth pits, and laying of earthing conductors. A detailed scheme shall be prepared and submitted for approval by REC, prior to starting the work. All related permissions from the appropriate authorities have to be taken by the selected bidder.
- 1.2.8 Supply & laying of Rubber mats of appropriate measure for L.T panels
- 1.2.9 Supply and installation of shock treatment chart with laminated sheet with frame complete in Bilingual

1.3 SCOPE OF WORK FOR ENVIRONMENT WORKS – AIR CONDITIONING SYSTEMS

This includes the following two major activities:

- 1.3.1 Design, engineering, supply, installation of adequate capacity comfort air conditioning of approved makes by RECL for CO and DRC. Job includes installation of split air-conditioning unit with necessary fixtures required for complete comfort air conditioning of the area. Scope includes all electrical works associated with the supplied systems. The area of air conditioning includes all area. Necessary permission, if any, required for the same is the responsibility of the selected bidder.

1.4 SCOPE OF WORK FOR FIRE PROTECTION SYSTEM

Scope of work for Fire Protection includes the following:

1.4.1 Establishing of Fire Alarm system & Fire extinguisher system

- 1.4.1.1 Supply & installation of adequate nos of Co2 Fire Extinguishers of approved ISI make to cover the whole space of CO & DRC.
- 1.4.1.2 Supply and installation of adequate capacity and number of Fire buckets with structural stand and bucket cover complete.

1.5 SCOPE OF WORK FOR SECURITY RELATED WORKS

1.5.1 ACCESS CONTROL

The scope of work involves supply, testing & commissioning of Physical Access Control system at the Server cum Network room for DRC. The access control system shall be used to serve the objective of allowing entry and exit to and from the SSC to authorized personnel only. The system employed shall be based on Proximity technology. Proximity Card readers shall be use for entry and exit control at each door. The readers at each door shall be connected to Door Controller dedicated to that door.

Individual proximity type access cards shall be issued to the authorized employees. The system shall authorize entry only after the card read by the proximity reader is validated with respect to door, time & day of the week. For authorizing an exit, the system shall verify the validity of the card read by the proximity reader and release the door lock. Detail log reports shall also be generated periodically from the system.

1.6 COMMUNICATION & LAN WIRING

Design, detailed engineering, supply, testing & commissioning of Local Area Network solution including switches for the CO & SSC and integration of same with the local LAN switch. Telephone wiring for each of rooms from the nearest distribution panel

1.7 AMC / MAINTENANCE

After the expiry of the warranty period of three years from the date of completion of installation, testing & commissioning of the systems, comprehensive e maintenance service (AMC) for a further period of maximum three years, at the discretion of REC, at agreed upon rates are required to be provided for the following installed systems:

- 1.7.1 The entire civil construction done by the bidder
- 1.7.2 Air conditioning systems
- 1.7.3 Fire Protection Systems
- 1.7.4 Access control systems
- 1.7.5 LAN cabling
- 1.7.6 Furniture, fixture & upholstery
- 1.7.7 Electrical: UPS, LT panel & AMF panel

AMC involves comprehensive maintenance & repairs of all hardware & software for the above listed systems, including free of cost replacement of parts, consumables if any, modules, sub-modules., assemblies, sub-assemblies, spares, weekly cleaning of filters etc to make the system operational. Bidder should ensure 99% availability of the listed systems. This will include all kind of breakdown, corrective & preventive maintenance, planned outages etc.

Availability shall be calculated on quarterly basis. Availability will be based on the report generated from the system logs, equipment logs, downtime & rectification of reporting registers etc. In case the availability for each of the system under AMC is less than 99% the non-performance deduction from quarterly payments for each of the systems under AMC at 3.7.1 to 3.7.9 shall be as per the following table:

Annexure K – Part II : Data Centre Services Requirements

SL	Availability	Non-performance deduction in each case
1	99% and above	No deduction
2	Every 0.5 % of non below 99%	0.5 % of the value of the Facility management services payable quarterly

2.0 COMPLETION SCHEDULE

Turnkey execution of the project, which includes supply of all the items, installation & commissioning acceptance of the system and handing over to REC, is to be completed as per milestone mentioned in the RFP. The bidder is required to submit the plan of turnkey execution of project indicating project key dates over the entire span

3.0 SPECIAL TERMS & CONDITIONS

- 3.1 The data collection on the level & magnitude of work involved is the responsibility of the bidder & RECL shall visit the site and acquaint himself fully of the site and no claims whatsoever will be entertained on the plea of ignorance or difficulties involved in execution of work
- 3.2 Details of all the activities to be carried out under the broad heads are provided below. The bidder shall provide all necessary materials, equipment & labour etc. for the execution & maintenance of work till completion. All materials that will be used shall be approved by RECL prior to procurement and use
- 3.3 All the works shall be executed in conformity with the provisions of the contract documents and with such explanatory detailed drawings, specifications and instructions as may be approved from time to time to the contractor by the Engineer In-Charge whether mentioned in the contract or not
- 3.4 The materials, design and workmanship shall satisfy the relevant Indian standards, the job specifications contained herein and codes referred to. Where the job specifications stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied.
- 3.5 The RECL shall have power to make any alterations in omission from, additions to, or substitutions for the schedule of rates, the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of work & contractor shall be bound to carry out such altered / extra / new items of work in accordance with any instructions which may be given to him in writing signed by the engineer In-Charge and such alterations, omissions, additions or substitutions shall not invalidate contract and any altered, additional or substituted work which contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same terms & conditions in all respects on which he agreed to do the work

Annexure K – Part II : Data Centre Services Requirements

- 3.5.1 The bidder shall furnish to RECL for approval adequate samples of all materials and finishes to be used in the work. Such samples shall be submitted before the work is commenced and in ample time to permit tests and examinations thereof.
- 3.5.2 On completion of work contractor to furnish complete technical documents along with as-built drawings for all the systems as envisaged in the tender document. System-wise report shall be submitted along with the drawings including softcopy. The report should be comprehensive covering all the technical features, system information, flow chart, illustrative graphics etc.

**FUNCTIONAL AND TECHNICAL
SPECIFICATIONS**

No.	ITEM / DESCRIPTION
A	CIVIL & INTERIOR WORKS
1	SITE CLEARENCE & SITE PREPARATION WORKS: Includes all dismantling and demolition works as brought out in the scope of work including dismantling/demolition of walls, flooring, RGG works. masonry works, removal of sanitary fixtures & fittings, existing fire sprinkler system, pipes, plastering etc and carting the debris away from the premises / campus to a pre-determined spot disposed off .All dismantling/demolition in the existing floor plan/design to be done as per the approved plan/drawing. It includes re-modeling and replacement of all windows, wherever necessary. Existing windows in the server room to be replaced with tinted glass in suitable frame and in line with the overall aesthetics. Suitable vertical blinds, aluminium perforated ,of approved shade to be used for covering the glass wall and windows. The blinds should be resistant to corrosion and should have a pre-treatment, polyester based enamel finish with micro-perforations and suitable mechanism for opening and closing.
2	FALSE CEILING Providing & Fixing of good quality clip in metal ceiling System on the entire area, clip in tiles of pre coated galvanized steel with standard perforation. The back of the tile should have black acoustical fleece. The entire ceiling is to be covered with false ceiling. Providing Acoustical felt Treatment.
3	AESTHETICS & FINISHES: This includes : scraping off existing wall finishes with appropriate agents such as wire brushes, metallic scrapers, solvents, etc. as required complete with cleaning the surface of all particulate matter and scrubbed clean to receive the specified finishes. Providing and applying on all exposed surfaces of walls, columns, beams, ceiling etc plastic emulsion paint of reputed makes. Providing and applying on all ceiling areas, and for hidden above the false ceiling, oil bound distemper. Providing and applying average 12mm thick P.O.P. punning on all exposed portions of beams, columns and walls.
4	PLUMBING WORKS & SANITARY FIXTURES: This includes removal of existing plumbing and re-routing, if any, as per the approved plan/drawing.
5	DOORS: Supply, design, detailed engineering ,installation as per following specifications: Providing, making & fixing single / double leaf semi / fully glazed doors of sizes and positions as laid out in the plan. The door and frames shall include provisions for all necessary attachments and access control locking devices. The doors shall all have necessary hardware fittings, handles, floor springs, etc., cleaning, fixed in position with neoprene rubber gaskets / lining, clips and complete in all respects
6	PARTITIONS & FURNITURE:

	<p>Training room: Supply, design, detailed engineering, installation as per following specifications</p> <p>Providing 20 seater IT training room & all necessary furniture & fixture with wire managers for electrical, data & telephone cables & computer tables. The materials used shall be a combination of glass and wood.</p> <p>Conference room: Supply, design, detailed engineering, installation as per following specifications</p> <p>Providing 6 seater conference room with all necessary furniture & fixture with wire managers for electrical, data & telephone cables & glass top. The materials used shall be a combination of glass and wood.</p>
<p>7</p>	<p>ACCESS FLOORING</p> <p>The access floor system for SSC to be installed shall provide for adequate fire resistance, acoustic barrier and should have factory fitted anti static laminate covering. The system shall be able to withstand the rated distributed load of equipments quoted by the bidder with a provision for additional 30% extra load.</p> <p>For CO, good quality glazed tiles may be used for access floor of the area.</p>
<p>8</p>	<p>MISCELLANEOUS</p> <p><i>Rodent repellent: Providing, placing & commissioning Maser or equivalent brand electronic ultrasonic type Rodent repellent units to effectively cover all areas: the room void as also the enclosed space above the false ceiling. Each such unit shall comprise a console with a control panel and a set of remote satellite repellants.</i></p> <p><i>Vacuum cleaners: Providing one number for SSC of reputed international brands wet/dry vacuum cleaners for cleaning, care and maintenance. The same shall also be used by trained personnel during the currency of the construction work as often as required to keep the area free of microscopic dust particles and especially just prior to commissioning the air-conditioning system to eliminate possible chances and prevent clogging of air-conditioner air-ways and built-in filters.</i></p> <p><i>Conference room equipment: This includes one number of ceiling mounted multimedia projector and providing & placing in positions as instructed, Writing Boards having glossy surface made from steel framed with elegant natural anodized aluminium profiles and rounded plastic comers. A PA System should also be supplied.</i></p> <p><i>Water Leak proof system: Providing facility for protection of the CO & SSC from any water shippage and leaking of water from any out-side source inside the CO/DRC.</i></p> <p><i>All the open ends of any pipe/tubes/tray (PVC/GI) (power/cable/water etc) in the entire CO/DRC/Remote offices area are to be covered with Wire-Mesh grill to prevent anything go inside.</i></p>
<p>B</p>	<p>ELECTRICAL WORKS</p>

	<p><i>Design Engineering, supply, Installation, Testing & commissioning of electrical system, bidder to give complete scheme along-with the complete technical feature:</i></p>
	<p>Main L T Distribution Panel:</p> <p><i>Design, Engineering, Supply, Installation, Testing & commissioning of main L T Distribution panel of L&T / Siemens / Neptune/ Tricolite / space age switchgear make or approved equivalent comprising of following:</i></p> <ul style="list-style-type: none"> <i>i) Adequate number and size of feeders for incoming supply from Main L T Panel with individual ACB Protection, overload, short circuit, Earth fault protection, phase indication lamps, Ammeter, Voltmeter with selector switch, ON/ OFF / Healthy / Trip indication lamps. Two independent feeders shall be connected through bus coupler.</i> <i>ii) Adequate number and size of outgoing feeders for feeding all the loads in the data center with individual MCCB protection, overload I earth fault and short circuit protection for each feeder.</i> <p><i>Detailed single line diagram shall be submitted for approval from engineer in-charge, prior to commencement of work. Provision for 30% of spare feeders of each size shall be incorporated in designing the L T panel.</i></p> <p><i>There will also be spare feeders separately for PAC, UPS, lighting keeping in mind for future provision.</i></p>
	<p>Requirement for connection to Generator AMF Panel</p>
1	<p>Circuit Breaker</p> <p>L T Cables: Design, supply, receipt storage, laying in trenches, pipes / conduits, cable trays, raceways etc. as required effecting proper connection with tags / thimbles, double compression glands, testing & commissioning of L T cables, as required for the distribution of power from the mains up to the entire load of CO & DRC, as per approved drawing.</p>
2	<p>AMF/Switchover.</p>
	<p>Raw Power Distribution System: Design Engineering, supply, installation, testing & commissioning of raw power distribution panels & system for distribution of power from main L T Distribution panel to raw power distribution units up to the load. The scope shall include submission of detailed scheme for distribution of power from the main L T panel to raw power PDU to the load. Detailed single line diagram shall be submitted for approval from REC, prior to commencement of work. Separate distribution boards shall be provided for lighting and power circuits.</p>

Annexure K – Part II : Data Centre Services Requirements

	Raw power distribution (DB) should be provided for (Min 02 nos) for the conference room & UPS room.
	<p>Earthing System (L T Panel Location): Design, supply, installation, testing & commissioning of copper plate electrode earthing system as per IS 3043, for the entire load including designing, supply, laying, connecting required sizes of copper earthing strips with all fixing accessories from the earth pits, providing dedicated earth link mounted on 12 mm thick bakelite sheet with tinned copper strip suitable for termination of the earth strips with Zinc Cadmium nut bolts, spring washer etc. complete.</p> <p>The earthing system shall be dual redundant. The scope shall include all civil work associated with the construction of earth pits, and laying of earthing conductors. A detailed scheme shall be prepared and submitted for approval by engineer in-charge, prior to starting the work.</p>
	Lighting System: Design Engineering, supply, installation, testing & commissioning of lighting system for each of CO & DRC.
	<p>Wiring for Lighting System: Associated distribution from the power distribution units to the light points including wiring with 2.5 sq.mm copper flexible & earthing with 1.5 sq. mm copper wires of finolex / Havells or equivalent make through ISI marked PVC conduits / trays / raceways as required. The rate shall be inclusive of supply of PVC conduits / trays / raceways and all accessories like Ferrules / tags / ties / thimbles etc. complete. Switch & sockets of Northwest / SSK make for the control of light points shall be provided with 1 no. 5 A power socket with switch & LED indication.</p> <p>The wiring shall be none such that the load is equally balanced on all the three phases.</p>
	<p>Power Sockets : Design, Engineering, Supply and fixing of required number of 5/15A Socket outlets, with LED indication, for the computers and other systems, as per requirement including wiring with 6 sq. m.n. PVC insulated copper conductor wires and earthing with 2.5 sq.mm.copper wires of Dauphin / Havells / Finolex make through ISI marked PVC conduits. The scope shall also include providing raceways wherever required.</p> <p>Supply and Laying of insulated Rubber mats Supply and Installation of Co2 Fire Extinguishers of approved ISI make. Supply and Installation of 15 Ltr cap. Fire Buckets with structural stand and bucket cover complete. Supply and Installation of Shock treatment chart with laminated sheet with frame complete in Bilingual. Supply and Installation of Exhaust Fans of Crompton Greeves or approved make in L T Room Supply and Installation of Emergency Lights of approved make at L T Room</p>
	UPS. Emergency load.
	Adequate capacity for the network equipments at CO & DRC.
	UPS Server Room (DRC)
	The supplied UPS should be modular, scalable and field upgradable and operating cost should be justifiable, manageable with redundancy feature and adequate features for humidification/ de-humidification.

Annexure K – Part II : Data Centre Services Requirements

C	<p>AIR CONDITIONING SYSTEMS</p> <p>Comfort AC System - Design Engineering, supply, installation of suitable capacity air conditioning of branded standard makes like Blue Stag, Carrier, Daikaen, Voltas, LG. The refrigeration system should be modular. The designed system should cater to the system requirement 21 +/-1 degree C and 50 +/- 5% RH.</p>
D	<p>ACCESS CONTROL SYSTEM</p>
	<p>Design, Engineering, Supply, installation, testing and commissioning of Access control system for CO & DRC. This includes hardware, software, readers, locks, proximity access cards, passive components and required licenses. Total no of users will be max 30 nos.</p>
E	<p>FIRE PROTECTION SYSTEM</p>
	<p>Design, Engineering, Supply, Installation, Testing and Commissioning of sufficient nos of Co2 fire extinguisher system at strategic point in CO & DRC.</p>
F	<p>NETWORKING & COMMUNICATION</p> <p>Design, engineering, supply, installation, testing and commissioning of Local Area Network solution in the CO & SSC including managed Layer 2 switches of 24/48 ports. Nodes to be provided in all the sitting spaces and the conference room should have a provision of 22 nodes to conduct training etc.</p> <p>Structured cable laying: Design, supply, receiving, storing, laying of PVC conduits / cable trays/ raceways for structured cabling as required, effecting proper connections and termination of all ends with proper sleeves, complete with all accessories like cable ties, identification tags etc. required for proper identification and dressing of cables, to the complete as per the standards.</p> <p>Telephone wiring and provision of quality telephone equipment to be provided along with modular connection sockets in all the sitting spaces and conference room. The wiring should be extended to the nearest DP of existing telephone network.</p>
	<p>The work also includes rerouting of existing LAN and telephone wiring if required as per the approved layout.</p>