



**Bharat Heavy Electricals Limited
Ranipet**

Bid For

**Supply, installation, configuration, testing
and maintenance of
Server Equipments and licenses.**

**At
BHEL, Ranipet**

Tender Number: BHEL/BAP/IC/DBSERVER REV01 DT 25/01/2017

Due on: 6th FEB 2017 1400 hrs

ENQ.NO: 1861267E DT 26/12/2016
NIT NO: 31104 DT 17/01/2017

INFORMATICS CENTRE
Bharat Heavy Electricals Limited,
Boiler Auxiliaries Plant, BHEL, Ranipet,
Tamilnadu – 632406

Table of Contents		Page No.
	Tender notice	
1	Requirement and the Procurement process	4
2	Eligibility Criteria for bidders	7
3	Technical Terms and conditions	9
4	Commercial Terms and Conditions	18
5	Technical Specification	27
6	Format for declaring deviations	51
7	No Deviations Certificate	52
8	Price Bid Format	53
9	Annexure-A	56
10	Annexure-B (Integrity Pact)	57
11	Performance bank guarantee	65
12	CA certificate for MSME vendors	72
13	Checklist for enclosure	73
14	Confirmation to commercial terms and conditions	78

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 2 of 84

Tender Notice:

Ref. No.: BHEL/BAP/IC/DBSERVER

Date:

Dear Sirs,

Subject : Supply, installation, configuration, testing and maintenance of new database server and accessories

Sealed quotations are invited for the above work as per specifications detailed under "TECHNICAL SPECIFICATION" and Terms and Conditions as enclosed. Firm offers should be submitted in Two parts as detailed in relevant sections. All the parts should be individually sealed and super scribed indicating Tender reference No. as required and enclosed in the main cover duly sealed and super scribed.

Before preparing the bids, please see the details in various Annexure.

Please note that the sealed tenders will be received by us up to **14:00 Hrs. on 06-02-2017**. Techno Commercial Bid (PART-I) will be opened on the **same day at 14:30 hours** in the presence of such bidders and /or their authorised representatives who choose to be present. The representative should be the same person who has signed the documents or his authorised representative with duly authorised letter. There shall not be any overwritten figures in document. All the corrections should be duly signed by the authorised person submitting the offer and should be rewritten in figures and words both.

Pre-Bid meeting will be held on 27-01-2017 at 2:30 PM at BHEL Ranipet and Contact details as below:

mggsekaran@bhelrpt.co.in,
bvenkat@bhelrpt.co.in

BHEL takes no responsibility for delay, loss or non-receipt of tender documents sent by post and also reserves the right to accept or reject any or part of the tender without assigning any reason thereof.

Tender should be submitted to the address mentioned below:

**DGM/Purchase
Ground Floor
ADMINISTRATIVE Building,
Bharat Heavy Electricals Limited,
BHEL, Ranipet, T.N. - 632406**

With regards
for **Bharat Heavy Electricals Ltd.**

M G Gnanansekaran
DGM(Purchase)
Utility Section
BHEL, Ranipet Tamilnadu India
Tel No.: (04172) 284338 cell no.9943 992201
Email: mggsekaran@bhelrpt.co.in

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 3 of 84

1.0 Requirement and Procurement process

1.1 Introduction

Bharat Heavy Electricals Ltd., Ranipet (A Govt. of India Undertaking) invites tenders from bidders who qualify as per criteria listed below. The tender is invited for supply of Database server and accessories on financial lease for a period of 5 years for replacement of existing system running oracle based database and applications. The new hardware should meet the capacity required to meet the business growth during the next seven years. The requirement is for industry standard, state-of-art computer system with associated software and accessories to run the applications on 24X7 (throughout the contract period) basis. All the hardware and software shall be highly resilient, high performing and certified for the latest version of oracle database and application server.

The hardware and software will be installed in the primary site at Informatics Centre and at secondary site (Near DR) (~1 KM away from Primary Site).

The entire system is required on 5-year financial lease basis and if BHEL opts, the bidder shall undertake to provide maintenance support for two years after the expiry of the financial lease period.

Total Price shall be for the complete scope as per technical specifications, inclusive of comprehensive onsite maintenance including repair/replacement of parts during the entire lease period, all taxes & duties, insurance, any other incidental charges, etc. Lease Period of five years shall start from the date of successful completion of installation and acceptance by BHEL.

1.2 Documents issued to the bidders

Following are the tender documents issued to the bidders.

1. Requirement and the Procurement process
2. Eligibility Criteria for bidders
3. Technical Terms and conditions
4. Commercial Terms and Conditions
5. Technical Specification (Requirement in the form of Check-list)
6. Format for declaring deviations
7. No Deviations Certificate
8. Price Bid Format
9. Annexure - A & B

1.3 Amendment of bidding documents

BHEL 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 BHEL.

Amendments made prior to submission of bid will be provided in the form of addenda / corrigendum to the bidding documents and will be posted on the BHEL web site (<http://www.bhel.com>) only in tender notification site.

1.4. Documents to be submitted along with the Bid:

Following documents shall be submitted in the bid. The Bidder shall bear all costs associated with the preparation and submission of its bid and BHEL will in no case be responsible or liable for those costs.

The bid, all correspondence and documents related to the bid shall be in English.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 4 of 84

Documents required for meeting the Eligibility Criteria of the bidder

1. Documents from OEM
2. Documents from the bidder

Documents related to Technical and Commercial offer

SL NO	Documents	Reference
1	Acceptance of Technical Terms and Conditions	Clause-3 of Tender
2	Technical specification of the offered solution to be filled in the Check-list format issued as “technical Specification” (Requirements) in the tender document	Clause-5 of tender
3	Technical Brochures	
4	Other Documents to support the compliance	
5	Deviations, if any, as per BHEL’s Format or “No-Deviations” Certificate	Clause-6,7 of tender
6	Un-priced Commercial offer as per Price Format	Price Bid - a, b and c
7	Certificates from respective OEMs of all items quoted, declaring back to back support for a minimum period of seven years from the date of commissioning.	
8	Authorization letter from OEM authorizing the vendor to quote, citing reference no of this tender.	
9	Checklist of Enclosures	Clause 8
10	Integrity Pact	Annexure – B
11	Non-Disclosure Agreement	As per Annexure - A

Document to be submitted for the Price Bid

SL NO	Documents	Reference
1	Price in the Price Format	Price Bid – a, b and c

1.5. Late Bids:

Any bid received by BHEL after the deadline for submission of bids will be summarily rejected and returned unopened to the bidder.

1.6. Evaluation of Bids:

BHEL will evaluate the bids as follows;

Stage-I: Evaluation of Eligibility Criteria of bidder, Technical & Commercial Bids

These are mandatory requirements to be met by the Bidder.

Commercial and Technical bid including Eligibility Criteria of the bidder shall be opened and evaluated for acceptability of Eligibility ,Technical offer, deviations and their acceptability, technical suitability, acceptance of technical and commercial terms.

BHEL’s Technical Committee will evaluate the Bid submitted by the Bidders. During the Evaluation of the bid, BHEL may ask for additional information / resources to validate the bid. These may include Supporting documents towards Eligibility Criteria , Technical documents / white papers from OEM or third party, references, demonstration of a proof of concept or solution, visit to OEM’s lab or their clients reference site, etc.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 5 of 84

Though, offer of higher warranty/ configuration/ rating, than what is required as per tender specifications, may be accepted, no extra weightage or no preference will be given for the same.

Failure to furnish all information as required or to submit a bid not substantially responsive to the bidding documents may result in rejection of the bid. If there are any deviations in the technical solution offered, without affecting the functional requirement, they shall be filled-in the Deviation format issued with the tender document and submitted along with the bid. In case of no deviations, “**No Deviation Certificate**” shall be submitted. The deviations from the tender specification shall be clearly indicated giving the reference of the specification, if any, as per format for declaring deviations. If deviation other than what is specified in the list is found, the bid will be liable for rejection.

BHEL reserves the right to accept or reject any deviation.

Bids meeting BHEL’s requirements as specified in this tender document only will be considered for Stage-II price evaluation.

Stage –II: Evaluation of the Price Bid:

Prices of optional items, if quoted, shall not be considered for Price evaluation and comparison. The taxes shall be extra at actual.

After finalizing the techno-commercial offer, BHEL may negotiate or adopt reverse auction process for arriving at lowest price offer. BHEL will claim depreciation as per provision of income-tax act.

The price bids of only those vendors who meet the Technical and Commercial evaluation criteria will be opened. The total cost of the bid will be calculated as under:

1. Bidder shall quote the quarterly rental charges (including Principle repayment, tax, interest, Support Charges, etc.) for 5 years for Hardware, Software, other items in the requirement. The evaluation of L1 will be done on the overall price and not on line item basis. Also, L1 will be evaluated based on total of quarterly rental charges and AMC for two years (including taxes). Quarterly payment will be made for the rental charges.
2. The quarterly rental charges will be payable at the end of each quarter in arrears for the previous quarter.
3. The bid having the least total cash outflow for 5 years (including 2 years AMC) will be considered for order placement.
4. The AMC amount shall not be more than 10% of the outright purchase value. BHEL reserves the right to opt for continuation of maintenance support for the hardware and software at end of five year lease period by way of awarding AMC contract to bidder at the rate equal to maintenance charges paid per quarter during the original lease contract. Bidder shall agree to provide the AMC service for at least two years after the expiry of the five year lease period. The Technical terms of AMC shall be same that of maintenance support during the lease period. The payment for AMC will be made quarterly at the end of the each quarter.
5. BHEL reserves the right to retain the hardware, software and other items supplied in this procurement at the end of the lease period on payment of Re. 1/- (Rupee One only). If BHEL does not retain the equipment, the vendor shall dismantle all the equipment and move it away from BHEL’s premises.

1.7. BHEL’s Right to accept or Reject any or all Bids

BHEL reserves the full right to accept or reject any bid or to annul the bidding process and reject all bids at any time prior to Contract award, without thereby incurring any liability to the Bidders.

2. Eligibility Criteria for Bidders

Bidder should be an OEM supplier of the server (or) an authorized partner of the OEM

2.1 For the OEM of the Servers:

- a. Must be a manufacturer of Server on Intel x86 architecture. Must submit self-certificate to this effect from the OEM's authorized signatory.
- b. The Average annual financial turnover of the bidder during the last 3 years ending 31/03/2016 should be at least 5.15 Crores. Supporting documents in form of Copy of Balance sheet, Profit & Loss Account duly certified & audited by Chartered Accountant has to be submitted by the bidder.
- c. **EXPERIENCE** of having successfully completed similar works during last 10 years ending last day of month previous to the one in which applications are invited should be either of the following: -

Must have executed at least 3 (three) similar works in the last 10 years in India for minimum Rs 6.86 Cr in each order.

(or)

Must have executed at least 2 (two) similar works in the last 10 years in India for minimum Rs 8.57 Cr in each order

(or)

Must have executed at least one similar works in the last 10 years in India for minimum Rs 13.72 Cr in each order

Note: Similar work means "Complete scope of work namely SUPPLY, INSTALLATION, CONFIGURAION, TESTING AND MAINTENANCE OF SERVER EQUIPMENTS AND ACCESSORIES"

- d. Documentary Proof means 1) Copy of Purchase order or Letter of intent 2) Work completion certificate referring to the P.O or LOI submitted under (1) above.
- e. If OEM is the bidder, then OEM must undertake the complete responsibility of supply and commissioning of the hardware, software and other equipment, i.e. the entire scope of work of this tender.
- f. Offered Servers will be running Oracle based Applications & Oracle Database. Therefore, Oracle Products for the existing version & future/next version must be supportable on offered hardware platform. **Oracle to certify the same or to be produced from Website of Oracle.**
- g. Bidder should not be under hold or delist or banned by any of BHEL unit as on bid opening date for enterprise network. Bidder should give declaration to this effect.

2.2 For the OEM's Authorized Partner:

- a. Must be an Authorized partner of the OEM for the products quoted. Submit certificate from the OEM to this effect.
- b. The bidder should be a company/firm that is registered/incorporated in India
- c. The Average annual financial turnover of the bidder during the last 3 years ending 31/03/2016 should be at least 5.15 Crores. Supporting documents in form of Copy of Balance sheet, Profit & Loss Account duly certified & audited by Chartered Accountant has to be submitted by the bidder.
- d. **EXPERIENCE** of having successfully completed similar works during last 10 years ending last day of month previous to the one in which applications are invited should be either of the following: -

Must have executed at least 3 (three) similar works in the last 10 years in India for minimum Rs 6.86 Cr in each order.

(or)

Must have executed at least 2 (two) similar works in the last 10 years in India for minimum Rs 8.57 Cr in each order

(or)

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 7 of 84

Must have executed at least one similar works in the last 10 years in India for minimum Rs 13.72 Cr in each order

Note: Similar work means “Complete scope of work namely SUPPLY, INSTALLATION, CONFIGURAION, TESTING AND MAINTENANCE OF SERVER EQUIPMENTS AND ACCESSORIES”

- e. Documentary Proof means 1) Copy of Purchase order or Letter of intent 2) Work completion certificate referring to the P.O or LOI submitted under (1) above.
- f. Self-certified document-indicating details of customer (Name, Address, Contact person, Phone and Email), supplied server details like the CPU, OS etc. delivered to the customer. Order copies shall be submitted.
- h. Offered Servers will be running Oracle based Applications & Oracle Database. Therefore, Oracle Products for the existing version & future/next version must be Supportable on offered hardware platform – **Oracle to certify the same or to be produced from Website of Oracle.**
- i. Bidder should not be under hold or delist or banned by any of BHEL unit as on bid opening date for enterprise network. Bidder should give declaration to this effect.

2.3. Purchaser’s Right to accept or Reject any or all Bidders:

BHEL reserves the full right to reject any bidder based on other reasons deemed fit but not mentioned above.

2.4. EARNEST MOMENT DEPOSIT (EMD):

- a. An amount of Rs. 27.15/- Lakhs (Rupees Twenty Seven Lakhs Fifteen Thousand Only) will have to be paid as EMD (Earnest Money Deposit). EMD amount may be payable as below also, Rs. 20 Lakhs by RTGS payment (acceptable before tender opening) / DD/Pay Order/Banker Cheque and Rs. 7.15 Lakhs by way of BG from one of our panel bankers. The DD/Pay order to be drawn in favour of “BHEL Ranipet payable at State Bank of India, Mukundarayapuram, (MRPURAM PROJECT Code No:07013) Ranipet, Vellore Dist, TN”. In case of DD obtained from other banks, the same to be “Payable at Ranipet, Vellore Dist, TN – 632406”.
- b. Offers without EMD, will be rejected.
- c. EMD by the tenderer will be forfeited if,
- d. After opening the tender, the tenderer revokes his tender within the validity period or increases his earlier quoted rates.
- e. The tenderer does not commence the work within the period as per LOI/Contract or 15 days after award of contract.
- f. The EMD amount of the unsuccessful tenderers will be refunded normally within fifteen days of acceptance of award of work by the successful vendor.
- g. EMD shall not carry any interest.
- h. Vendors registered with NSIC will be exempted from depositing EMD amount on submission of proper documents.

2.5. SECURITY DEPOSIT:

- a. Security Deposit shall be collected from the successful tenderer. The total amount of Security Deposit will be 5% of the contract value excluding Interest, taxes and duties. Only rental value will be considered.
- b. EMD of the successful tenderer shall be converted and adjusted towards the required amount of Security Deposit.
- c. The security deposit should be submitted before start of the work.
- d. Modes of deposit:
The balance amount to make up the required Security Deposit of 5% of the contract value may be accepted in the following forms:
 - i) Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL
 - ii) Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 8 of 84

Act. The Bank Guarantee format should have the approval of BHEL

iii) Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL)

iv) Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL) (Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith)

- e. Security Deposit shall also be recoverable at the rate of 10% from the running Bills. However, in such cases at least 50% of the Security Deposit should be remitted before the start of the work and the balance 50% may be recovered from the running bills.
- f. EMD amount shall be converted and adjusted against the Security Deposit.
- g. The security deposit shall not carry any interest.

Note:

Acceptance of Security Deposit against Sl. No. (iv) and (v) above will be subject to Hypothecation or endorsement on the documents in favor BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

The Earnest Money paid at the time of tender will be adjusted as part of the Security Deposit and the balance amount will be recovered by deduction from the running bills of the contractor at the rates mentioned above.

Security Deposit shall not be refunded except in accordance with the terms of Security Bond or Agreement. No interest shall be allowed on Security Deposits. BHEL shall not be responsible for any loss of securities, due to liquidation for any other reasons, what-so-ever or any depreciation in the value of the securities while in their charge or for any loss of interest there on.

All compensation or other sums of money payable by the Contractor to BHEL under the terms of this contract or under any other contract with BHEL may be deducted from the Security Deposit or realized by the sale of the securities or from the interest arising therefrom or from any sums which may be due or may become due to the contractor by BHEL and in the event of this Security Deposit being deducted by reason of such deductions or sale, as aforesaid, the Contractor shall within 7 days thereafter, make good in cash or in securities endorsed as aforesaid, any sum by which the Security Deposit has been reduced. No interest shall be payable by BHEL on EMD/SD if applicable or any money due to the contractor by BHEL

Vendors registered with NSIC will be exempted from depositing Security Deposit amount on submission of proper documents.

3. Technical Terms and Conditions

3.1. Scope of Work

- 3.1.1.** The vendor shall Supply, Install, Integrate, carry out Tests, Commissioning of Servers, Storage, Backup Solution, other related items including Operating Systems and other software at Primary Site & Secondary Site of BHEL Ranipet complex as per technical specifications & requirements of this tender. Movement inside factory, including lifting to requisite floor is responsibility of vendor.
- 3.1.2.** The vendor shall supply and install all cables, adapters, power cords and any other interconnects required by the systems to meet the specification. The vendor shall carry out all electrical and systems interfacing pertaining to equipment at Primary site and Secondary Site as per the best international standards and practices.
- 3.1.3.** Arranging requisite tools, measurement equipment and resources required for installation and commissioning of the hardware, software and other equipment is the responsibility of the vendor.
- 3.1.4.** All software to be provided as part of the solution should be licensed to “Bharat Heavy Electricals Limited - Ranipet”. All documents, manuals, administration manuals and software CD/DVDs shall be submitted to BHEL before commissioning the systems. All software shall come with at least two

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 9 of 84

sets of CDs/DVDs, etc. or the Software Product should be electronically downloadable from OEM website.

- 3.1.5.** The vendor shall ensure that none of BHEL's equipment/structure/setup gets damaged during commissioning and operations of the supplied equipment. Any damages, if caused to BHEL's property due to Vendor's activity/negligence or the operations of the equipment, shall be rectified, repaired by the vendor at their own cost.
- 3.1.6.** Maintenance of the hardware, software and other equipment throughout the lease period as per the service level agreement.
- 3.1.7.** The products those have reached the end-of-life need not be offered. Products offered should have minimum 7 years lifetime in the OEMs roadmap.
- 3.1.8.** Insurance of the hardware, software and other equipment during the duration of the contract.

3.2 Installation and Commissioning:

The Vendor shall install the hardware, software and other equipment as per the requirement.

Any equipment, fitting, material, software or supplies which may not be specifically mentioned in the specifications but which are necessary for carrying out the contract works within the scope of the tender are to be provided for and rendered to by the vendor. Such items not quoted by the vendor, if found necessary during execution of the contract, shall have to be supplied at no extra charge by the vendor.

The vendor shall demonstrate the following fail-over scenarios as part of the installation and commissioning:

- 3.2.1.** Fail-over test of a partition or a Server.
- 3.2.2.** Failover of clustered virtual machines and applications and their automatic restoration.
- 3.2.3.** Backup and Restore as defined in the technical specifications.
- 3.2.4.** Clustering, High availability features.
- 3.2.5.** Synchronous and asynchronous SAN based data replication between primary and secondary site.
- 3.2.6.** Backup and Restore options.
- 3.2.7.** Fail-over of a Server with multiple partitions.
- 3.2.8.** Failure of each SAN switches and sustenance of service.
- 3.2.9.** Fail-over of Storage.
- 3.2.10.** Fail-over of Storage Controller.
- 3.2.11.** Fail-over of entire Primary / secondary site.
- 3.2.12.** Integration with BHEL's existing network with proper security.
- 3.2.13.** Demonstration of RAS features.
- 3.2.14.** Any other scenario not covered above but envisaged in the BCP plan.

If the Vendor fails to demonstrate these scenarios, supplied equipment will be rejected without any cost implication to BHEL.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **10** of **84**

3.3 Activities related to Migration of Oracle Applications:

As these new servers are bought for migrating oracle applications running in old servers, the vendor shall assist the following activities required for migrating BHEL's Oracle applications to new system.

- 3.3.1. Installation/Re-installation of OS if necessary
- 3.3.2. Installation of required OS level Patches, updates and file-sets as recommended by Oracle.
- 3.3.3. Creation of required file-systems.
- 3.3.4. Port aggregation if necessary
- 3.3.5. Cluster testing after Oracle migration.
- 3.3.6. OS level tuning for better performance.
- 3.3.7. Any other works related to server OS required for successful installation and working of Oracle Products.

3.4 Documents to be submitted during Commissioning

On successful installation of the equipment and configuration of individual components and the solution as a whole, the Vendor shall submit the following documents as part of the commissioning:

- 3.4.1. Newness certificate for all items.
- 3.4.2. Configuration detail for each server – name, IP address, OS version, details of Partitioning, etc.
- 3.4.3. Installation documents, as built drawings for both IT and non –IT infrastructure.
- 3.4.4. Network diagrams / cabling scheme.
- 3.4.5. Security scheme for entire solution.
- 3.4.6. Clustering and failover details.
- 3.4.7. Details of SAN access, point in copy, replication, zoning, etc.
- 3.4.8. Details of Backup solution and Tape Library systems.
- 3.4.9. Performance Bank Guarantee
- 3.4.10. Insurance documents for all the item

On completion of the installation, commissioning and submission of the above documents, the Vendor shall carry out Performance Guarantee Tests of the supplied hardware & software as given below:

3.5 Performance Guarantee Tests (PG Tests):

- 3.5.1. The Performance Guarantee Test shall start after installation and commissioning of all the Hardware & Software at primary and secondary sites. The Performance Guarantee Tests (and repeats of such tests limited to a maximum of two) shall be the primary responsibility of the Vendor, but shall be conducted with the full cooperation of the BHEL to ascertain whether the supplied System meets the standard of performance and complete functionality as specified by BHEL.
- 3.5.2. The performance test will be done simultaneously for all the servers, after successful completion of installation and commissioning. PG test shall be conducted for ascertaining the performance of both IT and non –IT infrastructure for availability for a minimum period of 15 days continuously also against the benchmark submitted by bidder for IT equipment. The Performance Acceptance Tests shall be conducted by Powering Up and continuous operation of all the systems on a 24x7 basis to ascertain that all components of the solution are working in the desired fashion individually and together.
- 3.5.3. All the systems together shall give an uptime of **99%** during the test period. The test duration time shall be exclusive of external power failure time and any scheduled down time by BHEL.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **11** of **84**

The system shall be considered as “available”, if all the processors, total installed memory; all hard disks (internal & external), DAT, DVD, switches and all other supplied equipment are in service with network and external storage. Any hardware component failure in servers has to be rectified / replaced without bringing down / restarting any virtual machines or servers. Actual time taken for taking backup of 5TB data using a single drive with the offered solution, demonstration of SAPS value of the server and demonstration of IOPS performance must be included in PG test.

- 3.5.4. If the system is found to be lacking in meeting Performance Guarantee Test, the test time will be extended by 7 days. If the equipment / system does not provide the required uptime even after 2 extensions, the supplied equipment is liable to be rejected. Downtime will not be counted; in case the failure is due to any other reasons not attributed to the Vendor.
- 3.5.5. All BCP tests shall be carried out as a part of PG test. It shall also be demonstrated that all the traffic between application servers and DB servers goes through the dedicated network. In case of any disturbance in the user network, the server shall continue to run without any failover.
- 3.5.6. Beyond the acceptable limits of PG parameters, the supplied equipment is liable to be rejected.

3.6 Commissioning Certificate

BHEL will issue a **Commissioning Certificate** on successful completion of Performance Guarantee Tests of all the Hardware & Software.

3.7. Lease Agreement (LA)

Based on finalized terms and conditions, BHEL will consider signing of Lease agreement ONLY with vendor after placement of LOI.

3.8 Training:

3.8.1 Training at BHEL, Ranipet premises:

- The Vendor shall provide following training at BHEL, Ranipet premises on the procured servers. The training course shall be structured and supported by programmed illustrations, video, charts, etc. The training shall be conducted using experienced certified personnel only. The Vendor shall provide extensive lecture notes, handouts and other training documentations. The boarding and lodging of trainer faculty will be responsibility of the Vendor.

Training schedule date shall be mutually discussed and agreed upon.

- User Level Training for a minimum period of 2 days for 10 persons in server operations, and ensure familiarity to enable them to provide and use the system efficiently.
- System Administration for 5 persons for minimum period of 10 days in Servers, Storage, Backup Solution, Replication, DR Plan, Operating System, VMware etc.

3.8.2 Training at external certified training centers / laboratories:

- Advanced System Administration Training (1 week) for 2 persons at the OEM's training centers located in India. In case of outstation training, travel, boarding and lodging of trainees will be responsibility of BHEL.

3.9 Business Continuity plan:

Vendor shall submit a detailed BCP plan at the time of implementation. A detail restoration plan to startup a failed site shall be envisaged. All the necessary resources, software, program, etc. required to carry out the Business Continuity Plan shall be included in the scope of supply. The general guidelines

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 12 of 84

Disaster Recovery Management	
S.No	Solution
1.	A detailed plan and procedure for business continuity in the event of failure of Primary / Secondary site.
2	A detailed restoration plan to restore to original configuration after the failed site is set right.
3	Five BCP drills (one per year) to be performed during the entire Lease Period (after commissioning). The time and duration of BCP drills shall be mutually agreed.
4	One full BCP drill is to be performed during Performance Guarantee Test. (Before commissioning).

BCP Drill: Activities described in the BCP plan are to be carried out periodically to ensure preparedness to meet any risks.

3.10 Special Clauses:

- 3.10.1** Make, Model, Product No and Details of each Item must be mentioned clearly.
- 3.10.2** All hardware and software supplied shall be **NEW** and newness certificate from OEM shall be furnished.
- 3.10.3** BHEL will not be responsible for any misinterpretation or wrong assumption by the vendor. It is vendor responsibility to obtain any clarifications before submission of offer.
- 3.10.4** All the Items must be supplied in full and complete.
- 3.10.5** All components shall be rated for 24x7x365 operation.
- 3.10.6** The Vendor shall provide all other hardware and software items that are not explicitly mentioned herein, but are required by the Vendor to full-fill the intended specifications and to meet the functionality mentioned in the bid.
- 3.10.7** The indicated specification parameters are the minimum requirement and item with higher rating will be acceptable.
- 3.10.8** No item shall be offered whose end-of-sale has been declared by the OEM or has been declared to be under phase out.
- 3.10.9** Proper documentation, labeling and tagging shall be carried out for all the equipment's used in the entire landscape for easy management and maintenance.
- 3.10.10** The following documents shall be provided for all hardware, software and other equipment
 - i) User manual.
 - ii) Administrator Manual.
 - iii) Complete documents for maintenance.
 - iv) Error Handling and troubleshooting manual.
 - v) Source Code for scripts used.
 - vi) Documenting proof that all software Licenses are in the name of BHEL.
 - vii) Safety and Standard Operating Practices manuals
 - viii) Startup and shutdown procedure for all major components like server, storage, tape library and switches supplied shall be furnished by the vendor

3.11 Service Level Agreement (SLA)

- 3.11.1** As the equipment will be used for running mission critical ORACLE database and applications, the vendor shall provide an uptime of 99% on all hardware & software products on monthly basis.
- 3.11.2** If the availability of the systems, or part thereof, is below 95% on monthly basis, continuously over a period of 3 months, BHEL reserves the right to terminate the contract in full, however BHEL will make payments to vendor till the date of termination as per SLA terms.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 13 of 84

3.12 Penalty for SLA Non-Conformance:

At the end of each quarter, downtime will be calculated for all the hardware and software.
Downtime will be calculated based on uptime on monthly basis.
The deductions will be made as per the following formula:

$$\text{Deduction (D)} = (\text{downtime in minutes (d)} \times \text{rental per minute (r)} \times \text{multiplication factor (f)})$$

Where Multiplication Factor is given below

For Uptime > 99.00 Multiplication Factor is 0.00
For Uptime between 98.00 and 99.00, Multiplication Factor is 2.00
For Uptime between 97.00 and 98.00, Multiplication Factor is 5.00
For Uptime between 96.00 and 97.00, Multiplication Factor is 8.00
For Uptime between 95.00 and 96.00, Multiplication Factor is 12.00
For Uptime below 95.00, Multiplication Factor is 15.00

The downtime will be recorded at Purchase order item level. Even in case of failure of a component in an item, the deduction will apply to the whole item. If the failure of an item results in of major service outage or affects the services provided by other items also, then the deduction will apply to all items affected by the failure.

In event of absence of on-site engineer for more than a day, the deductions will be made as per the following formula:

$$\text{Deduction (D)} = (\text{no of days absent (d)} \times \text{rental per day (r)} \times \text{multiplication factor (f)})$$

f = Multiplication Factor is 2.00

Note: If the on-site engineer couldn't perform his role, the same will be dealt as absence of engineer and downtime will be calculated till alternate arrangement is provided.

3.13 Availability of Spares:

Sufficient stock of critical spares shall be maintained at the Primary and Secondary sites at all times to ensure the uptime.
List of critical spares to be submitted along with tender.

3.14 Terms of Payment:

Lease period will start only after successful installation and commissioning of all hardware and software products as per the requirement and the issue of the commissioning certificate. Quarterly lease rental charges (after deduction for any SLA non-conformance) become payable at the end of each quarter. The payment will be made within 90 days for Non-MSME vendors and within 45 days for MSME vendors. Uniform rental rate will be paid in all quarters. However, for the first quarter, pro-rata payment will be made for the number of days from the date of acceptance certificate ending with the calendar quarter. Thereafter for each calendar quarter payment will be made. Payment will be released after submission of verified invoices and on certification by BHEL, Ranipet Informatics Centre official and other documents to be submitted by vendor for claiming quarterly rental charges.

In the event of any deviation in the above payment terms the following loading on your base rate will be done as below." Base rate of SBI (as applicable on the date of techno commercial bid opening) + 6% shall be considered for loading for the period of relaxation sought by you")

All payment will be made only by NEFT/RTGS.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 14 of 84

Vendor shall submit following documents for processing the bills:

A) In the first quarter:

- Copy of lease agreement.
- Newness certificate for all equipments
- Copy of insurance valid for one year
- Proof of delivery / installation certificates signed by BHEL co-ordinator
- Invoice in triplicate
- SLA reports for the quarter (certified by the System Administrator)
- Certificate for payment of Service tax/VAT along with copy of payment challan.

B) All subsequent quarters:

- SLA reports for the quarter (certified by the System Administrator)
- Invoice in triplicate
- Certificate for payment of Service tax/VAT along with copy of payment challan.
- Copy of PF /ESI challan.

C) Annually:

- Copy of renewal of insurance valid for the next one year
- Document proof for Software license renewal as applicable.

3.15 Warranty & Support:

3.15.1 All the supplied equipment / systems (hardware/software) shall be covered under a Comprehensive On-Site Warranty & service support for 5 (Five) years. The period shall start from the date of successful commissioning of the Equipment / System. Warranty & Support shall be delivered directly by the OEM for Servers, Storage and Backup Systems. In case of authorized partner being the Vendor, certificate from OEM should be attached stating that the OEM will provide support directly during the warranty period, the posting of the OEM certified Engineer, replacement of spares, etc.

3.15.2 The warranty & support from OEM shall ensure the uptime requirement of 99% and above.

3.15.3 If any document / manual / CD supplied by the Vendor is found to be inadequate / incomplete within the period of the contract, the supplier shall replace/complete such document/manual/CD at their cost within 15 days' time. The document / manual / CD released with upgrades and updates shall be supplied free of cost as and when they are released.

3.15.4 On-Site Engineers (3 Nos)

The qualification requirement for the resident engineer is,

- a) A trained and certified on-site engineer in the respective Server and Storage Management and at least 3 years of experience on such servers, storage and backup solutions shall be posted.
- b) Engineer should be certified on RHEL platform, certification on virtualization technologies like VMware, Microsoft Hypervisor etc., is desirable.
- c) The certified engineer shall do health monitoring, performance monitoring, capacity monitoring & critical parameter monitoring of the servers on daily basis. He shall also do diagnostics, fault checking, hardware & software troubleshooting, call logging, spares replacement and also carry out regular backup of the data and critical system files. He shall also be responsible for ensuring uptime of all other items supplied as part of this order like, SAN, switches etc. Submit daily report to BHEL.
- d) Engineer should be capable of offering L1 support.
- e) The engineer shall do performance monitoring, capacity monitoring & critical parameter monitoring of data centre infrastructure (UPS, AC, Power etc.) and submit daily report to

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **15** of **84**

- f) Vendor shall arrange for boarding, lodging and logistics of onsite engineer.
- g) If the on-site engineer posted goes on leave for more than a day with permission from BHEL, then another equivalent engineer shall be posted till he returns back.
- h) If a change of On-site Engineer is requested by BHEL, citing reasons, the vendor shall arrange a replacement the engineer within 02 (Two) weeks having the same or higher competence level.

3.15.5 Vendor shall arrange for boarding, lodging and logistics of onsite OEM certified engineer.

3.15.6 If a change of On-site Engineer is requested by BHEL, citing reasons, the vendor shall arrange a replacement the engineer within 02 (Two) weeks having the same or higher competence level.

3.15.7 Warranty shall cover the following:

- a) Repair / Replacement of faulty / defective Hardware and other supplied items inclusive of supply of all types of spare parts etc. (Including batteries)
- b) All Software Patches, Upgrades, updates, Service Packs, etc. of the Operating System and all other Software supplied by the OEM must be made available free of cost during the entire warranty period (5 years). Software subscription and any other subscription required during entire lease period.
- c) Installation / Re-Installation / Maintenance and update patches, upgrades, updates and fixes of OS, System software and other software supplied in the contract.
- d) Licenses shall be perpetual and made current whenever the license policy of the Software changes during 1st year.

3.15.8 Support shall include the following

- a) Monitoring, logging and reporting on Daily/ Weekly/ Monthly basis as required by BHEL in the specified formats the Performance and operations of the Servers, storages and the back-up system on 24x7x365 basis.
- b) Periodic health checks of the systems using diagnostic tools and implementing proactive rectification measures.
- c) Troubleshooting Servers, OS, SAN and backup related issues.
- d) Analyzing and reporting all system related issues.
- e) Managing users, roles and passwords of all the relevant subsystems of Servers, OS, Storage etc.
- f) Liaison with various vendors, OEMs, agencies and service providers for equipment maintenance & related work.
- g) All incidents must be documented and logged as per the format specified by BHEL.
- h) Any change in the IP Scheme, if required, limited to all the equipment installed at Primary site & Secondary site shall be done in consultation with BHEL's Network Manager.

3.16 Server Administration Functions include following activities for the ORACLE Environment in consultation with BHEL Personnel.

- a) Operating System tuning.
- b) OS and software Re-installation in the event of system crash/failures/during new application installation.
- c) Configuring file systems, volumes and apportioning disk space.
- d) Ensure proper configuration of server parameters.
- e) Periodic System performance tuning for optimizing the Oracle performance.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 16 of 84

- f) Addition, deletion, re-configuration of devices, additional users and printers etc.
- g) Implementing security patches on servers at all levels.
- h) Orderly start-up and shutdown of servers as per laid down procedures.
- i) Security management – Configuring account policy, access rights, password control as per BHEL's security policy.
- j) Scheduling and optimizing all critical services run on the hardware.
- k) Maintain lists of all system files, root directories and volumes.
- l) Resolving all server related problems.
- m) Escalating unresolved problems to ensure resolution as per the agreed SLA

3.17 Storage Administration

- a) Management of storage environment to maintain performance at optimum levels
- b) Regular backups of Storage software.
- c) Management of the storage solution including, but not limited to, management of space, volume, RAID configuration, configuration and management of disk array, SAN fabric / switches, tape library etc. as per mutually agreed storage management policy.

3.18 Backup and Restore

- a) 24x7x365 support for file and volume restoration requests.
- b) Must take regular Backup of operating system, database and application as per stipulated policies and time schedule.
- c) Must conduct periodic restore operations of backed up data.
- d) Regular maintenance of all the media and the backup / storage devices.

3.19 The offline support shall have:

- a) 24x7 National telephonic support.
- b) Access to raise technical assistance request at hardware vendors / supplier website.

The above Terms and Conditions are accepted.

Date:

(Signature and Seal of the Vendor)

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 17 of 84

4.0 Commercial Terms and Conditions

GENERAL

The words incorporating singular shall include plural and vice-versa, in the words importing masculine gender shall include feminine and vice-versa and the words importing persons shall include bodies; corporate, limited liability companies, partnership and other legal entities.

4.1 General Instruction for Bidders

- a) Tender documents will be available from 12-01-2017 on BHEL Ranipet web site. Tender can be downloaded from the site only.
- b) Last date of submission is **14:00 Hrs on or before 06 02 2017** and Part-I (Techno-Commercial) bid shall be opened on the same date at 14:30 Hrs.

4.2 BIDDER TO INFORM HIMSELF FULLY:

- a) The bidder shall closely review all the clauses, specifications, requirements and drawings, etc., indicated in the tender documents, before quoting. Should the bidder have any doubt about the meaning of any portion of the tender specifications or find discrepancies or omissions in the specifications or if the tender documents are found to be incomplete or require clarifications on any of the technical aspects, scope of work etc., he shall at once contact the official inviting the tender, for pre-bid discussions/clarifications, before submission of the tender by email to mggsekaran@bhelrpt.co.in & bvenkat@bhelrpt.co.in.
- b) Bidders are advised to study all the tender documents carefully. Any submission of tender by the bidder shall be deemed to have been done after careful study and examination of the tender documents and with the full understanding of the implications thereof. The specifications and terms and conditions shall be deemed to have been accepted unless otherwise specifically commented upon by the bidder in his offer.

4.3 PROCEDURE FOR SUBMISSION & OPENING OF BIDS

Tender should not be addressed to any Individual's name but only by designation to:

**DGM/Purchase
Ground Floor
ADMINISTRATIVE Building,
Bharat Heavy Electricals Limited,
BHEL, Ranipet, T.N. – 632406
Phone: 04172 - 284338**

Bids shall be sent by "REGISTERED POST" / courier only and shall be posted with due allowance for any postal delay.

The bidder shall sign all the pages of the Tender document and all the supporting documents. Signing of the document means that the bidder has fully understood the Tender and complies with all the requirements.

Tenders should be free from CORRECTION AND ERASURES, Corrections if any, must be attested. All amount shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

Offers should be in ENGLISH and accompanied by detailed technical literature, catalogue and detailed dimensional drawings in ENGLISH or otherwise, the offers will not be considered.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **18** of **84**

The Bidders shall submit the offer in TWO INNER ENVELOPES as indicated below which shall be sealed in one outer envelope.

4.3.1 PART-I: Techno-Commercial Bid

Envelope I:

- a) This sealed envelope should contain all the copies of technical bid together with un-priced commercial bid. This envelope should be clearly marked “Part I - Technical and commercial bid”, indicating Enquiry No., Due Date and Address & Reference of the Bidder. Tender specification and Confirmation of compliance to Tender requirement duly filled and signed in all pages. While signing all the pages bidder has to fill the compliance column given in clause 5.0 Technical Specification. In addition to this, bidder has to submit the following annexures duly filled and signed in bidder’s letter head.
- Price Format A and B with tax details
 - Annexure B – Integrity Pact
 - Annexure D – In case of MSME vendor
 - Clause 8.0 – Checklist of enclosures
 - Annexure E – Annual turnover of bidder
 - Annexure F – Copy of major orders received in last 10 years
 - Annexure G – Confirmation on not hold/delist/banned
 - Annexure H – Declaration from Bidder
 - Annexure I – Confirmation to Commercial terms and conditions
- b) The bidder should offer only as per Specification. BHEL Ranipet reserves the right to accept or reject the technical offer. Price bids of only techno-commercially short listed vendors will be opened

4.3.2 PART-II: Price Bid

Envelope II:

- a) This sealed envelope should contain price details. This envelope should be clearly marked “Part-II - Price bid”, indicating Enquiry No., Due Date and Address & Reference of the Bidder. Prices shall be quoted in Indian Rupees only. Vendor has to give details of applicable taxes clearly. In case of any change in applicable duties till the time of delivery, new rates shall be calculated in line with changes. The changes in the tax rates will be applicable as per actual, subjected to documentary evidence.
- b) Price Bid should not contain any technical details and/or Commercial Terms & Conditions as the same are supposed to be contained in PART-I only so that the same can be evaluated before opening of Price Bid(s).

4.4 BID OPENING

- a) PART-I (Techno-Commercial Bid) shall be opened on the due date and time as specified in the Tender Notice, in the presence of bidders who may like to attend. Part-II (Price Bid) shall be opened subsequently.
- b) Price bid of technically suitable Bidders alone would be opened. The Technically suitable Bidders would be informed about the tender opening date.
- c) Clarifications if any required by BHEL for Technical evaluation would be sought from Bidders before opening of Part-II - price bid.
- d) Purchaser / lessee also reserve the right to open the earlier i.e. superseded prices bids if any, submitted by the bidder(s), if required.
- e) Not more than two representatives will be permitted to be present for the tender opening.
- f) No correspondence shall be entertained from the bidders after the opening of Price bid(s).

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 19 of 84

- g) Standard pre-printed conditions of the bidders attached to the offer will not be accepted and only those mentioned in the body of his offer will be considered.
- h) Unsolicited revised Price Bids also, shall not be entertained at any stage of the tendering process and will lead to automatic disqualification of the party's bid.
- i) Manufacturer's name, trade mark or patent no, if any should be specified.
- j) Purchaser / lessee reserve the right to negotiate the tender, if required.
- k) **No Literature, Pamphlets is to be enclosed. All such enclosures shall be considered as unread and also will not be considered as part of the quotation.**
- l) BHEL reserves the right to go for a Reverse Auction (RA) instead of Opening the submitted sealed price bid, which will be decided after techno-commercial evaluation. Information and general terms and conditions governing RA are given below.

4.5 GENERAL TERMS AND CONDITIONS OF RA

Against this enquiry for the subject item/system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING ON INTERNET.

- a) For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
- b) BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
- c) BHEL will inform the vendor in writing in case of reverse auction, the details of Service Provider to enable them to contact & get trained.
- d) Business rules like event date, time, Start price, bid decrement, extensions etc. also will be communicated through service provider for compliance.
- e) Vendors have to fax/email the Compliance form in the prescribed format (provided by Service provider) before start of Reverse auction. Without this, the vendor will not be eligible to Participate in the event.
- f) BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Netcash outflow to BHEL" considering Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the vendor to enable them to fill-in the price and keep it ready for keying in during the Auction.
- g) Reverse auction will be conducted on scheduled date & time.
- h) At the end of Reverse Auction event, the lowest bidder value will be known on the network.
- i) The lowest bidder has to Fax/send by email the duly signed Filled-in prescribed format as provided on case-to-case basis to BHEL through Service provider within 24 hours of Auction without fail.
- j) Any variation between the on-line bid value and the signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHEL as per prevailing procedure.
- k) In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.
- l) BHEL reserves the right to negotiate if need be, with the L1 vendor.

4.6 VALIDITY OF OFFER

Offer shall be kept valid for four months from the due date of Tender opening (Part-I), for Purchaser/lessee's acceptance.

4.7 LANGUAGE & CORRECTIONS

- a) The bidder shall quote the rates in English language and international numerals only. The metric system of units shall be used, for the purpose of tender.
- b) Bidder shall fill the **ORIGINAL** tender documents downloaded from BHEL web site. All entries and signatures in the bid shall be in **BLUE INK only**. Each page of the bid shall be signed and stamped using official seal of the company by the bidder.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **20** of **84**

- c) All entries shall be filled in neat and legible handwriting. No over-writings erasures and corrections are permitted and may render such bids liable for rejection.
- d) However, if any cancellations, corrections and insertions are in the bid, the bidder shall duly attest it.

4.8 REJECTION OF BID AND OTHER CONDITIONS

- a) Any format not properly filled, partially filled or not filled will make the bid liable for rejection. Bidders are requested to note that all columns, rows and spaces provided to fill up the data must be filled with relevant data without fail. In case, any bidder fails to do so or fills up irrelevant data, BHEL is not bound to seek clarifications on such items and will be free to reject the tender summarily.
- b) Bidder may visit the site at BHEL, Ranipet between 9AM to 4PM on working days on or before 06-02-2017.
- c) Any relevant information pertaining to this tender can be obtained only from:

M G Gnanasekaran

DGM(Purchase)

Utility Section

BHEL, Ranipet

Tel No.: (04172) 284338 cell 9943992201

Email: mggsekaran@bhelrpt.co.in

- d) **Canvassing in any way concerning this tender, wrong declaration, incorrect information, misleading or incorrect certifications, etc. shall be viewed seriously and suitable action will be taken as per company norms.**
- e) The Purchaser reserves to itself, full rights for the following without assigning any reasons, whatsoever:
 - (i) To reject any or all the bids.
 - (ii) To increase or decrease the quantities.
- f) The offer is liable to be rejected, if it is found after the Price Bid Opening that the commercial terms like service tax/sales tax/duties are different from the un-priced bid.
- g) If the bidder deliberately gives wrong information in his bid, Purchaser reserves the right to reject such a bid at any stage or to cancel the Order/Contract, if awarded and forfeit the Bank Guarantee.
- h) If the Prices/Rates of one or more of the enquired equipments have not been quoted, the offer is liable to be rejected.

4.9 Delivery Schedule:

All equipment supplied and installed, at the stipulated locations shall be NEW and confirming to the contract technical specifications. The certificate of newness is to be furnished.

All the items (hardware & software) shall be supplied and successfully installed / commissioned as per scope of work in all respect within 120 days (One Hundred and Twenty days) after placement of order or issue of Letter of Intent / Work Order / Fax Order/ email order. Failure in delivery or installation within 120 days, will entail Late Delivery Charges as per the LD clause of the contract. (LD will be based on contract value affected by the non-supply of delayed items)

If the delivery is delayed due to reason not attributable to BHEL, BHEL reserves the right to go for alternative procurement.

4.10 RATES

Rates to be quoted are net F.O.R destination inclusive of freight, handling and packing charges, transit insurance, installation, regular insurance, and on-site comprehensive maintenance including spares at stipulated location during the entire contract/lease period and remain firm without any variation till the

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 21 of 84

completion of the lease contract. However taxes like lease tax / VAT and service tax will be payable as per actual.

Rates are to be quoted as per Price Bid Format providing details of prevailing rates of taxes. Bidders, in their own interest, are requested to check up and indicate the different tax tariff like service tax etc. Taxes not mentioned by the bidder in their bid will not be entertained at later date. However, during the execution of the contract any increase or decrease in the above taxes/imposition of new taxes will be paid against documentary proof.

4.11 BANK CHARGES

Unless otherwise specified, the Bank charges, if any, shall be to the account of Vendor/Lessor.

4.12 Liquidated damages (LD):

It is clearly understood among the parties to the contract the "Time is the essence of the contract". Therefore, the delivery of the goods specified in the purchase order should be made within the time prescribed. Where the seller supplies or despatches the good, beyond the delivery period specified the purchaser will have no obligation to accept the good. If accepted, liquidated damages at the rate 0.5% of the value of goods delayed for each week of delay subject to a maximum of 10% of order value will be levied.

In case any bidder is not accepting the above penalty for delayed Supply, the offer of bidder shall be loaded to the extent to which it is not agreed by the bidder. Example: If the Supplier has accepted for maximum 5% penalty clause, then balance 5% will be loaded for evaluating lowest bidder)

4.13 Inspection & Testing:

All goods shall be subject to inspection by BHEL or its authorized representatives at supplier's works or at BHEL stores or at any other place in India indicated by BHEL as the case may be. The supplier will not charge for the facilities provided for inspection of goods. In case of machine tools, the machine would be inspected and proved at supplier's works prior to dispatch however, final inspection and acceptance of the machine will be carried after installation of the machine at BHEL, Ranipet.

4.14 PERFORMANCE BANK GUARANTEE

The successful Bidder shall furnish a bank Guarantee from a Bank approved by BHEL issued by a Local Branch in India, at no extra cost to BHEL in a proforma prescribed by BHEL, as per enclosed format (Annexure C) along with the order, for an amount equivalent to 10% (Ten percent) of the annual rental value of the contract. Interest amount, duties and taxes payable to the vendor are excluded in the value of BG. The PBG shall be valid for one year and to be renewed every year till the completion of contract period with a claim period of further 3 months.

The Performance Bank Guarantee shall be obtained from any one of the banks which is a member bank in the consortium of banks of BHEL and issued by their branch in India.

Bank Guarantee shall be submitted immediately after the placement of LOI / PO (before start of the work). In lieu of PBG, the following are accepted,

- a) Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL
- b) Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL)
- c) Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL)

(Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith)

4.15 INDEMNITY

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 22 of 84

Vendor/ Lessor shall fully indemnify and keep indemnified the Purchaser/Lessee against all claims which may be made in respect of the use of System/ Software/ Item(s)/ Services supplied/ rendered by the Vendor/ Lessor, for infringement of any rights protected by patent, registration of designs or trademarks and legality of the Software. However the Vendor/ Lessor will have no obligation for any claim or infringement arising from third party products not supplied in the order, modifications and technical information/ instructions advised by purchaser and use of products prohibited by product manuals.

All such claims in this regard will be settled as per Indian Laws.

In the event of any such claims being made against the Purchaser/ Lessee, Purchaser/Lessee will inform in writing to the Vendor/Lessor who shall at his own risk and cost either settle any such dispute or conduct any litigation that may arise there from.

4.16 Integrity Pact:

The bidder shall sign an Integrity Pact, to comply with the requirements of the Transparency International Limited (TIL) and the Central Vigilance Commission (CVC) guidelines to ensure an ethical and corruption-free business environment. The proforma for the Integrity Pact is attached as Annexure-B.

4.17 Non-Disclosure Agreement:

Vendor shall, at all times, undertake to maintain complete confidentiality of all data, information, software, drawings & documents, etc. belonging to the Purchaser and also of the Systems, procedures, reports, input documents, manuals, results and any other company documents discussed and/or finalised during the course of execution of the order/contract.

The bidder shall sign a Non-Disclosure Agreement (NDA) with BHEL. By signing the NDA, the bidder agrees not to disclose any confidential information, business or proprietary, as covered by the agreement. The Proforma for the Non-Disclosure Agreement is attached.

4.18 FORCE MAJEURE

Vendor shall not be responsible for delay in delivery resulting from acts/events beyond his control provided notice of the happening of any such act/event is given by the Vendor to the Purchaser within 15 days from the date of its occurrence. Such acts/events shall include but not be limited to acts of God, war, floods, earthquakes, strikes, lockouts, epidemics, riots, fire or Governmental regulations superimposed after the date of order/contract.

4.19 RISK PURCHASE

Purchaser/ Lessee shall reserve the right to terminate the order/ contract and purchase from elsewhere at the risk and cost of the Vendor/ Lessor, either the whole or part of the Systems/ goods, which the Vendor/ Lessor has failed to deliver within the stipulated delivery period or if the same were not available, the best and the nearest available substitute(s) thereof. The Vendor/ Lessor would be liable to compensate the Purchaser/ Lessee for any loss, which the Purchaser/ Lessee may sustain by reason of such purchase. This clause will be operated only after completion of delivery period including extended period with penalty, if any.

4.20 PATENTS & TRADEMARKS

Vendor shall at all times indemnify the Purchaser against all claims which may be made in respect of the Systems/goods supplied by the Vendor, for infringement of any right protected by patent, registration of designs or trademarks and legality of usage of items. In the event of any such claims being made against the Purchaser, Purchaser will inform the Vendor who shall at his own cost either settle any such dispute or solve any litigation that may arise there from.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 23 of 84

4.21 SUB-CONTRACTING

Order/contract or any part thereof shall not be sub-contracted, assigned or otherwise transferred without prior written consent of the Purchaser.

4.22 TERMINATION OF LEASE CONTRACT & ITS CONSEQUENCES

- a) Purchaser reserves the right to terminate the order/contract, either wholly or in part, upon situations arising due to non-compliance of stipulations of the Order/contract by the Vendor, or non-performance of the equipment/system below 95% continuously for more than 3 month, at the risk and cost of the Vendor/Lessor.
- b) In case of the contract termination, Vendor will remove the equipment from Purchaser premises at his own risk and cost after due permission from BHEL.
- c) Vendor shall continue the performance of the order/contract under all circumstances, to the extent not cancelled.
- d) BHEL reserves the rights to cancel the contract in case the equipment and services are not found to be satisfactory.
- e) Consequences: As soon as the contract is cancelled / terminated by BHEL, no payment will be payable to the Vendor.

4.23 SETTLEMENT OF DISPUTES

- a) Except as otherwise specifically provided in the Order/Contract, all disputes concerning questions of the facts arising under the Order/Contract, shall be decided by the Purchaser, subject to written appeal by the Vendor to the Purchaser, whose decision shall be final to the parties hereto.
- b) Any disputes or differences shall be to the extent possible settled amicably between the parties hereto, failing which the disputed issues shall be settled through arbitration.
- c) However, the Vendor shall continue to perform the Order/Contract, pending settlement of dispute(s).

4.24 ARBITRATION

In all cases of disputes emanating from and in references to this agreement the matter shall be referred to the arbitration. All disputes or differences between the parties will be resolved through arbitration governed by Arbitration & Conciliation Act 1996 as amended from time to time. The venue of arbitration shall be Ranipet.

4.25 ACCEPTANCE OF ORDER

Letter of acceptance of the Work Order along with Performance Bank Guarantee (as per clause 4.14) is to be submitted within two weeks of receipt of Purchase Order.

4.26 ADDITIONAL FACILITY REQUIRED IN FUTURE ON THE SUPPLIED EQUIPMENT

In case any additional facility is required on the supplied equipment / Services requiring upgrade the Vendor shall provide the same at mutually agreed terms. BHEL also reserves the right to extend the contract after expiry of initial period.

4.27 ETHICAL STANDARD

Bidders are expected to observe the highest standard of ethics during the procurement and execution of this Contract. In pursuit of this policy, BHEL will reject a proposal for award if it determines that the Bidder being considered for award has engaged in corrupt or fraudulent practices in competing for the Contract. For the purposes of this provision, the terms set forth below are defined as follows:

- a) **“Corrupt practice”** means the offering, giving, receiving, or soliciting of anything of value to influence the action in the procurement process or in Contract execution; and
- b) **“Fraudulent practice”** means a misrepresentation of facts in order to influence a procurement process including collusive practices designed to establish bid prices at artificial, non-competitive levels to deprive the benefits of competition to BHEL.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 24 of 84

By signing the Bid Forwarding Letter, the Bidder represents that for the software it supplies, it is the owner of the Intellectual Property Rights. Willful misrepresentation of these facts shall be considered a fraudulent practice without prejudice to other remedies that BHEL take.

4.28 INCOME TAX DEPRECIATION

Income tax depreciation will be claimed by BHEL.

4.29 LIMITATION OF LIABILITY

Notwithstanding anything contained herein, neither Party shall be liable for any indirect, special, punitive, consequential or incidental damages (including, without limitation, loss of use, data, revenue, profits, business) under this Agreement and the aggregate liability of Vendor, under this Agreement, shall not exceed the fees received by it under this Agreement during the six months preceding the date of such claim.

4.30 CONFIDENTIALITY

Vendor shall, at all times, undertake to maintain complete confidentiality of all data, information, software, drawings & documents, etc. belonging to the Purchaser and also of the Systems, procedures, reports, input documents, manuals, results and any other company documents discussed and/or finalised during the course of execution of the order/contract.

4.31 INSURANCE

Insurance for the complete Systems/Goods shall be arranged by the Vendor/Lessor at his own risk and cost during transit, movement, storage and throughout the period of lease. Purchaser/Lessee, under any circumstances, will not be responsible for any loss/damage/theft of any systems/goods, due to any reasons, whatsoever. Claims etc. if any, will be dealt with the underwriters directly by the vendor/lessor.

Copy of insurance policy shall be submitted to BHEL. If the lessor fails to renew the policy before the expiry, BHEL may effect the insurance and deduct the cost thereof from the lease rental. The beneficiary of the insurance should be BHEL, Ranipet.

Adequate insurance coverage should be taken care by the vendor/lessor for their employees deputed at BHEL, Ranipet.

4.32 FORE-CLOSURE

In case of fore-closure of the R&G agreement by the BHEL for reasons not attributable to the bidder, prorata compensation will be payable. Compensation will be equivalent to the basic price component of the remaining quarters of the R&G period and the ownership of the equipment shall be transferred to BHEL

4.33 COURT

The Ranipet court alone shall have the exclusive jurisdiction over this contract.

4.34 Withdrawal from the Contract

In case the bidder withdraws the offer submitted by him/her after it is accepted by BHEL and fails to supply the goods as per the terms and conditions of the contract, or at any time repudiate the contract wholly or in part, BHEL shall be at liberty to cancel the purchase order and to recover from the bidder the extra cost and the other loss incidental to the breach of contract on the part of the bidder

4.35 MSME status - Applicable for Indian vendors only

In their own interest the registered Bidders are advised to check the current status of the validity of the registration, which is one year from the date of the certification by the Chartered Accountant before

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 25 of 84

submitting their Bid document/s. In the event that on the date of the tender opening the registration is not valid, then the Supplier will be treated under non-MSE category for this tender.

In case the validity of the registration has expired and if the Bidder wants to be considered as an MSE then, the supplier shall submit the necessary certificate from a Chartered Accountant certifying the status of their Unit / Works clearly specifying the address of the works which is to be considered as MSE and send the same to BHEL, Ranipet either before the tender opening date or as a part of the tender document. If the offer is accompanied with the certificate, then the Bidder would be considered as an MSE.

If the certificate is sent separately BHEL will not be responsible for any postal / courier / delivery delays and the status as on the date of the bid opening as available with BHEL, Ranipet's records shall be used for reckoning the status of the Bidder as an MSE or otherwise. Offers received without these documents will be treated as non-MSE and order finalization will be done based on this premise.

Documents submitted after Bid-opening will not be considered in this tender.

This provision for MSE will apply subject to the condition that the participating MSE meets the tender requirements.

In case of any change in the MSE status of the Bidder, it shall be the responsibility of the Bidder to notify the change as a part of the Bid document. If at a later date it comes to the knowledge of BHEL, Ranipet that the change in the status has not been intimated by the bidder and the order is obtained under the premise of an MSE then BHEL would cancel the pending order against this tender and taken necessary steps for suspension of the business dealing with the Bidder as per the procurement policy of BHEL.

4.36 TAXES AND DUTIES

The price quoted in the price schedule shall be exclusive of all taxes and duties (right to use tax, service tax etc.) applicable as on date. No variation in taxes and duties shall be allowed during the R&G period except for statutory variations in the taxes and duties levied by the Government payable by the contractor for which the rate of tax/duties, basis of charge, assessable value and break-up value of tax/duty are indicated in the price schedule. Taxes not mentioned by the bidder in the price schedule will not be entertained at a later date. However, during the execution of the contract, any statutory increase or decrease in the above taxes indicated in the price bid will be entertained against Signature of the Bidder Page 44 of 83 documentary evidence i.e. original invoice relevant tax and duty notification copy, proof of payment of taxes (challan copy) and a certificate for payment of taxes and duties for the invoice.

4.37 OTHER TERMS & CONDITIONS

- a) The Lessor also agrees and undertakes not to sell, loan out, gift away, hypothecate or pledge or create a charge or lien or any encumbrance on the Equipment leased under this agreement except for the charge created for the purpose of financing the purchase of the Equipment.
- b) BHEL hereby agrees to make the site ready as per the agreed specifications, within the agreed timelines. Customer agrees that Vendor shall not be in any manner be liable for any delay arising out of Customer's failure to make the site ready within the stipulated period, including but not limited to levy of liquidated damages for any delay in performance of Services under the terms of this Agreement

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 26 of 84

5.0 Technical Specification for IT Infrastructure:

BHEL Ranipet is having **Primary Site** in Informatics Centre and **Secondary Site** (Near DR) (~1.0 km apart) within the same campus. Equipments are required as per the specification mentioned in this document. Secondary site will have identical set up as primary site and during normal operation they will be in ACTIVE-PASSIVE configuration failover cluster. It will be configured to have data replication between primary site and secondary site in order to have a zero data loss in case of failure. Secondary site will be connected to the primary site using dedicated, redundant optical fibre links through which data will be synchronously replicated.

The Replication methodology must be capable of both synchronous and asynchronous replications.

5.1 Server details per the below tables

TABLE – 1 DC site							
S No	Server /Purpose	Min.Capacity Required		Minimum Internal Disk / SAN Boot for OS	Min I/O ports Required		HA Cluster (DC_DR)
		CPU Cores (Intel Xeon Processor E5-2637v4) or latest in E5 series.	RAM		10 GbE Ethernet Ports (Physical)	16 GbFC Fiber Channel Ports (Physical)	
1	Server 1 - Database Production (Node1)	8	160GB	2 x 600GB	8	4	RAC
2	Server 2* - Authentication Server, Load Balancer, Application Servers	20	160GB	2 x 600GB	8	4	Yes
3	Server 3 - Engineering	4	80GB	2 x 600GB	8	4	
4	Server 4 - Backup Server	4	64GB	2 x 600GB	8	4	

Note: *VMware vSphere Hypervisor clustered Virtual Machines
 No of Cores is fixed.
 RAC – Real Application Cluster
 ODG – Oracle Data guard

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 27 of 84

TABLE – 2 DR Site

S No.	Server /Purpose	Min.Capacity Required		Minimum Internal Disk / SAN Boot for OS	Min I/O ports Required		HA Cluster (DC-DR)
		CPU Cores (Intel Xeon Processor E5-2637v4) or latest in E5 series.	RAM		10 GbE Ethernet Ports (Physical)	16 GbFC Fiber Channel Ports (Physical)	
1	Server 1 - Database Production (Node2)	8	160GB	2 x 600GB	8	4	RAC
2	Server 2* - Authentication Server, Load Balancer, Application Servers	20	160GB	2 x 600GB	8	4	Yes
3	Server 3 - Standby Database	4	80GB	2 x 600GB	8	4	ODG
4	Server 4 - Backup Server	4	64GB	2 x 600GB	8	4	

5.2 Specifications of Intel Xeon Servers: 8 Nos.

Intel Xeon Servers: 8 Nos. (Primary Site and secondary site (near DR) 4 nos each)				
Sr. No.	Features	Min.Requirement as per RFP	Compliance (Yes/No)	Document Reference/ Remarks
1	Servers	The latest Server line meeting all functional and technical requirements shall be quoted		
		Server shall be rack mount.		
		All servers should be allocated with resources as specified in Table 1 & 2.		
		64-bit Red Hat Enterprise Linux Operating System		
		Both servers at Primary and secondary site shall be of the same Make and Model.		
		All servers quoted should be of same OEM & same model with the same Intel Xeon processor.		
		The future roadmap of the Server needs to be submitted. The offered server should be supported for next 7 years.		
		All Servers should be capable for running 64-bit Oracle Database 11gR2 and later, Oracle Application Server 10g and later, Oracle WebLogic Server 11g and later, SAP ECC 6.0 and later.		
		Higher ratings are acceptable.		
2	Processors	Each server to be populated with at least 2 Nos. of Intel Xeon E5 -2637v4, 3.5GHz processor or latest in		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 28 of 84

		E5 series.		
4	Cache	Min. 15MB L3 Cache		
5	Chipset	Intel C610 Series		
6	Main Memory	Memory shall be provided as per table I & II shall be offered.		
		The offered Server should be scalable to minimum 1 TB RAM.		
5	Virtual Machines (Applicable to Server 2 Only)	Each independent virtual machine should run having its own operating system instance with resources dedicated to it.		
		Total number of application server licenses required to meet the cores mentioned above will have to be indicated. Oracle product license cost for application server will be used to determine the overall cost		
		It should be possible to assign processors and memory logically to any virtual machine or switch processors and memory between virtual machine without reboot of source or target virtual machine or applications.		
		Each virtual machine shall be able to run same or different versions of OS kernel, patch levels, etc, independently.		
		Any configuration change in one virtual machine shall not affect any other virtual machine.		
		Any fault in one virtual machine shall not bring the entire system or other virtual machines down.		
		The OS of each virtual machine shall be upgradeable separately and independently without affecting the other virtual machines.		
		Each virtual machine shall have the capability to start-up and shutdown independently without affecting any other virtual machine on the same server.		
		Virtual machine should have security isolation from one another.		
		Virtual machine management software with GUI/ Web interface shall be provided. The Web/GUI interface shall support configuration and dynamic (no-reboot) reconfiguration features.		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 29 of 84

		Each virtual machine should be able to utilize any combination of dedicated (specifically assigned) and shared (virtual) I/O adapters (fibre channel, and SCSI/SAS).Dedicated adapters should be under the direct control of the virtual machines operating system.		
		It should be possible to move an entire running virtual machine from one physical server to another, without downtime. The virtual machine should retain its network identity and connections, ensuring a seamless migration process.		
		Virtual machine management software should automatically shift resources to high-priority applications according to the rules and policies, to address network or storage utilization through a dynamic allocation of I/O capacity across a cluster.		
6	I/O Adapters	All adapters should be PCIe. All ports must be physical.		
		All FC ports shall be of 16 Gbps speed with multi path I/O trunking and automatic load balancing (as per Table-1 & Table-2) for each server/ virtual machine. The server will be connected to SAN storage system using fibre channel links. Required compatible Fibre Channel Host Bus Adapters with multi-path and automatic load balancing on the server side shall be provided to connect the storage system with 100% redundancy. All the hardware and software required for this shall be provided. Multiple fibre cards with multi-pathing capability and automatic load balancing at HBAs on servers shall be supplied.		
		All Ethernet Adapters shall be of 10 Gbps auto sensing (as per Table-1 & Table-2) for each server / partition in automatic Fail-over / Redundant / trunking / Link aggregation and auto switching mode.		
		Functional (Ethernet and Fiber Channel) redundancy at an adapter level shall be provided for each partition.		
		Separate Adapters for Management LAN, SAN boot, etc, shall be provided. In case of san booting performance of database and application must not be affected		
		USB/Serial Ports shall be supplied as per the standard availability in the model offered		
		Additional 1 free PCI slots should be available on each server.		
7	Disk and Media drives	Each server shall be configured with minimum 2x600GB hard disk drive on internal Hot plug SAS disks.		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 30 of 84

		Internal Disks or the SAN disk used for OS shall be in RAID 1+0 /RAID 1.		
		There shall be DVD ROM drive for each server.		
		Suitable disk management software including Volume Manager to dynamically manage the logical volumes to be supplied.		
		All servers should have required drive adapter SCSI/SAS/FC to connect the tape drive on requirement basis. Tape drive should not use the ports specified in Table -1 & 2.		
8	Storage Controller	12 Gbps SAS/SATA RAID Controller with battery backed cache with support for RAID (0,1,5)		
		The RAID controller should support Raid 0, 1, 5, 10, 50. Raid controller should have an option to upgrade to Raid 6 and 60 as well. Raid controller should support on line Raid level migration, on line capacity expansion and data scrubbing as well.		
8	Operating System	All Servers must be provided with latest version of 64-bit Red Hat Enterprise Linux Operating System with latest patch level with 5-year Premium support.		
		Shall be capable of running 64-bit Oracle Application server /Web Logic Suite 11g and higher version.		
		Shall be capable of running 64-bit Oracle 11g RDBMS and higher version		
		The RHEL Linux Operating Systems shall be licensed to support unlimited users.		
		Partition management software having dynamic configuration feature with GUI / Web interface. Management Consoles for the same to be provided.		
		Software to be provided for capacity planning & logs maintaining, trend analysis and reporting.		
		Software to be provided for intelligent workload & partition replacement across a virtualized environment.		
		Software and licenses to be provided for resource allocation / de-allocation to virtual machine.		
		Specify Red Hat Linux Operating System Version/Release		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 31 of 84

9	Cluster/High availability	The cluster solution must be able to provide fail-over to the other system at remote location (connected through Dark Fiber) for any failure arising in one of the system due to: <input type="checkbox"/> Entire Site failure <input type="checkbox"/> Hardware <input type="checkbox"/> Operating System <input type="checkbox"/> Server failure <input type="checkbox"/> Partition Failure Any other failure which causes the server / partition to fail.		
		Clustered primary datacenter server should have dedicated failover nodes at near DR site as specified in Table -1 & 2		
		Cluster solution shall be from RHEL or certified by Hardware OEM.		
		The proposed solution of implementing the fail-over must be explained in detail in the technical proposal along with logical diagrams.		
		Redundant Heart beat paths to be provided; paths to be physically isolated from each other.		
		Dedicated cluster / heartbeats ports (using dedicated single or dual port cards) shall be provided.		
10	RAS Features	Memory shall be protected through Advanced ECC / Chipkill and error correction or equivalent. Specify the technology used.		
		Pre failure Alert capabilities shall be available		
		All adapters shall be hot-swappable.		
		All the following components shall be hot swappable – Disks, Power Supplies, Fans etc.		
		Shall have indicators to identify failed components.		
		Shall have redundant Power Supplies and provision for input from at least two sources.		
		Shall have redundant cooling fans.		
11	Scalability	The server scalability and upgradeability path in terms of CPU and RAM must be submitted.		
12	Others	System management shall be through dedicated ports and shall not use the adapters identified for virtual machine s/servers.		
		All cables & accessories to implement connectivity between Server, SAN switches, Storage and Tape library shall be provided.		
		All power cables with mating connectors (male and female connectors) shall be supplied.		
		Specify power consumption on full load.		
		Specify heat dissipation on full load in BTU/hour		
		Should support Hot Swappable Power Supply and FAN.		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 32 of 84

		Should support hot swappable Disks. Should support dynamic firmware upgrade		
		System should meet international regulations on safety,RFI/EMC.		
		Shall be IP V6 compliant		
14	Make/ model	Specify Make& Model of server		
15	SAPS offered	Bidder to specify the SAPs value offered by the servers of Table I & II.		
16	Documentatio n	All the documents like data sheets, architecture, line diagrams, etc., shall be submitted.		

5.3 Specifications of SAN Storage: 2 Nos.

Disk Type	Minimum storage capacity requirement at each site
Solid state Disk (SSD)	4 TB (usable) of storage with at least 1,00,000 IOPS
Min. 600 GB 10K RPM 12 Gbps SAS III	Min.60TB(Usable) with at least 20,000 IOPs + Minimum of 5 hot spares

Disks for operating system (required for SAN boot) of each server/virtual machine shall be supplied in addition to the number of disk drives shown in the table above.

Vendor has to demonstrate the IOPS performance using Intel IOMeter under the following parameters.

	Read/Write: 70%/30%	
	Block size: 8 k	
	Random: 100%	
	Cache hit: 0%	
	File Size: Total storage capacity	
	Raid level: 5	

SAN Storage - 2Nos. (One per Location)				
Sr. No.	Features	Min.Requirement as per RFP	Compliance (Yes/No)	Document Reference/ Remarks
1	RAID controller	Dual Active Controller with no single point of failure in the storage array. RAID Array supporting at least Raid Levels 0, 1, 5, 6 and 10 or equivalent.		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

2	Cache	<p>1) The Storage subsystem shall be configured with minimum of 32 GB usable cache and shall be scalable to up to 64 GB. However in case storage offered requires additional cache, to achieve the minimum required performance as per RFP, same should be proposed accordingly.</p> <p>2) It shall support de-staging of cache to disks on power down or shall support internal battery backup of cache for at least 48 hours. The data in cache shall not be lost in the case of power failure.</p>		
3	Host Interface	1) Storage system should be configured with 8 numbers of 16Gbps FC, front-end ports and should be scalable to 16 ports		
4	Drive Interface	Storage should support a minimum of 4 SAS 3.0 or FC ports and the same shall be scalable to 16 SAS 3.0 or FC ports		
5	Support Drives	The storage subsystem shall support 600/900 GB FC /SAS disk and 2 TB or higher SATA/FATA /Near line disk drives.		
		Storage should support SSD drive for data storage purpose. The storage shall also support the functionality to automatically move the data from lower performing disk to SSD, based on the performance requirement. Required licenses for the same, shall be provided.		
6	San Supported	All Standard SAN Switch needs to be supported.		
7	Disk Scalability	The storage should be configured as defined above. The storage should be scalable to 120TB.		
		Number of disks which will deliver the above mentioned capacity (400 SAS drives) should be capable of delivering at least 60,000 IOPS as defined above		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 34 of 84

8	Availability	1)Should offer dual active-active and failover controllers Should offer redundant power supplies and cooling units Should support hardware based RAID 0, 1, 5 and 10 Should support LUN Masking and software for the same should be configured 2)It should support Non-disruptive component replacement of controllers, disk drives, cache, power supply, fan subsystem etc.		
		The storage shall support the High Availability Clusters solution based on RHEL platform.		
9	Performance	Proposed storage system should offer a minimum of 1,00,000 IOPS with SSDs and a minimum of 20,000 IOPS with SAS hard disk drives as per SPC-1 benchmark.		
		Storage shall be provided with Performance Management Software which should support both online and historical performance data for monitoring, forecasting and trend analysis.		
10	Licensing	Licenses for software (Storage Array Management, Point-in Time Copy, Volume Copy, multipathing software for host) should be provide as part of the solution		
		System should be configured with necessary multipathing components for high availability		
		Required licenses for Snapshots/clones/remote replication should be configured.		
11	Volume management /LUN	"Creation of volumes that stripe across multiple backend disk ports for better load distribution and prevention of hot spots." LUN binding and masking license for at least 25 servers. Dynamic Volume Expansion. "Non-disruptive online microcode upgrades without impact on any application connected to storage system."		
12	software	Licenses have to be provided for the storage capacity quoted at Primary and Secondary site as mentioned below: Flash Copy & Volume Copy for entire storage capacity.		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 35 of 84

13	Remote Replication	Storage shall support both synchronous and asynchronous replication without any server intervention. Storage must support bidirectional Data replication between Storage Systems at primary site and secondary without any server intervention.		
14	Operating System Support	The storage system shall support the latest OS releases & Cluster of the following mentioned servers / OS:- CISC/RISC/EPIC-based Servers running Microsoft, HP, Linux		
15	Additional Features (should support)	The design shall also provide provision for LUN masking and SAN security.		
		Vendor should factor Storage Operating System disk and Global Hot Spare disks as an additional to the RAW capacity mentioned		
		All specifications stated are minimum required. Proposed system may have features over and above the minimum specification stated. Bidder should ensure that the performance of storage is not negatively affected for the entire duration of the contract		
		The future roadmap of the Storage needs to be submitted. The offered server should be supported for next 7 years.		

5.4 Specifications of SAN switch: 4 Nos.

Specifications for SAN switch - 4Nos (2Nos Per Location)			
Sr. No.	Min.Requirement as per RFP	Compliance (Yes/No)	Document Reference/ Remarks
1	Minimum 32 Active ports (each with minimum port speed 16 Gbps) within same switch upgradeable to 48 ports.		
2	Should have 28Nos. of 8Gbps Short Wave SFPs and 4Nos. of 8Gbps Long Wave (support 5Kms distance) SFPs		
3	All cable of length of 5 and 15 meter each and accessories for connecting Servers /Devices to SAN.		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

4	All the ports should operate at min 8Gbps in a nonblocking backplane and auto-negotiate to 8Gb / 4Gb / 2Gb FC speeds.		
5	Non disruptive subsystem maintenance.		
6	Should have redundant Fans and redundant Hot plug power supplies.		
7	Should have web based management software for administration and configuration.		
8	Non disruptive microcode / firmware upgrades and hot code activation.		
9	Switch shall support in built diagnostics, power on self test, command level diagnostics, online and offline diagnostics.		
10	Should support hardware ACL based Port security, Port Zoning and LUN Zoning		
11	Should support Secure Shell (SSH) encryption to provide additional security for Telnet sessions to the switch.		
12	Should support multilevel security on console access prevent unauthorized users from altering the switch configuration		
13	Should support Fiber Channel trace route and Fiber Channel Ping for ease of troubleshooting and fault isolation		
14	Should support Applications for device management and full fabric management.		

5.5 Specifications of Tape Library: 2 Nos.

Tape Library - 2Nos. (One per Location)			
Sr. No.	Min.Requirement as per RFP	Compliance (Yes/No)	Document Reference/ Remarks
1	Four (4) native fibre LTO 7 drives to be offered.		
	Shall have minimum 50 slots.		
2	Tape identification shall be using Bar code		
3	The tape library offered shall have robotic arm to identify media, load tape media into drives and put them back into corresponding shelves automatically. Loading and unloading of tapes from the library shall also be supported by the robotic arm.		
4	All the slots of the tape library shall be accessible by the robotic arm.		
5	Host Platform support: HP-UX, Windows 2003/2008/2012, RHEL Linux		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 37 of 84

6	Shall supply 100 labeled, blank new LTO-7 tape media with each tape library; each with 6 TB uncompressed storage capacity.		
7	Shall supply 5 cleaning cartridges with each Tape Library.		
8	The tape library shall be configured with its management software to monitor the entire backup infrastructure – drives, library assets centrally from a single console.		
9	The Tape Library solution should have redundant hot swappable power supplies and cooling fans.		
10	Specify actual time taken for taking backup of 5TB data using a single drive with the offered solution.		
11	All the cables -- fibre, Ethernet, SAS, etc required for connecting the backup servers with the SAN Storage and other servers shall be supplied by the bidder.		
12	There shall be end to end fibre connection between SAN and tape drive.		
14	2 (two) numbers of special turtle case for transporting atleast 10(ten) LTO tape media to offsite shall be provided.		

5.6 Specifications of Backup Software: 2 Nos.

Backup Software – 2 Nos. (One per Location)			
Sr. No.	Min.Requirement as per RFP	Compliance (Yes/No)	Document Reference/ Remarks
1	Backup software shall be a single solution for supporting multiple operating systems and application using a single product which would take care of data growth in future. Backup server must be supported on Unix, Linux OS platform, and Windows OS		
2	Backup management software that helps monitoring of tape library shall be GUI/ web based.		
3	The offer shall cover licenses required for taking backup of the entire data residing in all the servers/ virtual machine as per Table 1 & 2. Minimum 10 for Linux OS and 3 for other operating systems (Windows) for each location.		
4	Back-up software shall be a single solution for supporting multiple operating systems and applications using a single product		
5	Back-up software shall support backed up data replication to DR for disaster recovery strategy		
6	Back-up software shall support scheduled and policy based back-ups.		
7	Back-up software shall support multiple simultaneous client sessions for back-up and restore.		
8	The Backup software shall maintain catalog of all the backups for efficient management of data and for better performance. Solution should also be consider to run backup server on Unix/Linux /Windows		
9	The back-up software shall support features like Point-in-time back up/ restore and Archive /retrieve		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 38 of 84

10	The Back-up software shall support back-up over LAN, SAN and server free backup.		
11	The back-up software shall provide integration with Enterprise Management software such as Tivoli, Unicenter TNG and HP- Open view.		
12	The software should support forever full incremental backup or equivalent on disk & tape. There should not be a need to construct the full backup from all incremental. Specify the methodology used.		
13	Software should have an inbuilt feature for Tape to tape copy feature (cloning, within the tape library) to make multiple copies of the tapes without affecting the clients for sending tapes offsite as part of disaster recovery strategy.		
14	Backup software should also support online backup of all industry popular databases & mailing solutions like Oracle, DB2, MS-SQL, Qmail,Zimbra,Lotus Domino & MS-Exchange		
15	The backup software must be capable of running in a clustered environment. Cluster licenses of the backup software should be provided for both the Client and the Server components.		
16	The backup software must use an RDBMS as the backup catalog for efficient management and scalability of the solution.		
17	A copy of the backed up data at one site will be maintained on the Tape Library residing on the other site.		
18	The backup software should support (Role Based Access) different levels of User access, Administrator, User, Operator, so that only the authorized personnel can make changes or view the status based on the rights they have.		
19	The software must have the capability for monitoring and controlling the tape sent offsite.		
20	The Software must also provide for creating a Business Continuity Plan in case of the Backup server and all other servers in the backup network being destroyed in a possible disaster. This should be a scheduled and Automated activity on the backup server. The software shall also provide for restoring data at each site during complete non-availability of the other site due to disaster.		
21	Restore feature: System shall be configured for full restoration of the backed up data including OS image restore to the respective storage. Solution should be licensed for OS recovery from backup		
23	Extensive reporting capabilities to monitor the health of Backups, support HTML, TEXT and CSV outputs, support for scheduled automated generation of reports.		
24	Software shall support event notification to notify backup administrator about events like Job Failed or Job aborted, etc.		
25	Software shall support Scanning of Tape media to rebuild catalogs and indexes in case of disaster.		
26	Software shall offer centralized management console to remotely monitor backups.		
27	Software shall support Raw device backup of Windows / Linux / UNIX based system		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 39 of 84

28	Software shall support online backup of oracle & shall support both Online and RMAN to perform online backup.		
29	In case of backup server/tape library failure at one site the other server/tape library shall be used to take backup.		
30	Automatic media management shall be taken care by the backup software.		
31	The backup software should be able to support versioning and should be applicable to individual backed up object's		
32	Should have the ability to retroactively update changes to data management policies that will then be applied to the data that is already being backed up or archived		
33	Proposed backup solution should provide the forever full incremental functionality which can eliminate the need for taking full backup after every periodic interval		
34	Bidder must provide following agent as part of backup solution - SAN (LAN Free) Based Hot Online backup on all quoted database production servers/ virtual machine - LAN Based backup License on all quoted Production and Non-Production Servers/ virtual machine (Apart from Database Production Servers mentioned in the Tender RFP) - Open File backup agent on all quoted servers - BMR agents for Production as well as Non-Production RISC /EPIC Servers mentioned in the Tender RFP - License for Tape Library as per the specifications mentioned in the Tender RFP. - Oracle RMAN agent and required licenses		

5.13 Specifications of 10GbE LAN Switches: 8 Nos.

LAN Switches of same configuration shall be provided and configured at each of the sites (Primary and Secondary sites) to connect all the servers. All the switches shall be of same make and model. All switches should be rack mountable.

All necessary Ethernet and Fiber patch cord needs to be provided to connect/interconnect the complete infrastructure to the Ethernet switches, SAN switches and to the BHEL network. Mention the mode of the switch and make of the patch cord being provided. Necessary software to manage the switch is to be provided.

5.13.1. 15 mtr Fiber patch cords multi-mode LC-LC, duplex - 20 Nos.

5.13.2. 35 mtr Fiber patch cords multi-mode SC-LC, duplex - 4 Nos.

Requirement of above Fibre Patch Cords as per 5.13.1 to 5.13.2 are additional to the solution being provided by the bidder.

Para	Min.Requirement as per RFP	Compliance (Yes/No)	Document Reference/ Remarks
1	Interface: 24, 10/100/1000 BASE-T : 2 Combo 10/100/1000BASE-T/SFP (shared) : RS 232 Console Port/RJ45 serial console port. : Should have support for RPS (External/Internal)		
2	Performance: Switch Capacity : 88 Gbps : 64-Byte Packet Forwarding Rate : 65.48 Mpps : MAC Address Table Size : 8 k		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

3	Stacking Ports : 2 NOs of 10 G Ports		
4	Physical Stacking : Min 4 Units per Stack		
5	Virtual Stacking : Single IP Management		
6	L2 Features: Flow Control : 802.3x Flow Control		
7	Spanning Tree Protocols: 802.1D STP : 802.1w RSTP : 802.1s MSTP : BPDU Filtering : Loopback Detection		
8	802.3ad Link aggregation: Max. 8 groups per device/ 8 Gigabit ports per Group		
9	Port Mirroring: One to One : Many to One		
10	L2 Multicasting : IGMP Snooping : IGMP v1/v2/v3 Snooping : MLD Snooping : MLD v1/v2 Snooping : Support 1000 MLD Groups		
11	VLAN : Max. 1K VLAN Groups : GVRP/MVRP/Equivalent : 802.1Q Tagged VLAN : Port based VLAN : 802.1v Protocol VLAN : Voice VLAN : MAC-based VLAN : VLAN Trunking		
12	QoS (Quality of Service) : 802.1p : 8 queues per port		
13	Queue Handling : Strict Priority : Weighted Round Robin (WRR) Strict + WRR		
14	CoS based on : Switch Port : VLAN ID		
15	: 802.1p Priority Queues : MAC Address : IPv4 Address : DSCP : Protocol Type : TCP/UDP Port : User Defined Packet Content : IPv6 Address : IPv6 Traffic Class : IPv6 Flow Label		
16	Supports following actions for flows : Remark 802.1p Priority Tag : Remark TOS/DSCP Tag : Bandwidth Control		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 41 of 84

17	Bandwidth Control : Port based (Ingress/Egress, Min. Granularity 64Kbps)		
18	Access Control List(ACL) : Supports upto 1.0 K Ingress Access Rules : ACL based on : : 802.1p Priority : VLAN ID : MAC Address : DSCP : Protocol Type : TCP/UDP Port Number : User Defined Packet Content : Time based ACL		
19	Security : SSH v2 : HTTP and SSH/SSL v1/v2,v3 : Port Security : Upto 64 MAC addresses per port/VLAN : Broadcast/Multicast/Unicast Storm Control : Mechanism to protect CPU from unwanted : Broadcast/abnormal traffic. : Support for DHCP client and DHCP Relay : ARP Spoofing Prevention or equivalent : HIC/TAD/Prevention from DoS		
20	AAA : 802.1X : Port Based Access Control : Host Based Access Control : Identity driven Policy (VLAN,ACL or QoS Assignment : MAC based Access Control (MAC) : : Port Based Access Control : Host Based Access Control : Identity driven Policy (VLAN, ACL or QoS Assignment : Guest VLAN : Support 802.1X : Support DHCP : RADIUS and TACACS authentication for switch Access : Multi Level User Account		
21	Management : Web based GUI : Command Line Interface (CLI) : Talent Server : Talent Client : TFTP Client : SNMP v1/v2c/v3 : System Traps : System Log : RMON v1 : : Supports 1,2,3,9 groups : Support for RMON 1/2 Group as and when required : LLDP : Boot P/DHCP Client : DHCP Auto-Configuration : DHCP Relay : Multiple image/Configurations : CPU Monitoring : SNTP or NTP		
22	MIB : RFC 1213 MIB II : RFC 1493 Bridge MIB : RFC 1157, 2571 SNMP MIB : RFC 1157 SNMP v1/v2c : RFC 1757, 2819 RMON MIB		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 42 of 84

	: RFC 2665 Ethernet-like MIB : RFC 2674 802.1p MIB : RFC 2233IF MIB : RFC 2618 RADIUS Authentication Client MIB : RFC 2620 RADIUS Accounting Client MIB : RFC 2925 PING & TRACEROUTE MIB : RFC 2674 802.1p MIB		
23	RFC Standard Compliance : RFC 768 UDP : RFC 791 IP : RFC 792, 2463 ICMP : RFC 793 TCP : RFC 826 ARP : RFC 4213 IPv4/IPv6 dual stack function : RFC 2463, 4443 ICMPv6 : RFC 2461 Neighbor Discovery for IPv6 : RFC 783 TFTP : RFC 854 Telnet : RFC 951, 1542 BootP : RFC 2068 HTTP : RFC 1492 TACACS : RFC 2866 RADIUS Accounting : RFC 2571, 2572, 2573, 2574, SNMP : IPv6 Ready : Support Static Routing		

5.14 Connectivity between primary and secondary site

BHEL Ranipet is having Primary Site in Informatics Centre and Secondary Site (Near DR) (~1.0 km apart) within the same campus. Fiber connectivity between DC and DR in two different routes for the servers to be laid by the vendor. Necessary accessories like pigtail and patch cords, etc., are to be provided by the vendor.

General Conditions

It is the responsibility of the Vendor to move the materials from Informatics Centre to the respective work places.

Fiber optic cable cores testing using OTDR and submit a test report.

HDPE pipe to be laid, half cut concrete pipes shall be provided and cable marker for entire route is in the scope of bidder.

Road cutting, digging and any other associated civil works is in the scope of bidder.

If the vendor wants to visit BHEL, Ranipet to see the route of cabling before submitting the bid, BHEL will make necessary arrangement.

5.15 Technical Specification for Non – IT Infrastructure (Turnkey solution for upgradation Data Centre):

BHEL BAP Ranipet proposes to set up a Modular Data Center facility to support the critical IT services and computing requirements of its users with an area of approx. 385 sq. ft. to house the existing IT infrastructure.

The entire infrastructure for this modular data center is to be implemented as a **turnkey solution** by System Integrator (SI) selected for this purpose. The scope of the work involved in the setup of the data center includes

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 43 of 84

supply, installation, testing & commissioning of uninterrupted power supply systems for all servers, networking equipment and other critical loads; power supply to cooling; associated electrical cabling and power conditioning equipment; complete in-rack cooling solutions to ensure proper temperature and humidity for servers and networking equipment; fire warning and suppression systems; access control systems; other civil and mechanical works.

All works shall be designed and executed to conform to the layout of server room and placement of racks as provided in **Annexure -J**. A proposed layout for placement of server racks in the server room is included in Annexure-J is fixed. However, deviations required by the System Integrator from the proposed placement of racks in Appendix-I are permissible without changing the total number or size of server racks; however, such deviations shall be clearly mentioned in the technical bid, and detailed diagrams of any alternative placement are to be provided with the technical bid. Approval of BAP for these deviations is required. Detailed diagrams (footprints, weight, etc.) are to be provided for the placement of outdoor equipment such as chilling units and electrical panels, and for routing of tubes, pipes and cables both inside and outside the server room building. Individual racks must be equipped with a remote monitoring system capable of monitoring, control and documentation of important physical parameters within the rack and the Data Center. Please note the measurements in Annexure-I are indicative, and the System Integrator is strongly advised to make an independent measurement during site visit.

Placement and routing of all equipment, pipes, cables and other items, including items to be placed outside the data center, shall be done in consultation and with the approval of BAP. Site constraints including dimensions, location and nature of existing construction, and all safety criteria are to be taken account of by the System Integrator. The System Integrator is obligated to conduct necessary site inspection before submission of bid. The contact details of BAP personnel who may facilitate site visits for this purpose are provided in **Annexure - K**.

Any excavation, trenching, drilling, road cutting, clearing of vegetation or other works required for this purpose are the responsibility of the System Integrator. All works needed to ensure safety and aesthetics at the site at the end of the installation phase, both inside and outside the server room building, including ground levelling, painting of inner / outer walls, painting of supports, covering of trenches, etc. are the responsibility of the System Integrator.

The System Integrator is also required to provide a complete single manual to run all the data center equipment and processes at a satisfactory level. The System Integrator shall provide training in operation of all systems in the facility to all designated staff of BHEL. The following pages detail the technical specifications and scope of work, and the general terms and conditions relating to this tender.

The entire modular Data Center project has to be implemented as a turnkey solution, so as to deliver all the objectives. Following are the components of the modular Data Center:

1. Civil Work
2. Electrical Work
3. UPS
4. Modular Racks (Server) with PDUs
5. In-Rack Cooling System
6. Water Leak Detection (WLD) System
7. Rodent Repellent System
8. Fire Detection and Suppression System
9. CCTV
10. Access Control System
11. Automatic Transfer Switch for Network Switches(ATS)
12. Datacenter Infrastructure Management(DCIM) Software
13. Migration Activity of the existing IT Infrastructure

Proposed Data Center design, drawing and layout plans for equipment, cables, pipes and other items should be provided by the bidder along with the technical bid. All requirements of space, cooling and other infrastructure for equipment quoted by bidder must be clearly mentioned in the technical bid. The selected System Integrator shall ensure that all the equipment in the Data Center is appropriately maintained and managed for a period of 5

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 44 of 84

years. A comprehensive onsite warranty / support is to be provided for a period of five years; in addition, AMC rates for subsequent two years shall also be quoted in the price bid.

Component	Min Requirement as per RFP	Compliance (Yes / No)
Space requirement	The server infrastructure solution should fit in the space available at BAP Ranipet as per Annexure VI (DC/DR layout) .	
Server room Enclosure	The Datacenter shall be a self-sufficient datacenter with rack based infrastructure approach and optimized system solution, Power and cooling system will be concurrently maintainable.	
Min 24 kW sensible cooling capacity for cooling of 6 racks; high CFM high sensible close coupled cooling units. Cooling units should be on redundant basis. (N+1 redundancy)	Supply of In- rack closed coupled cooling system: -- High CFM high sensible cooling Indoor and Outdoor units - The cooling system should be DX type with R410 refrigerant controlled by an electronic expansion valve, with separate indoor units and outdoor units. The cooling systems should have capability to integrate with remote monitoring system. Throw of the cooling air should in front of the hardware in horizontal direction to have better cooling from zero "U" height to 42U height. Cooling unit should have screen in front of unit to have physical monitoring for all parameters. Cooling unit need to be fit between server / network racks and should have capacity to throw air horizontally on both side to cool racks.	
Supply, Installation, Testing & commissioning of high sensible high CFM close coupled cooling system including copper pipe & refrigerant)	The scope of the bidder includes Installation & commissioning of the High CFM high sensible cooling unit including related civil, mechanical & electrical works.	
Copper piping	Refrigerant copper piping closed cell elastomeric nitrile rubber tubular insulation between each set of indoor & outdoor units as per specifications, all piping inside the room shall be properly supported with MS hanger.	
Refrigerant Gas	Supply of R-410A, refrigerant gas, and charging it, after cleaning the line, compressor oil fill and pre-testing for leakage. Testing the line after charging the gas as per standards and directions.	
Cooling Availability	<p>Since IT Hardware's availability is critical for our organization, the Cooling systems should have following controls to ensure smooth operation of the entire cooling mechanism.</p> <ul style="list-style-type: none"> • Server air intake temperature • Server waste air temperature • Cooling output • Fan speed • Leakage • Optional sensors • Direct connection of the unit via SNMP/Ethernet 	

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **45** of **84**

Rack-mountable fire detection and suppression system (Master & Slave)	1U rack mountable device that should have high sensitivity smoke detection with active sampling. It should have a built-in NOVEC 1230 suppression system sufficient for 1 IT rack with integrated fire panel. This device should be monitoring using potential free contacts. With actuator, discharge nozzle, piping complete with accessories. The system should include a manual abort option. 1 such kit should be installed in each of the racks. Rack-mountable fire detection and suppression system should be able to configure in master and slave manner for ease of controlling and monitoring remotely via master in case of multiple units.																									
Fire detection and suppression - Installation related services	Novec 1230 automated suppression system and Fire detection system Installation related services.																									
UPS (For DC only)	<p>The Min 30 KVA Uninterruptible Power System (UPS) – 2 Nos will include the following operational components:</p> <p>Full Rectifier/battery charger IGBT Inverter Maintenance bypass switch Static switch Batteries.</p> <table><tr><td>Technology</td><td>True Online, Double Conversion with PWM Technology & IGBT based Inverter</td></tr><tr><td>Input Source</td><td>Mains/Local DG Set Compatibility</td></tr><tr><td>Input Voltage</td><td>415V AC 3 phase, 4 wires</td></tr><tr><td>Input Voltage Tolerance</td><td>± 15%</td></tr><tr><td>Input Frequency</td><td>50 Hz</td></tr><tr><td>Input Frequency Tolerance</td><td>45 HZ TO 55 HZ</td></tr><tr><td>Input Power factor at nominal voltage and full load</td><td>>0.9</td></tr><tr><td>Total Harmonic Distortion at 100% Nonlinear Load</td><td>< 5%</td></tr><tr><td>Output Voltage</td><td>415 VAC 3 phase, 4 wires</td></tr><tr><td>Output Voltage Regulation</td><td>± 1% - For 100% static load. THDU <3% between phase to neutral for 100% non-linear load</td></tr><tr><td>Output Power Factor</td><td>0.8 or higher</td></tr><tr><td>Over Load Rating</td><td>110% for 60 minutes, 125% for 10 minutes, 150% for 60 seconds</td></tr></table>	Technology	True Online, Double Conversion with PWM Technology & IGBT based Inverter	Input Source	Mains/Local DG Set Compatibility	Input Voltage	415V AC 3 phase, 4 wires	Input Voltage Tolerance	± 15%	Input Frequency	50 Hz	Input Frequency Tolerance	45 HZ TO 55 HZ	Input Power factor at nominal voltage and full load	>0.9	Total Harmonic Distortion at 100% Nonlinear Load	< 5%	Output Voltage	415 VAC 3 phase, 4 wires	Output Voltage Regulation	± 1% - For 100% static load. THDU <3% between phase to neutral for 100% non-linear load	Output Power Factor	0.8 or higher	Over Load Rating	110% for 60 minutes, 125% for 10 minutes, 150% for 60 seconds	
Technology	True Online, Double Conversion with PWM Technology & IGBT based Inverter																									
Input Source	Mains/Local DG Set Compatibility																									
Input Voltage	415V AC 3 phase, 4 wires																									
Input Voltage Tolerance	± 15%																									
Input Frequency	50 Hz																									
Input Frequency Tolerance	45 HZ TO 55 HZ																									
Input Power factor at nominal voltage and full load	>0.9																									
Total Harmonic Distortion at 100% Nonlinear Load	< 5%																									
Output Voltage	415 VAC 3 phase, 4 wires																									
Output Voltage Regulation	± 1% - For 100% static load. THDU <3% between phase to neutral for 100% non-linear load																									
Output Power Factor	0.8 or higher																									
Over Load Rating	110% for 60 minutes, 125% for 10 minutes, 150% for 60 seconds																									

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 46 of 84

	Inverter Efficiency	> 89%		
	Overall efficiency	> 85%		
	Static Bypass switch	A Built-in static transfer switch shall be provided as an integral part of the UPS. The Static switch shall be a bi-directional naturally committed high-speed static (SCR type) device rated to carry full load current continuously.		
	Manual Bypass switch	The UPS should have a Built-in Maintenance Bypass Isolator to directly connect the load to the input AC power source, bypassing the rectifier, inverter and static transfer switch.		
	Battery type	Sealed Maintenance Free with a separate Battery Rack		
	Battery make	Panasonic / Rocket /CSB/Global Yuasa		
	Backup	Min. 60 minutes backup on full load		
	Battery management	The UPS should have Battery Management feature for: Periodic Battery Test Controlling Charging Time and Current Increase in Battery Life Protection : Battery low Cut-off without draining current		
	LCD Panel	The UPS should have LCD panel for measuring Output voltages, Output currents and Frequency, Battery Voltage and charging / discharging current, display status of the battery capacity and backup time left and event logging.		
	RS232 interface	RS232 or USB port & necessary communication cables to be provided		
	UPS monitoring tool over network card.	The UPS should have UPS monitoring software and interface cable, providing complete power monitoring and control capabilities to system administrators.		
	SNMP Card	Should come with an SNMP Card for connecting UPS to Ethernet LAN to monitor and manage the UPS with a standard Web browser, while simultaneously providing shutdown & restart over LAN.		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 47 of 84

	Synchronization	The UPS should come with hardware / software required for Synchronization between the outputs of two or more such independent UPS systems.	
	Battery Refresh	The Vendor shall replace all the batteries after every 2.5 years, also replace batteries on failure.	
	Compliance	Latest Version of IEC/EN 62040 or Equivalent	

IT Enclosure / IT Racks (6 Racks (252 U usable) for DC & DR respectively)	<p>Server Racks with automatic door opening system and complete In-Rack cooling solutions (where hot and cold aisle are contained within the racks) to ensure proper temperature and humidity for servers and networking equipment.</p> <p>Server Rack: 600Wx2000Hx1200D/1800D, 42U server rack with IP 54 category with min.1500kgs load bearing capacity. plain top cover and bottom cover with standard gland plates with foam insert for cable entry, 2 pairs of 42U 19" L - type angles & special assembly kit for mounting 19" angles & punched sections. Side Panel 2000Hx1200D/1800D screw fixed, unvented. Front Sheet Steel Glazed Door- 2000Hx600W. Rear Sheet Steel Door - 2000Hx600W. Vertical metered PDU Strip with 20 nos of IEC C13 Sockets and 4 nos. IEC19 sockets, Indicator switch, 4 mtr power chord with Industrial plug.PDU should be integrated with BMS. Lock insert with unique key. Foam insert for vertical shielding, installed between racks. Metal Shunting Rings 90x60 (pack of 10)</p> <p>Component Shelf 720mm deep. Copper Earth Rail 15x3x500 with 10 points with screws and insulators. The solution should include blanking panels for blocking the empty U space in the racks for improved cooling performance.</p>	
Bio-metric Access system for Racks	<p>The IP based Access Control System shall be used to serve the objective of allowing access to authorized personnel only. The system deployed will be based on Biometric Technology. The front rack doors will be provided with magnetic locks, and will operate on fail-safe principle through one common Biometric access control system. Rear doors will be operated through mechanical lock & key mechanism.</p> <p>The system would be designed and implemented to provide following functionality:</p> <p>Configurable system for user defined access</p> <p>Built-in Real Time Clock (RTC), calendar; complete Database stored locally and shall be capable of operating offline on standalone mode</p> <p>Record, report and archive each and every activity (permission granted and / or rejected) with log formats</p> <p>Fail safe operation in case of no-power condition and abnormal condition such as fire, theft, intrusion, loss of access control, etc.</p> <p>At the biometric reader, user presents the finger to the biometric reader which is unique to each employee. The pattern is read and compared with stored data to grant / deny access.</p>	

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 48 of 84

CCTV Surveillance system	Supply, installation & commissioning of surveillance system for live monitoring in the data centre. UL Listed Color Dome camera with fixed lens of 3mm, 1/4" CCD color. All cameras should be monitored through central monitoring software. CCTV camera should be mounted on top of the Datacenter Rack.	
Water Leak Detection (WLD) System:	The vendor will be completely responsible for the implementation of Water Leak Detection System in the Data Center area. Standard Data Center guidelines should be followed during the implementation of this system.	
Rodent Repellant system	Bidder should provide Rodent Repellent System using Electronic transmitters of high frequency sound waves, which will emit sound at very high decibel levels painful to pests. Standard Data Center guidelines should be followed during the implementation of the same. System should have automatic sound frequency change option.	
Automatic Transfer Switch for Network Switches	Vendor shall supply 10 Nos Automatic transfer switches for network switches. Transfer time <8ms. Power 200-240Vac, Min 16A.	
Civil Work	Any civil activity required need to be done with prior approval of BHEL.	
Electrical Works:	<p>The electrical works consist of provision of a reliable and efficient power supply system to all servers and all associated utility facilities. All the racks shall be provided with uninterrupted power supply (UPS) system. The scope of work in association with technical specs is:</p> <p>Complete structured electrical power distribution works such as cabling from Feeder Panel to UPS and UPS Room till Data Center includes supply-installation-testing-commissioning (SITC) of LT Panel, UPS Distribution Panel.</p> <p>Grounding system with earth pits & strips should be provided after studying the existing ones. Each rack's PDU's (Power Distribution Unit) power should be provided with individual distribution path.</p> <p>UPS system, batteries, and distribution panels are required to be placed in the UPS Room / Utility Room. The provision of base, floor, and canopy, cable trenches across room is within the scope of work of the selected vendor. The vendor is responsible for relevant site surveys, and is required to furnish with the technical bid detailed layout plans and drawings of the proposed placement and cable routing for the entire system starting from the existing LT panel.</p> <p>Detailed diagrams such as general arrangement drawing, single line diagram, control wiring diagrams for electrical panels, earthing layout schemes, UPS and battery rack layout drawings shall be prepared and provided by the with future upgrade positions.</p> <p>The design, supply, erection, testing & commissioning of complete power supply (UPS and RAW power) system shall be in the scope of this work.</p>	

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 49 of 84

Power/Data/ Refrigerant piping – Roof mount cable tray supply and installation (As per actual requirement)	<p>Supply and Fixing of Basket Type Cable Tray of size: 450W x 50H mm & necessary accessories for fixing (Length of Each Cable Tray = 2.5Mtrs)</p> <p>Specification: Cable Tray with accessories is made of 2mm thick Sheet Steel & Powder Coated to Light Grey.</p>	
Datacenter Infrastructure Management(DCIM) Software	The overall design of the DCIM should be suitable for integrating all systems at the Data Center especially all racks, cooling systems, fire detection-suppression, access control, cooling units, water leak detection, rodent, Electrical Panel, UPS, CCTV, and existing DG Set with Mail/SMS notification.	
Migration Activity of Existing IT Infrastructure	<p>Migration of existing all IT infrastructure of total six racks (both DC & DR) will be completely under vendor scope. However, BHEL BAP IT staff as well as warranty / AMC vendors of specific equipment will be also requested to be present during this migration activity.</p> <p>Vendor have to make a detailed time bound plan for the migration activity and get it approved by BHEL BAP IT team. As the existing critical IT infrastructure is operational in the same area, vendor have to plan out the maximum migration activity on weekends or during holidays with minimal downtime.</p> <p>Bidders may discuss in depth during the site visit for more queries regarding layout/ planning / migration activity.</p>	
Complete Installation, testing & commissioning of the project	Installation, testing & commissioning of complete project. As built drawing for the installation (GA drawing, SLD etc.,) to be submitted.	

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **50** of **84**

6.0 Declaring deviations

Deviation in Technical Specification

Table No.	Sl. No	Item or Parameter	Specification	Deviation	Alternate solution

Date:

Vendors Signature with seal

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **51** of **84**

No Deviation Certificate

(To be given in bidders letter head)

Ref: BHEL's Tender No. BHEL/BAP/IC/DBSERVER Dated:_____

It is Certified that the offered solution vide tender No. BHEL/BAP/IC/DBSERVER dt. XX.XX.XXXX in response to BHEL's enquiry mentioned under reference has no Technical deviation with the requirement of BHEL, Ranipet given vide the Technical Specification (Requirement).

Date:

Vendors Signature with seal

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **52** of **84**

Price Format-A

**Format for Submitting the Price details of Supply of Computer Systems on finance lease for a period of 5 years
for replacement of existing hardware running Oracle Applications at BHEL, Ranipet**

Price Format-A																
Sl. No	Item	Unit Qty	Unit Price (Outright)	Five Years Lease rental charges (All values to be quoted in Rupees)												
				Total Equipment cost(Excludi ng VAT)	VAT/CST on [a]		Towards Maintenance charges (excluding service Tax)	Service Tax on Maintenance on [c]		Total interest charges	VAT on interest charges on [e]		Service Tax on [e] will be applicable on 10% of the total interest charges		Any other Tax	Total [a+b+c+d+e+f+g+h]
				Quarterly	Quarterly		Quarterly	Quarterly		Quarterly	Quarterly		Quarterly	Quarterly	Quarterly	
	Items on Lease			[a]	[b]		[c]	[d]		[e]	[f]		[g]		[h]	[i]
1	Servers (Form factor-Rack)	8														
2	SAN Storage	2														
3	SAN Switch	4														
4	Tape Library	2														
5	LAN Switches	8														
6	Backup Software	2														
7	Backup Server	2														
8	Modular Smart racks with in row cooling, biometric access, Firefighting system	12														
9	Resident Engineers	3														
10	Virtualization(VMware Software license) cost	1														
	Total _ Price Bid -A															

Date:

Vendors Signature & Seal

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 53 of 84

Price Format-B

Price Format-B							
Quarterly AMC Charges for 6 th and 7 th year							
		Quarterly AMC charges (in Rs.) (A)	Applicable Taxes (in Rs.) X% of Value (A)		Service Tax (in Rs.) Y% of Value(A)		Total Quarterly AMC charges (D) (D=A+B+C)
			Tax %	(B)	Service Tax %	(C)	
1	Quarterly AMC Charges for the items Sl.No. 1 to 10 for 6 th and 7 th years						
Note : X + Y should be 100%							
	Details						Total Quarterly Charges in Rs.
	Total – Price Bid A						
	Total – Price Bid B						
	Total						

Date:

Vendors Signature & Seal

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 54 of 84

Price Format-C

ENQUIRY NO : OPEN TENDER
ENQUIRY OPENED ON : xx.xx.xxxx

This is an excel template to be used by the bidder for arriving at the Net Cost

ITEM DESCRIPTION : DATA BASE SERVER

NAME OF THE SUPPLIER :

Sl. No.	DESCRIPTION	Amount for One Quarter	Period	Total Amount
1	Five years Lease Rental Charges (Sub Total A)		20	
2	Quarterly AMC Charges from 6th year valid for 2 years (Sub Total B)		8	
3	GRAND TOTAL (Total of Sub Totals of A+B) (Sl.No 1+2)			
4	LESS:Total Service Tax of A		20	
5	Sub Total -1 (Grand Total - Total Service Tax of A) (Sl.No 3-4)			
6	LESS:Total Service Tax of B		8	
7	Net Cost (Subtotal1 - Total Service Tax of B) (Sl.No 5-6)			



This amount to be given as input for RA.

Date:

Vendors signature & seal

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 55 of 84

THIRD PARTY NON-DISCLOSURE AGREEMENT

I, _____, on behalf of the _____ (Name of Company), acknowledge that the information received or generated, directly or indirectly, while working with BHEL on contract is confidential and that the nature of the business of the BHEL is such that the following conditions are reasonable, and therefore:

I warrant and agree as follows:

I, or any other personnel employed or engaged by our company, agree not to disclose, directly or indirectly, any information related to the BHEL. Without restricting the generality of the foregoing, it is agreed that we will not disclose such information consisting but not necessarily limited to:

- Technical information: Methods, drawings, processes, formulae, compositions, systems, techniques, inventions, computer programs/data/configuration and research projects.
- Business information: Customer lists, project schedules, pricing data, estimates, financial or marketing data,

On conclusion of contract, I, or any other personnel employed or engaged by our company shall return to BHEL all documents and property of BHEL, including but not necessarily limited to: drawings, blueprints, reports, manuals, computer programs/data/configuration, and all other materials and all copies thereof relating in any way to BHEL's business, or in any way obtained by me during the course of contract. I further agree that I, or any others employed or engaged by our company shall not retain copies, notes or abstracts of the foregoing.

This obligation of confidence shall continue perpetually after the conclusion of the contract also.

I acknowledge that the aforesaid restrictions are necessary and fundamental to the business of the BHEL, and are reasonable given the nature of the business carried on by the BHEL. I agree that this agreement shall be governed by and construed in accordance with the laws of country.

I enter into this agreement totally voluntarily, with full knowledge of its meaning, and without duress.

I will abide by the ISMS manual of BHEL, Ranipet.

Dated at _____, this ____ day of _____, 20__.

Name

Company

Signature

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 56 of 84

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at “BHEL House”, Siri Fort, New Delhi – 110049 (India) hereinafter referred to as “The Principal”, which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

And

_____ (description of the party along with address), hereinafter referred to as “The Bidder/ Contractor” which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the

OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for _____

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 57 of 84

Section 1 – Commitments of the Principal

1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

1.1.3 The Principal will exclude from the process all known prejudiced persons.

1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 58 of 84

exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

ANNEXURE-B

Page 3 of 7

2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non- submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

2.1.4 The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidders(s)/ Contractor(s) from the tender process or take action as per the separate “Guidelines on Banning of Business dealings with Suppliers/ Contractors” framed by the Principal.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 59 of 84

Section 4 – Compensation for Damages

4.1 If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.

4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors

6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from all sub-contractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those sub-contractors whose contract value is more than 20% of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/

Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).

6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.

6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 60 of 84

Section 7 – Criminal Charges against violating Bidders/ Contractors /Sub- contractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 –Independent External Monitor(s)

8.1 The Principal appoints competent and credible Independent External Monitor for this Pact.

The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.

8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.

8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 61 of 84

from the parties that they act in a specific manner, refrain from action or tolerate action.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **62** of **84**

8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.

8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.

8.10 The word „Monitor“ would include both singular and plural.

Section 9 – Pact Duration

9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.

9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

Compliance: Accepted to comply all the above points
Name:
Signature of bidder with Date:

Company Seal
Page **63** of **84**

10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

10.5 Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On behalf of the Principal
(Office Seal)

Date-----

Witness:_____

(Name & Address):_____

For & On behalf of the Bidder/ Contractor
(Office Seal)

Date-----

Witness:_____

(Name & Address):_____

PERFORMANCE BANK GUARANTEE (PBG) FORMAT

INSTRUCTIONS FOR PBG AND LIST OF BHEL BANKERS

Compliance: Accepted to comply all the above points

Name: Company Seal

Signature of bidder with Date:

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **65** of **84**

Sign & Seal of the Issuing Bank

Page - 2/4

5. NOW, THEREFORE, WE the Bank do hereby undertake to pay the Company an amount not exceeding Rs. _____ (Rupees _____ only) against any loss or damage caused to or suffered or would be caused to or suffered by the Company by reason of any breach by the said Contractor of any of the terms and conditions contained in the said Contract.

6. We, the Bank, do hereby undertake to pay the amount due and payable under this Guarantee without any demur, merely on a demand from the Company stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Company by reason of breach by the said Contractor of any of the terms and conditions contained in the said Contract or by the reason of the said Contractor's failure to perform the said Contract. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, the Bank's liability under this Guarantee shall be restricted to an amount not exceeding Rs. _____ (Rupees _____ only).

7. The Bank's liability under this Guarantee is absolute and unequivocal and we, the Bank, undertake to pay unconditionally to the Company any money so demanded notwithstanding any dispute(s) raised by the Contractor in any suit, or proceedings pending before any Court or Tribunal or Arbitration or before any other authority and such payment under this guarantee shall not wait till the disputes, if any, have been decided by any Court or Tribunal or in the arbitration proceedings or by any other authority.

8. This Guarantee comes into force immediately and shall remain in full force and effect up to and including _____ (date) (including a claim period of 3 months after the date of completion of warranty period).

9. We, the Bank, further agree that, subject to Clause-8, the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Company under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged or till the Purchase Department of the Company certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractor and accordingly discharges this Guarantee.

Sign & Seal of the Issuing Bank

.....3

Compliance: Accepted to comply all the above points
Name:
Signature of bidder with Date:

Company Seal
Page 67 of 84

Page - 3/4

10. Unless a demand or claim under this Guarantee is made on the Bank in writing on or before the date specified under clause-8 above, the Bank shall be discharged from the liability under this Guarantee thereafter. But where such claim or demand has been preferred by the company with the Bank on or before the expiry of the said date, the claim shall be enforceable notwithstanding the fact that the said enforcement is effected after the said date.

11. For the purpose of clause-10, any letter making claim or demand on the Bank by the Company lodged in person or dispatched by Registered Post or by Speed Post or by Courier Service or by Fax or by Telegram or by any Electronic media addressed to the above mentioned address of the Bank on or before the date specified under Clause-8 above, shall be deemed to be the claim/demand in writing referred to above irrespective of the fact as to whether and when the said communication reaches the Bank.

12. We, the Bank, further agree that the Company 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 from time to time or to postpone for any time or from time to time any of the powers exercisable by the company against the said Contractor and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by virtue of any such variation or extension being granted to the said Contractor or for any forbearance, act or omission on the part of the company or any indulgence by the Company to the said contractor or by any such matter or thing whatsoever which under the law relating would, but for this provision, have effect of so relieving us.

13. This Guarantee shall not become void due to any change in the constitution of the said Bank or the said Contractor.

14. The Guarantee herein contained shall not be determined or affected by the liquidation or winding up or insolvency of or change in the constitution of the said Contractor, but shall in all respects and for all purpose be binding and operative until all payments of all moneys due or that may hereafter become due to the said Company are settled irrespective of any liability or obligation of the said Company under the said Contract.

15. It shall not be necessary for the said Company to proceed against the said Contractor before proceeding against the guarantor bank and the Guarantee herein contained shall be enforceable against the said Bank notwithstanding any security, which the said Company may have obtained or obtain from the said Contractor.

Sign & Seal of the Issuing Bank

.....4

Compliance: Accepted to comply all the above points
Name:
Signature of bidder with Date:

Company Seal
Page 68 of 84

Page - 4/4

16. Any claim or dispute arising under the terms of this document shall be subject to the jurisdiction of the Courts at Ranipet, Tamilnadu.

17. The said Bank declares that it has powers to issue this Guarantee under the Bank's Memorandum and Articles of Association and the undersigned has full powers to do so on its behalf under the powers granted to him by the proper authorities of the said Bank.

18. We, the Bank hereby undertake not to revoke this Guarantee during its currency except with the previous consent of the said Company in writing.

19. Notwithstanding anything to the Contrary

(a) The Bank's liability under this Guarantee shall be restricted to an amount not exceeding Rs. _____ (Rupees _____ only).


(b) This Guarantee shall remain in full force and effect upto and including _____ (date) (including a claim period of 3 months after the date of Completion of warranty period).

In witness whereof we _____ (name of the Bank) have hereunto set out Bank Seal the _____ day of _____ month _____ year.

Sign & Seal of the Issuing Bank

Compliance: Accepted to comply all the above points
Name:
Signature of bidder with Date:

Company Seal
Page 69 of 84

 BHEL BAP RANIPET INSTRUCTIONS FOR BANK GUARANTEE	
1.1	Bank Guarantee shall be issued by any one of BHEL's Bankers or any Nationalized Bank. Please refer to List of BHEL's Bankers enclosed.
1.2	If it is not possible, then BG can be issued by a Scheduled Commercial Bank with the prior approval of BHEL.
1.3	BG from Co-operative Banks is not acceptable.
2.1	Pre-printed BG Form of BHEL only shall be used. Should not retype the format.
2.2	Only the relevant information like Supplier Name, BG Value, Contract No., Validity etc. shall be typed in the pre-printed form and executed by Bank.
2.3	Special adhesive stamp of the required value shall be affixed on the 1st page of the Form.
2.4	If Special Adhesive stamps are not available, then applicable stamp duty shall be paid at the Bank / Agency nominated by the concerned State Government to collect stamp duty, who will affix their signature, date and seal in the first page of the BG Form clearly marking it as "SPECIAL ADHESIVE" & "STAMP DUTY".
2.5	Stamp Duty for the BG shall be at the rate as applicable in the State where the BG is executed.
2.6	Bank seal shall be affixed on the special adhesive stamp.
3.1	The executing officer of the Bank shall indicate his name, designation and power of attorney number / signing power number etc. on the BG.
3.2	Any correction / overwriting on the BG shall be duly authenticated under the Seal and signature of the executing officer of the Bank.
3.3	Each page of the BG shall be duly signed/initialed by the executing officer of the Bank and the last page is to be signed with full particulars under the seal of the Bank.
3.4	Fax number, e-mail Address, contact person, phone number and complete postal address shall be indicated in the covering letter of the BG from Bank.
4.1	The validity of the BG shall cover a period of 18 months (or such other period as per purchase Order, if otherwise specified) from the last date of dispatch as per Purchase Order or actual date of last dispatch under the Purchase Order, whichever is later.
4.2	The BG shall have a claim period of 3 months. If no separate claim period is indicated in the BG, then the validity shall be 18 months (or such other period as per Purchase Order, if otherwise specified) plus 3 months.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 70 of 84

- 5.1 No clause of the BHEL BG Form shall be altered, deleted or new clauses added by the Issuing Bank under any circumstances. Bank Guarantees with altered/deleted/added clauses will not be accepted by BHEL under any circumstances.
- 5.2 If the Issuing bank wants to add any additional clauses, it shall be intimated to BHEL well in advance with exact text of clause, which shall be subject to approval by BHEL Law Department. Those clauses specifically accepted by BHEL Law Dept. can be added in the last page of the BG Form and executed by Bank.
- 6.1 Bank Guarantee shall be forwarded by Issuing Bank directly to Senior Accounts Officer/Stores Bills, BHEL/BAP, Ranipet-632406.
- 6.2 If it is not directly forwarded to BHEL due to unavoidable circumstances, then the Issuing Bank shall send a letter directly to BHEL confirming the issue of the BG enclosing a photocopy of the Original BG.
- 6.3 The Bank Guarantee should not be routed through Bank along with other dispatch documents under any circumstances.
- 7.1 In case of any extension of a BG the same shall be executed on non-judicial stamp paper of the required value.
- 7.2 Only the due date and claim period shall be extended.
- 7.3 The extension should not result in alteration of any material facts of the BG.
- Bank Guarantees executed as per the above instructions only shall be accepted at our end. Hence kindly ensure compliance with the above instructions for early processing of the bills and to avoid hold up of the bills.

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 71 of 84

Annexure D

IN THE LETTER HEAD OF THE C.A. FIRM
TO WHOM SO EVER IT MAY CONCERN

This is to certify that M/shaving its registered office atis registered under MSMED Act 2006 and categorized underunit vide their Registration Number.....(copy enclosed)

Further certified that the investment of company in Plant & Machinery as on 31st March is Rs.....Lacs i.e. below Rs.25 Lacs / 5 Crores as permissible for Micro / Small unit respectively under MSMED ACT 2006. Hence the company is under category of Micro/Small(strike off whichever is not applicable) unit for the financial year

It is further certified that cumulative investment in Plant & Machinery during (01/04/..... - till date) is below the permissible limit of Rs.25 lacs / 5 Crores for Micro / Small unit respectively and Company is under the category ofunit as on date i.e. 31/03/.....

The Directors of the company have been instructed to intimate their clients in case of change of investments in Plant & Machinery, if any, in future with proper supporting documents.

This Certificate is VALID FOR ONE YEAR ONLY from the date of issue subject to the above referred instruction with reference to “Change of Investments” for

Chartered Accountants

Name:

Membership Number:

Full address

Place:

Date:

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 72 of 84

8. Check List of Enclosures

Sl No	Documents to be attached	Reference	Whether attached or not
1	Authorization letter from OEM citing reference of this tender.		
2	Acceptance of Technical Terms and Conditions	Clause-3 of Tender	
3	Technical specification of the offered solution to be filled in the Check-list format issued as Requirements in the tender document	Clause 5 of the tender	
4	Deviations, if any, as per BHEL's Format or "No-Deviations" Certificate	Clause-6 & 7	
5	Un-priced Commercial offer as per Price Format	PRICE BID-A, B & C	
6	Quoted for all items	Check	
7	Documents reference for meeting eligibility criteria clause 2.1/2.2 as applicable.	Document reference for same	
8	Signed copy of tender		
9	Income Tax Clearance Certificate of last three years		
10	Certificate of Incorporation		
11	Non-Discloser Agreement	Annexure-A	
12	Integrity Pact	Annexure-B	
13	Performance Bank Guarantee	Annexure- C	
14	CA certificate in case of MSME vendor	Annexure -D	
15	Annual Turnover of Bidder	Annexure -E	
16	Copy of Major Order received in last 10 years	Annexure -F	
17	Confirmation on not hold/delist/banned	Annexure -G	
18	Declaration from Bidder	Annexure -H	
19	Commercial terms and conditions	Annexure -I	

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 73 of 84

Annual Turnover of Bidder

Sl.No.	Financial Year	Turnover (In Rs. Crores)
1		
2		
3		

Signed By:

Name:

Designation:

Organization:

Date & Place:

Phone/Fax/Mobile/Email:

Stamp & Seal:

Place:

Date:

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **74** of **84**

ANNEXURE F

COPY OF MAJOR ORDERS RECEIVED IN LAST 10 YEARS

Sl.No.	Organization Name	Type of Order (Leasing / Outright Sale)	Number of delivery places	Number/Model of Servers, SAN Storage
1				
2				
3				
4				
5				

Signed By:

Name: _____

Designation: _____

Organization: _____

Date & Place: _____

Phone/Fax/Mobile/Email: _____

Stamp & Seal: _____

Place:

Date:

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **75** of **84**

**Confirmation on not hold/delist/banned
(As per Eligibility Criteria)**

With reference to the above tender we confirm that we have not been under hold or delist or banned by any of BHEL unit as on bid opening date for database server.

Signed By:

Name:

Designation:

Organization:

Date & Place:

Phone/Fax/Mobile/Email:

Stamp & Seal:

Place:

Date:

Place:

Date:

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 76 of 84

DECLARATION FROM BIDDER

We hereby declare and confirm that we have understood the works as per tender <tender ref no>and acquired full knowledge and information about the total works involved. We further confirm that the above information is true and correct and we will not raise any claim of any nature due to lack of knowledge of works.

Also we declare that, we fully comply with all the requirements of the tender and confirm our willingness to participate in RA process if BHEL decides to go for RA.

Signed By:

Name:

Designation:

Organization:

Date & Place:

Phone/Fax/Mobile/Email:

Stamp & Seal:

Place:

Date:

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 77 of 84

CONFIRMATION TO COMMERCIAL TERMS AND CONDITIONS

S.NO	R&G (Rental and guarantee) contract quoted shall be inclusive of the following during the R&G period and shall remain FIRM without any variation till completion of the R&G contract: The project will be on R&G contract basis. All required hardware and software for the system shall be supplied, installed and commissioned by the vendor. Split-up of the scope of work of this contract is not acceptable. It includes the following but not limited to -	Bidder's compliance YES/NO	Bidder's remarks
1	Freight, handling and packing charges, transit insurance, installation		
2	Onsite comprehensive maintenance		
3	On-site comprehensive Insurance (all risks) covering total scope of supply and manpower		
4	Spares and software/firmware updates		
5	All taxes and duties		
6	BHEL reserves the right to retain the hardware, software and other items supplied in this procurement at the end of the lease period on payment of Re.1/-(Rupee one only) On payment of terminal charges, the ownership of entire system including all the equipments, spares and software will get transferred to BHEL without any other payments. BHEL will claim depreciation as per provisions of Income-tax Act from the date of commissioning.		
7	The Annual Maintenance charges subsequent to the R&G contract period shall be quoted for each item. The scope of AMC after R&G contract period shall be comprehensive including spares & services and shall be applicable for a period of two years and will be binding on the Bidder. The		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 78 of 84

	<p>payment for AMC will be made quarterly at the end of the each quarter and within 45 days of submission of invoice, in triplicate, in original along with necessary documents as detailed in the general terms and conditions.</p> <p>BHEL reserves the right to enter into AMC for two years after the R&G contract period of five years.</p>		
8	All equipment supplied and installed at the stipulated locations shall be new and conforming to the contract technical specifications. Relevant test certificates, certificate of newness of equipment and any other statutory documents including but not limited to Excise Invoice should be furnished.		
9	Confirmation on not hold/delist/banned: As per clause 2.1 (g)		
10	Installation and commissioning: As per clause 3.2		
11	Lease agreement: As per clause 3.7		
12	Training : As per clause 3.8		
13	Penalty for SLA Non Conformance: As per clause 3.12		
14	Spares: As per clause 3.13		
15	Terms of Payment: As per clause 3.14		
16	Warranty and support: As per clause 3.15		
17	General terms and conditions of Reverse Auction: As per clause 4.5		
18	Validity of the offer: As per clause 4.6		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page 79 of 84

19	Delivery: As per clause 4.9		
20	Rates: As per clause 4.10		
21	Liquidated Damages: As per clause 4.12		
22	Performance Bank guarantee: As per clause 4.14		
23	Indemnity: As per clause 4.15		
24	Integrity Pact: As per clause 4.16		
25	Force Majeure: As per clause 4.18		
26	Risk Purchase: As per clause 4.19		
27	Patents and Trademarks: As per clause 4.20		
28	Subcontracting: As per clause 4.21		
29	Termination of lease contract and consequences: As per clause 4.22		
30	Settlement of disputes: As per clause 4.23		
31	Arbitration: As per clause 4.24		
32	Acceptance of Order: As per clause 4.25		
33	Additional facility required in future on the supplied equipment: As per clause 4.26		
34	Ethical Standard: As per clause 4.27		
35	Income tax depreciation: As per clause 4.28		
36	Limitation of liability: As per clause 4.29		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **80** of **84**

37	Confidentiality: As per clause 4.30		
38	Insurance: As per clause 4.31		
39	Fore-closure: As per clause 4.32		
40	Court: As per clause 4.33		
41	Withdrawal from the contract: As per clause 4.34		
42	MSME status: As per clause 4.35		
43	Taxes and Duties: As per clause 4.36		
44	Other terms and conditions: As per clause 4.37		

Compliance: Accepted to comply all the above points

Name:

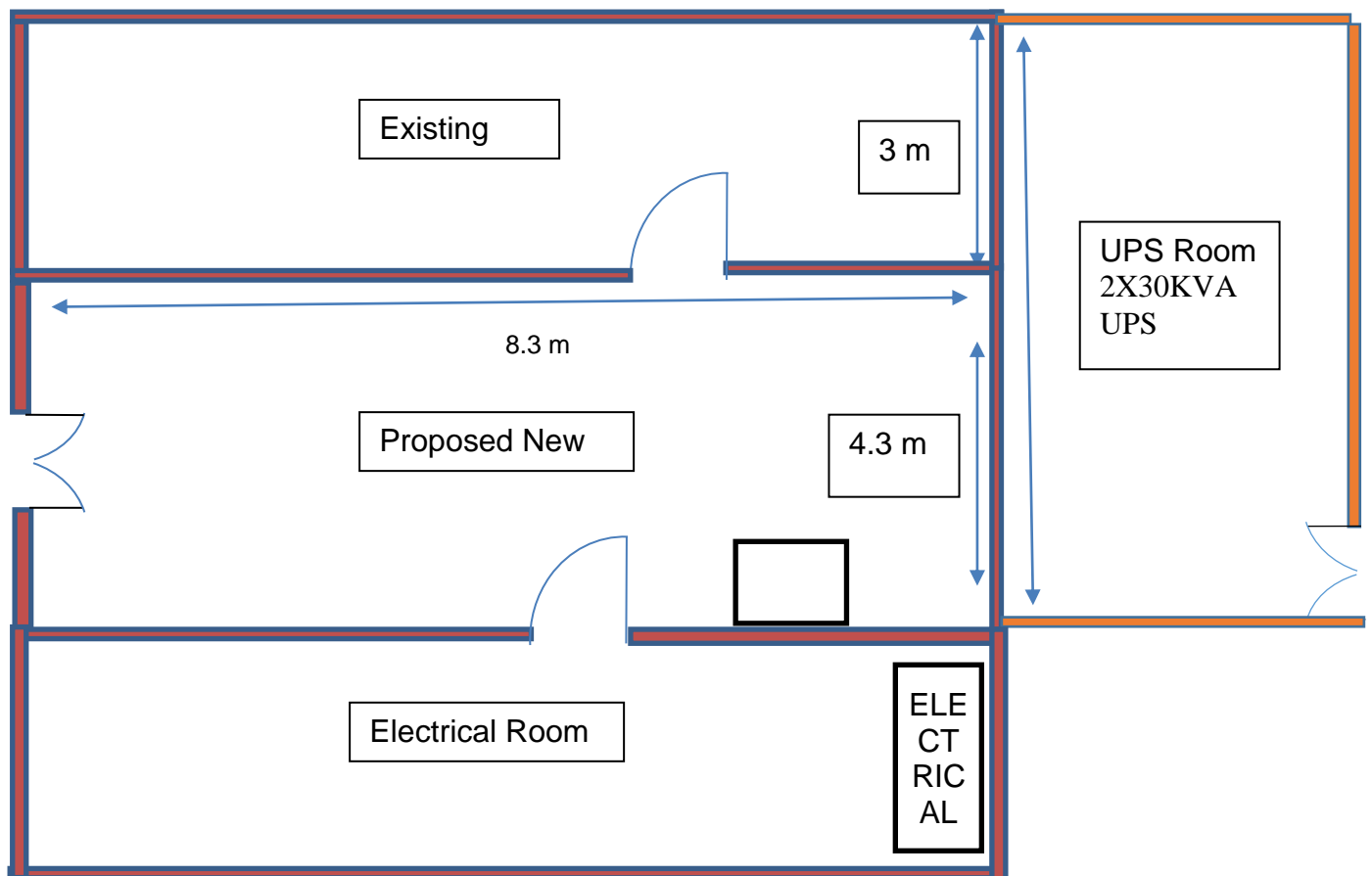
Signature of bidder with Date:

Company Seal

Page **81** of **84**

Annexure j
1 of 2

DC SITE LAYOUT

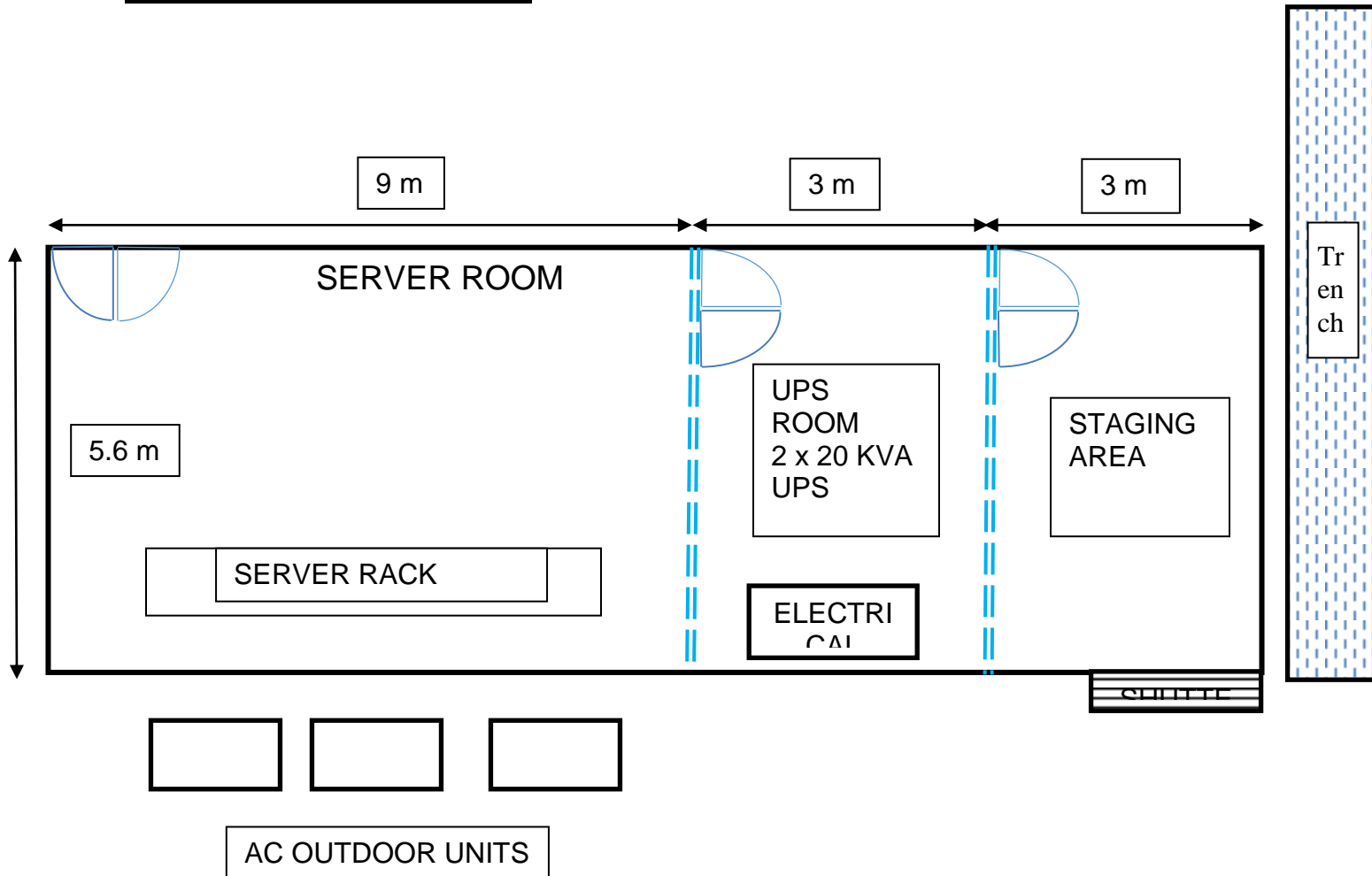


Compliance: Accepted to comply all the above points
Name:
Signature of bidder with Date:

Company Seal
Page 82 of 84

Annexure j
2 of 2

DR SITE LAYOUT



Compliance: Accepted to comply all the above points
Name:
Signature of bidder with Date:

Company Seal
Page 83 of 84

ANNEXURE K

Contact Details of BHEL IC Personnel:

S.No	Name	Desgn./Dept.	Contact No	Mail
1	B Venkateshwar	AGM/ Informatics Centre	04172-284469	bvenkat@bhelrpt.co.in
2	T Anitha	DM/ Informatics Centre	04172-284507	anitha@bhelrpt.co.in
3	A Mahesh	Sr.Engr/ Informatics Centre	04172-284015	amahesh@bhelrpt.co.in

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **84** of **84**