



**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**

**INFORMATICS CENTRE**

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

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Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

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**Tender Notice:**

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

**Date:** 10-05-2014

M/s -----  
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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 Part 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 09-06-2014**. 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 cutting 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 26-05-2014 at 2:30 PM at Coml conference room BHEL Ranipet.**

**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:

**SDGM/Purchase (Utility)  
Ground Floor  
ADMINISTRATIVE Building,  
Bharat Heavy Electricals Limited,  
BHEL, Ranipet, T.N. - 632406**

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

**N.Tamizharasan**  
SDGM(Purchase)  
Utility Section  
BHEL, Ranipet  
Tel No.: (04172) 284338  
Email: [nt@bhelrpt.co.in](mailto:nt@bhelrpt.co.in)

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## **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 five 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) Opp. To Admin building near telephone exchange (~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 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

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for those costs.

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

### 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 support for a minimum period of seven years from the date of commissioning.	
8	Authorization letter from OEM citing reference no of this tender.	Annexure - II
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 /

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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.

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

Bidders clearing the Technical and Commercial evaluation will have their Price Bids 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. L1 will be evaluated based on total of quarterly rental charges, one-time payment for migration and AMC for two years (including taxes). Quarterly payment will be made for the rental charges. One-time payment will be paid for the migration work after completion and certified by Informatics center.
2. The quarterly rental charges will be payable at the end of each quarter.
3. The bid having the least total cash outflow for 5 years (including migration work and 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.

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### 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

### 2.1. General

- a) This bidding process is open to the manufacturers of the RISC /EPIC Servers (OEM Supplier) or Authorized Partners of the OEM can also quote on behalf of the OEM supplier The Authorized Partner shall submit documentary evidence in this regard, failing which their offer will be rejected.
- b) There can be only one bid from each Bidder.
- c) Bidders are required to quote for all the items of the Tender Enquiry specified in the technical specification (Requirement) document and incomplete offers will be rejected.
- d) The vendor should fulfil all statutory and safety requirements for personnel engaged while executing the contract. If BHEL has to incur any expenditure due to non-compliance of the applicable statutory provisions, the same will be compensated by the Bidder.
- e) Relevant portions, in the documents submitted in pursuance of eligibility criterion shall be highlighted. If the offer is not accompanied by all the documents in 2.2 Eligibility Criteria, the same would be rejected.
- f) BHEL reserves the right to verify / confirm all original documentary evidence submitted by vendors in support of the eligibility criteria. Upon verification, evaluation / assessment, if any information furnished by the bidder is found to be false / incorrect, their total bid will be rejected and no correspondence on the same shall be entertained.
- 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 in the format given in Annexure-V.

### 2.2. Eligibility Criteria:

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

#### 2.2.1. For the OEM of the RISC /EPIC Servers:

2.2.1.1. Must be a manufacturer of UNIX based Server on RISC/ EPIC architecture.  
Must submit self-certificate to this effect from the OEM's authorized signatory.

2.2.1.2. Must have supplied the server, which is currently running, based on class of processors or its predecessor for oracle database and oracle application for minimum 30,00,000 TPMC or 66,800 SAPS SD 2-Tier in an order for single site of a company in India during the last 03 (Three) years. Bidder must submit documentary evidence in support of this.

2.2.1.3. Must have executed at least 3 (three) orders on lease in the last 5 years in India having total lease / outright value of minimum Rs 2.8 crores in each order.

or

Must have executed at least 2 (two) orders on lease in the last 5 years in India having total lease / outright value of minimum Rs 3.5 crores in each order

or

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Must have executed at least one order on lease in the last 5 years in India having total lease / outright value of minimum Rs 5.6 crores in each order

Bidder shall submit documentary evidence to support this.

2.2.1.4. 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.

2.2.1.5. 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.

2.2.1.6. 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**

### 2.2.2. For the OEM's Authorized Partner:

2.2.2.1. Must be an Authorized partner of the OEM for the products quoted for a minimum of 12 months. Submit certificate from the OEM to this effect.

2.2.2.2. Must have annual turnover of minimum Rs 2.5 crores per annum for the last 3 years average. Attested copies of Balance Sheets (Final / Provisional) of the last three years to be submitted as proof.

2.2.2.3. Must have registered office in India. Documentary proof shall be submitted.

2.2.2.4. Must have executed at least 3 (three) orders on lease in the last 5 years in India having total lease / outright value of minimum Rs 2.8 crores in each order.

or

Must have executed at least 2 (two) orders on lease in the last 5 years in India having total lease / outright value of minimum Rs 3.5 crores in each order

or

Must have executed at least one order on lease in the last 5 years in India having total lease / outright value of minimum Rs 5.6 crores in each order

Authorized partner shall submit documentary evidence to support this.

2.2.2.5. All the Eligibility Criteria mentioned in 2.2.1 **For the OEM of the RISC /EPIC Servers** shall also be met by the OEM of the bidder. A declaration duly signed by the authorized signatory of the OEM in OEM's letter head to this effect is to be submitted by the bidder.

2.2.2.6. 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 – Bidder has to submit certification from Oracle.

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

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

### **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.** BHEL may shift the equipment of near DR to different site/location within the campus area only during the lease period. The vendor shall carryout the shifting activity at free of cost, at least once during the lease period.
- 3.1.5.** 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 sets of CDs/DVDs, etc. or the Software Product should be electronically downloadable from OEM website.
- 3.1.6.** 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.
- 3.1.7.** Maintenance of the hardware, software and other equipment throughout the lease period as per the service level agreement.
- 3.1.8.** 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.
- 3.1.9.** 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.

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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 partitions 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. Successful running of Oracle based system and sub-systems and applications in other partitions after installation of oracle software on respective servers with acceptable performance.
- 3.2.13. Integration with BHEL's existing network with proper security.
- 3.2.14. Demonstration of RAS features.
- 3.2.15. 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.

### 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 carry out the following activities required for migrating BHEL's Oracle applications to new system.

- 3.3.1. Installation of required OS level Patches, updates and file-sets as recommended by Oracle.
- 3.3.2. Creation of required file-systems.
- 3.3.3. Cluster testing after Oracle migration.
- 3.3.4. OS level tuning for better performance.
- 3.3.5. Installation, configuration and testing of Oracle Products including Oracle application server & Database.
- 3.3.6. KBPCES and Oracle AS migration

### 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:

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- 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. Network diagrams / cabling scheme.
- 3.4.4. Security scheme for entire solution.
- 3.4.5. Clustering and failover details.
- 3.4.6. Details of SAN access, point in copy, replication, zoning, etc.
- 3.4.7. Details of Backup solution and Tape Library systems.
- 3.4.8. Performance Bank Guarantee
- 3.4.9. 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 with respective oracle software installed. After successful completion of installation and commissioning, PG test shall be conducted for ascertaining the availability for a minimum period of 14 days continuously. 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. 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 equipments are in service with network and external storage. Any hardware component failure in RISC /EPIC servers has to be rectified / replaced without bringing down / restarting any partitions or servers. Actual time taken for taking backup of 5TB data using a single drive with the offered solution 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.

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### 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 etc.
- Oracle database Administration for 5 persons for minimum period of 5 days.
- Oracle Application server administration for 5 persons for minimum of 5 days.

#### 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 are as follows:

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**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.
- 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.

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### 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:

**Deduction (D) = (downtime in minutes (d) X rental per minute (r) X 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.

### 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.

### 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")

BHEL prefers to deal directly with the vendor and hence bipartite lease agreement is preferred.

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 (in original)
- 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:

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

- a) At least one qualified, trained and certified on-site engineer in the respective Server and Storage Management with OEM certification and at least 3 years of experience on such UNIX servers, storage and backup solutions shall be posted.
- b) The OEM 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.

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

**3.15.6** If the OEM certified 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.

**3.15.7** 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.

#### **3.15.8 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

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Software changes during 1<sup>st</sup> year.

**3.15.9 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 equipments 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
- 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.
- 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

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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)

## **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 10-05-2014 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 09-06-2014** 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 peruse 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.
- 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.

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#### 4.3 PROCEDURE FOR SUBMISSION & OPENING OF BIDS

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

**SDGM/Purchase (Utility)  
Ground Floor  
ADMINISTRATIVE Building,  
Bharat Heavy Electricals Limited,  
BHEL, Ranipet, T.N. - 632406**

Bids submitted by post shall be sent by "REGISTERED POST" 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.

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 (1 - 87). While signing all the pages bidder has to fill the compliance column given in clause 5.0 Technical Specification (Pg 28 - 55). In addition to this, bidder has to submit the following annexures duly filled and signed in bidder's letter head.
  - Price Format A, B and C with tax details
  - Annexure B – Integrity Pact
  - Annexure D – In case of MSME vendor
  - Clause 8.0 – Checklist of enclosures
  - Annexure II – Authorization by OEM (OEMs letter head)
  - Annexure III – Annual turnover of bidder
  - Annexure IV – Copy of major orders received in last 5 years
  - Annexure V – Confirmation on not hold/delist/banned
  - Annexure VI – 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

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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).
- 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 bids shall not be entertained. 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.

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- e) Vendors have to fax 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 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 of the Reverse Auction.

#### 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 / Hindi 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.
- 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 the bidder.

#### 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 23-05-2014.
- c) Any relevant information pertaining to this tender can be obtained only from:

**N.Tamizharasan**

SDGM(Purchase)

Utility Section

BHEL, Ranipet

Tel No.: (04172) 284338

Email: [nt@bhelrpt.co.in](mailto:nt@bhelrpt.co.in)

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- 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 Price Bid submitted by the bidder is 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. 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 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 entertained 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

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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 H) along with the order, for an amount equivalent to 10% (Ten percent) of the value of the contract. The PBG shall be valid for throughout the contract period of five years from the date of acceptance of the equipment at BHEL, Ranipet along with a claim period of further 3 months.

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

Bank Guarantee shall be submitted immediately after the placement of LOI / PO (before start of the work).

**4.15 INDEMNITY**

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,

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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.

#### **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 conduct any litigation that may arise there from.

#### **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 THE 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,

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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.

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**

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Name:

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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**

As per the public procurement policy notified by the central government, micro and small enterprises quoting within the price band of L1+15% shall be allowed to supply the requirement up to 20% of the tender value subject to condition that such enterprises bring down their price to L1 price where L1 price is from other than a micro and small enterprise. If L1 offer is from a micro / small enterprise, this provision will not be applicable. In case more than one micro and small enterprise is there within this span, the supply shall be shared proportionate to the tender quantity. (70:30 or 50:30:20 of the eligible quantity).

Note: Special provision for micro and small enterprises owned by SC or ST: -

Sub target of 20% (i.e. 4% out of 20%) would be earmarked for procurement from micro and small enterprises owned by the scheduled caste or scheduled tribe entrepreneurs provided that in event of failure of such micro and small enterprises to participate in the tender process or meet the tender requirements and the L1 price, the 4% sub-target for procurement ear-marked MSE owned by scheduled caste or scheduled tribe entrepreneurs shall be met from other MSE.

Compliance: Accepted to comply all the above points

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enterprises/s. Such of those suppliers who are already registered with BHEL, Ranipet as an MSE and whose registration is valid on the date of the tender opening (technical bid opening date in the case of two part bid) will be considered as eligible for the above concession.

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 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.

In case after the bid opening it is seen that no MSE has become L1, then depending on the nature of the item, if it is not possible to split the tendered items / quantities on account of reasons like customer contract requirements of supplying one make for a given project or technical reasons like the tendered item being a system etc.. then BHEL would not counter offer the L1 prices even though there may be MSE Bidders within the +15% band of L1.

### 4.36 TAXES AND DUTIES

The price quoted in the price schedule shall be inclusive 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.

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**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

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## 5.0 Technical Specification

BHEL Ranipet is having **Primary Site** in Informatics Centre and **Secondary Site** (Near DR) opp. to admin building near telephone exchange (~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 sharing load. 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 synchronously and asynchronously replication.

### 5.1 Partition details to be done as per the below tables

TABLE - 1							
Partition No.	Partitions (For running ERP Applications)	Capacity Required (SAPS or TPCC)		Minimum Internal Disk / SAN Boot for OS	I/O ports		HA Cluster
		SAPS Value	TPC-C Throughput		Gigabit Ethernet Ports (Physical)	Fibre Channel Ports (Physical)	
1	Database Production	22,200	10,00,000	2 x 300GB	8	4	Yes
2	Authentication Server - 1	5,600	2,50,000	2 x 300GB	4	2	Yes
3	Application Server - 1	11,100	5,00,000	2 x 300GB	6	2	
4	Engineering	5,600	2,50,000	2 x 300GB	8	2	
5	Load Balancer - 1	5,600	2,50,000	2 x 300GB	8	2	Yes
6	Development	5,600	2,50,000	2 x 300GB	4	2	
7	Staging and others	11,100	5,00,000	4 x 300GB	6	2	Yes
	<b>TOTAL</b>	<b>66,800</b>	<b>30,00,000</b>	<b>16X 300GB</b>	<b>44</b>	<b>16</b>	

TABLE - 2							
Partition No.	Partitions (For running ERP Applications)	Capacity Required (SAPS or TPCC)		Minimum Internal Disk / SAN Boot for OS	I/O Ports		HA Cluster
		SAPS Value	TPC-C Throughput		Gigabit Ethernet Ports (Physical)	Fibre Channel Ports (Physical)	
1	Database Fail-Over Production	22,200	10,00,000	2 x 300GB	8	4	Yes
2	Authentication Server - 2	5,600	2,50,000	2 x 300GB	4	2	Yes
3	Application Server - 2	11,100	5,00,000	2 x 300GB	6	2	
4	Engineering	5,600	2,50,000	2 x 300GB	8	2	
5	Load Balancer - 2	5,600	2,50,000	2 x 300GB	8	2	Yes
6	Test	5,600	2,50,000	2 x 300GB	4	2	
7	Staging and others	11,100	5,00,000	4 x 300GB	6	2	Yes
	<b>TOTAL</b>	<b>66,800</b>	<b>30,00,000</b>	<b>16 X 300GB</b>	<b>44</b>	<b>16</b>	

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**5.2 Specifications of RISC /EPIC Servers: 2 Nos.**

Specifications of UNIX servers are defined below:

<b>RISC /EPIC Servers: 2 Nos. ( Primary Site and secondary site (near DR))</b>				
<b>Sr. No.</b>	<b>Features</b>	<b>Specification</b>	<b>Compliance (Yes/No)</b>	<b>Document Reference/ Remarks</b>
1	Servers	Monolithic server per site shall be offered. (It shall be possible to configure the system as a single partition).		
		All servers shall be capable of being partitioned; each partition shall have its own operating system instance, host name and IP address.		
		Both servers at Primary and secondary site shall be of the same Make and Model.		
		Specify the make and model.		
		All servers quoted must have the same RISC /EPIC processor.		
		The future roadmap of the Server needs to be submitted.		
		All the servers shall be capable of running Oracle application server / Oracle WebLogic Suite 11g R1 and Oracle 11g R2 RDBMS under 64-bit Unix OS.		
2	Processors	CPUs shall be 64 Bit RISC /EPIC with SMP architecture.		
		Adequate number of processor cores to meet the performance requirement; performance is expressed in terms of SAPS (SAP SD 2T ECC 6.0, EhP 4.0 Unicode) OR TPC-C rating as defined in Table-1 & Table-2.		
		The CPU's future roadmap needs to be submitted.		
3	Processor Performance	The Total SAPS OR TPC-C rating for the suggested RISC/ EPIC server should be minimum of 66,800 SAPS OR 30,00,000 TPC-C Throughput (Refer to Table-1 & Table-2 Attached) and the same server should be scalable up to 1,00,200 SAPS OR 45,00,000 TPC-C. The OEM should support their SAPs/Core or TPC-C per core claim based with published results in the SAP benchmarking Website/SAP Competency center certificate or tpc website. In addition, bidder has to provide the certificate from OEM for the claimed benchmarks with justifications based on the Extrapolation / Intrappolation from		

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		the published benchmark of similar or higher model of the same Processor Series.		
		SAP SD two-tier benchmark results under UNIX operating system (SAP ECC 6.0, Unicode, EhP4) environment will be used for evaluation & to arrive at the number of SAPS each processor core can deliver.		
		TPC-C Version 5 benchmark results under UNIX operating system environment will be used for evaluation & to arrive at the number of TPC-C each processor core can deliver.		
4	Main Memory	Memory shall be provided with the same memory to processor ratio as that of the reference model whose SAPS OR TPC-C benchmark has been used for processor performance evaluation OR 16 GB per processor core shall be offered OR 6 GB per 1,000 SAPS OR 8 GB per 60,000 TPC-C of DDR3 memory shall be offered.		
		The offered Server should be scalable to minimum 1 TB RAM.		
5	Partitions	Each Instance should run in an independent partition having its own operating system instance with resources dedicated to it as per specified in Table-1 & Table-2.		
		Server should be partitioned to provide minimum 10,00,000 TPC-C values /22,200 SAPS ratings for Oracle Database layer instance & 5,00,000 TPC-C /11,100 SAPS ratings for Oracle Application Layer instance.		
		Total number of oracle database and application server licenses required to meet the performance mentioned above will have to be indicated. Oracle product license cost for database and application server will be used to determine the overall cost		
		It should be possible to assign processors and memory logically to any partition or switch processors and memory between partitions without reboot of source or target partitions or applications.		

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		Each partition shall have at least the resources allocated as per the sizing specified in Table-1 & Table-2. At any point of time, the partition should not run with lesser resources than the minimum specified for that partition.		
		Each partition shall be able to run same or different versions of OS kernel, patch levels, etc, independently.		
		Any configuration change in one partition shall not affect any other partition.		
		Any fault in one partition shall not bring the entire system or other partitions down.		
		The OS of each partition shall be upgradeable separately and independently without affecting the other partitions.		
		Each partition shall have the capability to start-up and shutdown independently without affecting any other partition on the same server.		
		Each partition should have security isolation from one another. The partition should be certified under common access protection profile or equivalent. Partitions should have security isolation from one another.		
		Partition management software with GUI/ Web interface shall be provided. The Web/GUI interface shall support configuration and dynamic (no-reboot) reconfiguration features.		
		Each partition 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 partition's operating system		
6	I/O Adapters	The Servers should be configured with a minimum of 7 Partitions and should support atleast 10 partitions. Each partition should be capable of booting different instances of Operating system and have identified separate I/O sub systems. BHEL will provide reconfiguration details with the available resources.		
		All adapters should be PCI/X or PCI/E. All ports must be physical.		
		All FC ports shall be of 8 Gbps speed with multi path I/O trunking and automatic load balancing (as per Table-1 & Table-2) for each server/partition. The server will be connected to SAN storage system using fibre channel links. Required compatible Fibre Channel Host		

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		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 10/100/1000 Mbps 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		
7	Disk and Media drives	Each partition shall be configured with minimum 2x300GB hard disk drive on internal /external SAS disks.		
		Internal Disks or the SAN disk used for OS shall be in RAID 1+0 /RAID 1.		
		There shall be DVD ROM drive in the server. This drive can be independently configurable to any partition manually without requiring any reboot of any partition.		
		There shall be one External LTO Generation 6 drive to be offered per location. These drives can be independently configurable to any partition manually without requiring any reboot of any partition.		
8	Operating System	Latest version of 64-bit OEM Unix Operating System with latest patch level must be provided. It should include:		
		Logical Volume Management. Dynamic expansion and reduction of LVM without requiring unmounting the volumes		
		Unix File System		
		Mirroring Software		
		Shall be capable of running 64-bit Oracle Application server /WebLogic Suite 11g or higher version.		
		Shall be capable of running 64-bit Oracle 11g RDBMS or higher version		
		The Unix Operating Systems shall be licensed to support unlimited users and to support minimum of 10 partitions.		

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		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 partitions		
9	Cluster/High availability	The cluster solution must be able to provide fail-over to the other system at remote location (around 1Km 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.		
		All necessary software, oracle Database agent & hardware components for automatic high availability and seamless fail over and fallback to be provided across the servers (both servers are at different locations, around 1Km distance between them)		
		Cluster solution shall be certified by Hardware OEM.		
		No committed transactions in Oracle Database should be lost in case of failure of clustered component.		
		Once the failed system comes up they should revert back to the original configuration automatically and manual provision should also be there.		
		The proposed solution of implementing the fail-over must be explained in detail in the technical proposal along with logical diagrams.		
		The Oracle Database and Oracle application server / WebLogic instances shall be clustered using high availability clustering technology, load balancing and there should not be any single point of failure in the offered solution. All necessary software agents must be provided for clustering. Support for the clustering software and all software agents must be provided. Each of the production components shall have dedicated failover mechanism.		
10	Other Software	Java development kit, C, C++ compiler and development package in all partitions in each site shall be provided.		

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11	RAS Features	Each of the offered servers shall have an inbuilt redundant service/management processor.		
		Processors shall be capable of dynamic CPU de-allocation without server reboot. In case of Core failure the partition should not be affected.		
		Memory shall be protected through Advanced ECC / Chipkill, bit-steering & chip redundancy 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, PCI etc.		
		PCI buses shall have error handling capability.		
		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.		
		Shall have redundant system clocks.		
12	Scalability	The server scalability and upgradeability path in terms of CPU and RAM must be submitted.		
13	Others	System management shall be through dedicated ports and shall not use the adapters identified for partitions.		
		Rack to house the server shall be from the server OEMs as per the Rack specification.		
		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.		
		Reconfigurable Input / Output Data paths Should support redundant service processor/ management processor to avoid single point of failure.		
		Should not require reboot in case of memory or CPU failure.		
14	Documentation	Should support hot swappable Disks. Should support dynamic firmware upgrade		
		All the documents like data sheets, architecture, line diagrams, etc, shall be submitted.		

Compliance: Accepted to comply all the above points

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**5.3 Specifications of SAN Storage: 2 Nos.**

Disk Type	Minimum storage capacity requirement at each site
Solid state Disk (SSD)	4 TB of storage with atleast 1,00,000 IOPS
Minimum 300 GB 15K rpm 6 Gbps SAS II (2½" disk )	170 drives with atleast 20,000 IOPS + Minimum of 5 hot spares

Disks for operating system (required for SAN boot) of each partition 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	

<b>SAN Storage - 2Nos. (One per Location)</b>				
Sr. No.	Features	Specifications	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.		
2	Cache	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. 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.		

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3	Host Interface	1) Storage system should be configured with 8 numbers of 8Gbps FC, front-end ports and should be scalable to 16 ports		
4	Drive Interface	Storage should support a minimum of 4 SAS 2.0 or FC ports and the same shall be scalable to 16 SAS 2.0 or FC ports		
5	Support Drives	The storage subsystem shall support 300/450/600/900 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 at least 400 drives. (SAS drives)		
		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		
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.		

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		The storage shall support the following High Availability Clusters solution from HP, IBM, Symantec, EMC, SUN and Windows		
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 /LUN management	"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.		
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.		

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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, IBM, Sun, 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		
		Rack to house the SAN storage shall be from the OEMs as per the Rack specification.		

#### 5.4 Specifications of SAN switch: 4 Nos.

Specifications for SAN switch - 4Nos (2Nos Per Location)			
Sr. No.	Specification	Compliance (Yes/No)	Document Reference/ Remarks
1	Minimum 32 Active ports (each with minimum port speed 8 Gbps) within same switch upgradeable to 40 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.		
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.		

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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.	Specification	Compliance (Yes/No)	Document Reference/ Remarks
1	Four (4) native fibre LTO 6 drives to be offered.		
	Shall have minimum 100 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, IBM AIX, Sun Solaris, Windows 2003/2008, Linux		
6	Shall supply 100 labeled, blank new LTO-6 tape media with each tape library; each with 3 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.		

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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.		
13	Rack to house the Tape Library shall be from the OEMs as per the Rack specification.		
14	2 (two) numbers of special turtle case for transporting atleast 10(ten) LTO tape media to offsite shall be provided.		
15	Additional single tape drive to restore data from LTO 3 tapes to be supplied. This drive should be connected to the proposed SAN storage.		

### 5.6 Specifications of Backup Software: 2 Nos.

Backup Software – 2 Nos. (One per Location)			
Sr. No.	Specifications	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 partitions and new partitions if created in future. Additional licenses required for taking backup of other data in SAN needs to be covered. Minimum 10 for Unix OS and 3 for other operating systems (windows /Linux) 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.		

Compliance: Accepted to comply all the above points

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Tender Ref: BHEL/BAP/IC/DBSERVER

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		
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, 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.		

Compliance: Accepted to comply all the above points

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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		
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	Backup software should also have capability to migrate the backed up data from one technology to another like LTO3 TO LTO4 TO VTL and vice versa		
34	Proposed backup solution should provide the forever full incremental functionality which can eliminate the need for taking full backup after every periodic interval		
35	Bidder must provide following agent as part of backup solution - SAN (LAN Free) Based Hot Online backup on all quoted database production servers/Partitions - LAN Based backup License on all quoted Production and Non-Production Servers/Partitions (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.		
36	BHEL is having HP Data Protector licenses. Bidders can make use of these licenses, if it supports the above requirements. Bidder should include additional licenses if any and also provide five years support for the same.		

### 5.7 Specifications of Racks:

Racks			
Sr. No.	Specification	Compliance (Yes/No)	Document Reference/ Remarks

Compliance: Accepted to comply all the above points

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1	Heavy Duty Racks (not exceeding 42U) for installation of all the hardware shall be supplied, with power distribution unit, cable manager, cooling fans, front & rear doors.		
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**5.8 Specifications of Backup Server: 2 Nos.**

Sl. No	Features	Specifications Required	Compliance(Y/N)	Document Reference /Remark
1	CPU	2 x Intel Xeon E5-2650 series CPU @ 2.0 GHz or Higher		
2	Cache L3	20 MB of L3 Cache		
3	Chipset	Intel C600 series		
4	Memory	32GB Registered DDR-3 ECC Memory Upgradeable to 192 GB		
5	Active Memory protection	Advanced ECC memory protection support		
6	Drive Bays	Server should have Minimum of 16 x 2.5" Hard Disk Drive bays		
7	Hard Disk Drives	Server should be configured with 6x300GB 10 KRPM		
8	RAID Controller	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.		
9	Graphics Controller	Integrated Video Memory 16MB DDR-2 SDRAM		
10	Ethernet Adapter	4 Gigabit Ethernet ports		
11	Fiber Channel HBA Connectivity	Dual Port 8Gbps Fiber Channel adapters		
12	I/O Expansions	Minimum Four Number of PCIe Slots		
13	Power Supply	Dual Redundant Hot Swappable Power Supplies		
14	Hot Swap/Redundant Fans	Server should be configured with Hot Swap Fans		
15	Warranty	5 Years Onsite Comprehensive Warranty		
16	Form Factor	2U		
17	Operating System	Microsoft Windows 2008 Server Standard, Enterprise, RedHat Linux Enterprise,		

Compliance: Accepted to comply all the above points

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**5.9 Specifications of Precision Air Conditioner: 2 Nos.**

- a) BHEL is having DC (Data Centre). BHEL is going to extend this Data Centre with additional area of 370 Sq. feet. In the extended area, 5 server racks will be located. False flooring and false ceiling for this area will be arranged by BHEL. Bidder should supply two nos of 10 T Precision Air Conditioner as per the technical specifications given in this document. These two PAC should work to provide 1+1 redundancy for the extended DC Area.
- b) DC requires round the clock 365 days precision cooling to maintain Temperature of 21 Deg. C +/- 3 and relative humidity of 50% +/- 5. Sequential controller should be supplied along with these PACs. The Extended DC will be operated round the clock shift on all 365 days.
- c) The Precision Air-conditioners shall be bottom discharge with high CFM units. The cold air discharge will be from false floor void. Maximum Indoor unit to Outdoor unit distance including Vertical travel is 15 running metre.
- d) The thermal insulation below the false floor and floor grills are in the scope of the bidder.
- e) The unit supplied shall have redundancy (1+1) among these two PACs. This PAC should work along with the sequential controller.
- f) The entire system is required 5-years warranty. The scope of warranty covers:
  - (i) Diagnose the faults & rectify the hardware/software faults detected.
  - (ii) Repair/replace the faulty units/parts etc of the equipment at free of cost.
  - (iii) Carry out the periodic preventive maintenance.
  - (iv) Upkeep & Upgrade the software to latest version periodically.

S.No	Specifications	Compliance (Yes/No)	Document Reference/Remarks
1	Precision air conditioners complete with all controls, indoor and outside units, monitoring units and complete installation and commissioning at server room.		
2	The vendor is expected to include all auxiliary works like inlet and drain piping, piping between indoor and outdoor, cabling, acoustic and thermal insulation on the floor of the server room, supply air grills at false floor, stands for indoor and outdoor units with related civil works etc. as per the site requirements.		
3	Automatic monitoring and control of cooling, heating, humidification, dehumidification, air-filtration, etc. should be installed		
4	These equipment should be compliant to the following :		
	Cabinet conforming to Class 1 BS 476 Part 6&7 standards		
	Air filtration conforming to EU3 standards		
	Electric Re-heater should be operating at black heat temperature		
	Humidifier should have an adjustable capacity control ranging from 40%-100%		
	Visual and audible alarm indication		
	Graphical display of temperature and humidity curves over the last 24-hour		
5	The refrigerant should meet the environmental standard		
	<b>Humidity , Ventilation, Air Conditioning (HVAC)</b>		
	Air conditioning for direct expansion air conditioning is used then condensers should be located outside the building.		

Compliance: Accepted to comply all the above points

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	Optimal temperature of 21 deg C + or -3 shall be maintained.		
	45 -55% Relative Humidity shall be maintained.		
	Relative humidity variation shall not exceed +/-5%.		
6	<b>Microprocessor controller Panel</b>		
7	The display panel should be located on the front of the unit with LCD display for monitoring and alarm indication. The panel should be used for :		
	<b>Status detection (whether on or off)</b>		
	Temperature controller		
	Humidity controller		
8	<b>The panel should make an audio visual alarm in case of:</b>		
	Power failure		
	Fan overload		
	Humidifier power fault		
	Humidifier control fault		
	Heater fault		
	Airflow failure		
	Change filter		
	Control circuit trip		
	Return air temperature / RH out of range		
	Supply air temperature out of range		
	Return air humidity sensor alarm		
	Return air temp. Sensor alarm		
	Service alarm		
	Electric heater alarm		
	Microprocessor fault		
	Humidifier flood		
	Water leakage alarm		
	Smoke alarm		
9	<b>Other functions of the control panel</b>		
	Graphical display of temperature and humidity curves over the last 24-hour.		
	Self-diagnostic functionality		
	Supply air fan surge to let fan continue on operation for a period of 180 second before total shutdown.		
	An automatic changeover for duty / standby unit based on time interval setting and any failure of duty unit.		
	An automatic restart function with sequence start program to prevent power surge during start-up on multisystem installation.		
	A graphic display to review the return air temperature and humidity condition.		
	Comprehensive event storage system by date and time of occurrence.		
	Simply user-friendly operating guidance.		
10	Sequential controller		
11	Should provide Network Interface card along with software for remote monitoring on PC		
12	Five years warranty		

### 5.10 Specification for Biometric access control system – 2 Nos

Access control system with the following features shall be provided:

1. LCD display of RTC (date and time)

Compliance: Accepted to comply all the above points

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2. LCD display of verify passed or failed
3. Audio and display for pass /fail.
4. Alarm /buzzer user programmable
5. Multi-port option and interface for card reader
6. Finger prints templates storage capacity for atleast 25 staffs
7. Data logs /records storage capacity for atleast 5000 entries/ events
8. PC connectivity
9. User friendly software with latest version compatible with windows 7/ 8 operating system and upgrades for 5 year lease period.
10. At least three levels user/security/access on the units
11. ONLINE monitoring of logged data when connected to PC
12. MIS reports (daily/ weekly/ monthly) in text, excel, HTML, PDF formats

### 5.11 Specification for Oracle Database and Application Migration:

Sl. No.	Activity	Compliance (Yes/No)	Document Reference/ Remarks
1.	Installation of Oracle 11g R2 or latest database version in the new setup and data to be migrated to this new server. DC and DR database with similar configuration with High availability. Each DB partition should have minimum 6 processors core.		
2.	Installation of Oracle Application Server 11g OAM, OID, Load Balancer (Oracle web cache), Forms and Reports Application Servers and Portal in 6 partitions (3 at DC and 3 at DR) with Single Sign On and Windows Native Authentication Configuration		
3.	OID and Load Balancer will be on Active Passive Mode (OID and Load Balancer at DR will be having a similar configuration of the DC). In case of failure at DC it has to automatically take over at DR.		
4.	The Forms and Reports Application Servers will be in Active – Active Mode. All necessary printers are to be configured in the Server end.		
5.	Startup, Shutdown, Backup Scripts for all Partitions to be applied in the servers		
6.	Migration of Windows server 2003 AD to Windows server 2008 R2 AD. BHEL Ranipet is currently with Windows server 2003 AD. Vendor has to migrate this AD to 2008 R2 with PDC and ADC and configure Single Sign On in OID. WNA has to be configured on top of this work. Clients will be using Windows XP/ 7/ 8 operating system. BHEL Ranipet custom built program for adding user entries to AD from HR database (C Program) to be made working in the new setup. Hardware required for AD migration will be provided by BHEL Ranipet.		
7.	The OID should be integrated with Windows		

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	server 2008 R2 AD.		
8.	Entire applications (forms, reports and jsp pages) should be migrated and demonstrated in the new environment. Approx. there are 4300 forms, 6300 reports and 300 JSPs		
9.	Forms and Reports Developer suite (Client end) to be migrated to latest version.		
10.	Object (Forms & Reports) compilation and declaration process at server side from the clients to be provided.		
11.	Installation and configuration of line printers and dot matrix printers in the application server		
12.	Post implementation Support for 1 year		
13.	Migration of existing data in SAN (database, application server, file server and mail archival) to the new SAN storage must be done by the vendor.		

**Licensing:**

We are having 6 processor perpetual license for Oracle database and 12 processor perpetual license for Oracle 10g application server. BHEL Ranipet is in the process of migrating this license to Weblogic suite. All required licenses for this migration will be provided by BHEL Ranipet.

If any additional license is required the same may be included in vendor scope. Additional licenses must be taken in the name of BHEL Ranipet. The details of additional license required should be mentioned along with technical offer.

**Application Server Set-up Details****PRIMARY****Hostname****PAS0**

OID

**PAS**

LOAD

**PAS1**

APP

**SECONDARY****Hostname****SAS0**

OID

**SAS**

LOAD

**SAS1**

APP

**Oracle web cache must be used for load balancing**

**Acceptance Criteria:**

1. HA (High availability) to be demonstrated for Application server partitions
2. If Primary Load Balancer Fails Then the Secondary Load Balancer should Be active
3. If Primary OID fails then Secondary OID should be active
4. PAS-I and SAS-I both to be Active

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**Deliverables:**

1. Migration document with source code to be provided.
2. Training to system and database administrators
3. Training to developers

Migration of existing data in SAN (database, application server, file server and mail archival) to the new SAN storage must be done by the vendor.

Compliance: Accepted to comply all the above points

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## 5.12 Specification for Migration of Team Centre based Knowledge Based Proposals and Contracts Engineering System - KBPCES

### Introduction:

KBPCES is used in BHEL Ranipet in the Engg. Department - Proposals and Contracts Engg. section mainly for the following purposes

- a). Workflow management from Marketing / Commercial depts to Engg. Departments and vice versa.
- b). Equipment Selection
- c). Bill of Materials generation
- d). General Arrangement and other applications etc.,

The Customized applications integrated into the KBPCES system are developed in i). Java. ii). VBa iii). Ms Office programs iv) AutoLisp

**Team Center Engg. PLM 2007** is integrated / interfaced with

- a). Fortran Programs,
- b). Net Programs,
- c). MS Office Programs.
- d). AutoCad Programs to transfer / execute the data from the Team Center to the external programs mentioned above and vice versa
- e). Other programs

The following table depicts the approximate no. of programs developed/ Interface in the existing KBPCES system using TeamCentre PLM

Product	Proposal Drawings Generation – (AutoLisp)	Automation Programs (Excel with VBA macros)	Legacy Programs Interfaced (Fortran )	Document Generation for Proposal & Contracts	Java
ESP	2	25	-	25	8
ECI	58	20	-	6	5
FANS	58	2	-	5	9
APH	114	12	20	13	9

### Available License:

- 1) Oracle Database license – 2 processor perpetual

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Sl.No	Description	Compliance (Yes/No)	Document Reference/ Remarks
1.1	Up gradation of Team Center Engg 2007 to <b>Team Center Unified Latest Version</b>		
1.2	Installation, Configuration of the latest Team center in the new server partition with the Team Center Unified Latest version.		
1.3	To migrate the Volume server in the existing KBPCES to Team Center Unified latest version.		
1.4	To migrate and integrate the Volume Server used for the Nx vaulting from the Team Center 2005 to the latest Team Center .		
1.5	Migration of the Customized applications developed in Team Center Engg 2007 to the latest Team Center Unified version		
1.6	The new KBPCES system including clients should be made to work seamlessly without any problems in the following applications/software		
	1.6.1 AutoCad 2011 and above latest version		
	1.6.2 Ug Nx 7.5 and above latest version		
	1.6.3 Oracle 11g and above latest version		
	1.6.4 Microsoft 2007 and above latest version		
	1.6.5 Windows Xp, 7 and above latest version		
	1.6.6 Vendor to arrange IBM Websphere/ Oracle Weblogic latest version licenses compatible to Teamcenter unified.		
1.7	Installation of Team Center Client Unified (latest version) in the client PC's (Windows Xp, Windows 7, Windows 8 or latest version)		
1.8	Vendor to ensure that all the features of KBPCES system currently working (before up gradation) are operational without any problems.		
1.9	Configuration changes in Websphere to update latest KBPCES Webtier		
1.10	Porting/ Publishing new KBPCES (Team Center Unified) on CITRIX interface		
1.11	AutoCAD and LISP programming integration to be performed. AutoCAD integration with Teamcenter latest version to be provided.		
1.12	Test cases will be provided by BHEL for user acceptance testing.		
1.13	BHEL will provide sign-off after testing and User acceptance of the complete migration is successful and meeting the above conditions.		
2.1	<b><u>Deliverables</u></b> Team Center Unified Latest version - Upgrade Solution in working condition in new Server and client with upgrade documents (Screen shots , detailed Live Configurations ,Upgraded Codes)		
2.2	Migrated existing data into New TCUA environment		
2.3	Admin and User Training Documentation		

Compliance: Accepted to comply all the above points

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### 5.13 Specifications of 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	Requirement as per RFP	Compliance (Yes/No)	Document Reference/ Remarks
1	<b>Architecture:</b> The switch should have static route, RIPv2, OSPF, IS-IS and BGP4 routing functionalities. The switch must support following architectural features:-		
	(a) The switch should have 24 Ethernet 10/100/1000 ports and 2 no.s of 1/10Gigabit Ethernet SFP Single mode ports. The switch should be stackable. Switch must be provided with necessary cables for stacking.		
	(b) The switch backplane bandwidth at minimum should be 160 Gbps fabric. The switch must support minimum 65 Mpps maximum forwarding bandwidth. The required forwarding rates are based 64 bytes packet length.		
	(c) There should be no performance degradation for advanced layer 2 to Layer 4 services such as QoS and security implementation.		
	(d) The switch must support hardware based Access Control Lists (ACLs).		
	(e) The switch must support at least 12K MAC addresses.		
	(f) The switch should support Ipv6 in hardware and software for routing, multicasting, security and management features.		
	(g) The switch will have redundant internal power supply.		
2	<b>Layer 2 Protocol Features:</b> The switch must support following Layer 2 related features:-		
	(a) Hardware assisted Layer 2 forwarding.		
	(b) Layer 2 switch ports and VLAN Trunks.		
	(c) IEEE 802.1Q based Layer 2 VLAN encapsulation.		
	(d) It should be possible to have the VLAN configuration done centrally using NMS / CLI.		
	(e) Should support at least 256 active VLANs and 4094 VLAN Ids per switch.		
	(f) IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for rapid convergence.		

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	(g) IEEE 802.1s Multiple Spanning Tree (MSTP) to group VLANS into a spanning tree instance with each instance having a spanning tree topology independent of other spanning tree instances.		
	(h) Internet Group Management Protocol (IGMP) snooping version 1, 2, & 3.		
	(j) Should support Link Aggregation Protocol as per IEEE 802.3ad		
	(k) Per port broadcast, multicast and unicast storm control prevention mechanism to prevent stations from degrading overall systems performance.		
	(l) IEEE 802.1D STP support for redundant backbone connections and loop free networks.		
	(m) The switch should support frame size of 9000 bytes on Gigabit Ethernet interfaces.		
3	<b>Quality of Service:</b> The switch must support following QoS related features: -		
	(a) The layer 2 switch must support end-to-end QoS in the network.		
	(b) The switch must support QoS access control lists (ACL) on all ports to ensure proper policing and marking on per packet basis using ACLs. Upto four queues per port must be supported for QoS implementation.		
	(c) The switch must support QoS classification of incoming packets for QoS flows based on Layer 2, Layer 3 and Layer 4 fields such as MAC address, destination MAC address, source and destination IP address and TCP source and destination port number.		
	(d) Queuing and Scheduling must be able to be configured on a per physical port basis.		
	(e) The switch must support metering/policing of incoming packets to control the flow of incoming packets.		
	(f) The switches support marking/remarking based on the following mappings from DSCP to 802.1p and 802.1p to DSCP.		
	(g) The switch must support widely used DSCP values and must also support Classifying and reclassifying packets based on these values.		
	(h) The switch must support 802.1 p overrides at ingress ports,		
	(j) The switch must support four queues per egress port.		
	(k) Queuing must allow for Weighted Round Robin (WRR) or Shaped Round Robin as the method for providing switching resource for low priority queues.		
	(l) The scheduling mechanism must allow for expedited or strict priority routing for all high priority traffic.		
	(m) The switch must support dynamic buffering limiting congestion avoidance mechanism.		
	(n) There should be no performance penalty for QoS functions.		

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	(o) The switch must support QoS requirement for VoIP deployment.		
	(p) The switch must support voice VLAN feature for connecting to a pair of IP Phone and end-user desktop on the same switch port.		
4	<b>Standards Compliance:</b>		
	(a) IEEE 802.3: 10 Base T		
	(b) IEEE 802.3u: 100 Base-TX		
	(c) IEEE 802.3: 100 Base-FX		
	(d) IEEE 802.1s: Multiple Spanning Tree		
	(e) IEEE802.1w: Rapid Spanning Tree		
	(f) IEEE 802.3ad: Link Aggregation		
	(g) IEEE802.3Z, 802.3ab: Gigabit Ethernet		
	(h) IEEE 802.1Q: VLAN Trunking and Tagging		
	(i) IEEE 802.1D, 802.1 w. 802.1s: Spanning Tree Protocol		
	(k) IEEE 802.1x: Port based Security		
	(l) IEEE 802.3af: Power over Ethernet (Wherever PoE enabled switches has been asked)		
	(m) IEEE 802.p: Class of Service (CoS) prioritization.		
	(n) IEEE802.3ah: Full duplex Ethernet over a single strand of fibre		
5	<b>Security Features:</b> The switch must support following security features:-		
	(a) Support for RADIUS based authentication to restrict unauthorized users from altering the configuration. Support of TACACS as per RFC 1492.		
	(b) Should support IEEE 802.1 x user authentication with VLAN assignment and Guest VLAN extension.		
	(c) Filtering of incoming traffic flows based on Layer 2, Layer 3 and Layer 4 ACLs prevents unauthorized data flows. Should support time based access list.		
	(d) Should support VLAN ACLs.		
	(e) Should support configuring access lists to restrict telnet or SSH access only from selected NOC workstations.		
	(f) Should support private VLANs or equivalent functionality.		
	(g) Should support port security. Switch must prevent unauthorized stations from accessing the switch by restricting the number of concurrent MAC addresses allowed to access the port.		
	(h) Should support Unicast port flooding blocking and Unicast MAC filtering.		
	(j) Should support Dynamic Address Resolution Protocol (ARP) inspection.		
	(k) Should have capability to validate ARP packets in the Ethernet network to enable the network administrators to intercept, log and discard ARP packets with invalid MAC address to IP address bindings and to stop "man-in-the-middle" attacks.		
	(l) Should support DHCP snooping to provide security by filtering untrusted DHCP messages and by building and maintaining a DHCP snooping binding table.		

Compliance: Accepted to comply all the above points

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	(m) The switch should support capability of blocking all IP traffic on layer 2 access or trunk Ethernet ports except for DHCP packets that are captured by the DHCP snooping process.		
	(n) Should support rate limiting and Committed Information Rate (CIR) which guarantees bandwidth in increments as low as 1 Mbps.		
	(o) User will implement security at campus LAN using standard based 802.1x authentication mechanism. The following standard compliance is required on the switch - 802.1x; 802.1x user authentication with VLAN assignment, port security & guest VLAN; 802.1x accounting.		
	(p) The switch should be able to provide the access to a restricted VLAN to the users who fail the 802.1x authentication process for very limited access as defined by the security policy		
	(q) The switch along with the AAA server will have to ensure that upon successful 802.1x authentication the authenticated switch will be dynamically configured with the access list based on the user identity to restrict the level of access as per the organization security policy of user.		
	(r) The authenticated switch ports should run periodic 802.1x re-authentication after every pre defined time to ensure security of operation. The time period of this periodic re-authentication will be decided by the security policy of user.		
	(s) The switch should support multiple AAA (running RADIUS or TACACS) server configured for its operation so that in case it doesn't get a response from the first server, the second server would be tried for.		
6	<b>Management Features:</b> The switch must support following management features for both -site and remote management of the device:		
	(a) The switch must comply with SNMPv2 and SNMPv3.		
	(b) The switch must have embedded RMON software agent which supports four RMON groups (history, statistics, alarms and events) for enhanced traffic management, monitoring and analysis.		
	(c) The switch must isolate network error conditions and should suggest probable causes.		
	(d) The switch must build and maintain an up-to-date hardware and software inventory.		
	(e) The switch must record and display comprehensive reports of software, hardware and configuration changes.		
	(f) The switch must support Telnet, TFTP/FTP/SFTP and BOOTP for management access.		
	(g) The switch must support traffic monitoring and performance assessment.		
	(h) The switch should support Network Time Protocol as per RFC 1305		
7	<b>Environmental Features.</b>		
	(a) Operating Temperature : 0 to 40° C.		
	(b) Storage Temperature :-40 to 50° C.		

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

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	(c) Relative Humidity : 10 to 85 percent, non condensing		
8	<b><u>Regulatory Standards Compliance.</u></b>		
	(a) Safety : UL 60950/IEC 60950		
	(b) EMC: FCC Part 15 (CFR 47) Class A and its equivalent.		
9	<b><u>Power Requirements: 220V regulated AC power supply.</u></b>		

#### 5.14 Connectivity between primary and secondary site

BHEL is already having Fiber connectivity between DC and DR in two different routes for the existing servers. In addition to these, one more cable is available in one route which is terminated at two ends. This may be used for these new servers. Necessary accessories like pigtail and patch cords, etc., are to be provided by the vendor.

For another route, existing cables used for the current servers may be re-used after de-commissioning of the old servers. Necessary accessories like pigtail and patch cords, etc., are to be provided by the vendor.

The bidder shall test Fiber optic cable cores using OTDR and submit a test report.

**HDPE pipe laid and available at BHEL, Ranipet for the existing set-up may be inspected by the bidder.**

#### General Conditions

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

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

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

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## 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

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## 7.0 No Deviation Certificate

### **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

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**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 [a+b+c+d+e+f +g+h]		
				Total Equipment cost(Exclud ing 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				
				Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarter ly				
	Items on Lease			[a]	[b]		[c]	[d]		[e]	[f]		[g]	[h]	[i]
1	RISC/EPIC Servers (With Rack)	2													
2	SAN Storage (With Rack)	2													
3	SAN Switch	4													
4	Tape Library(With Rack)	2													
5	LAN Switches	8													
6	Backup Software	2													
7	Backup Server	2													
8	Precision Air Conditioners	2													
9	Biometric access system	2													
	Total _ Price Bid -A														

Date: .....

Vendors Signature &amp; Seal

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

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**Price Format-B****Format for Submitting the Price details of Software Migration at BHEL, Ranipet (One Time Payment)**

Sl. No	Item	Unit Qty	Value without taxes	% of applicable Tax and duties			Amount of Taxes and duties			Total value including Tax	Note:  Additional software licenses required if any, should be included in this price format.  Details of the software and type and number of license may be indicated in a separate sheet.
				ED	CST/VAT	Service Tax	ED	CST/VAT	Service Tax		
	<b>Items on Lease</b>										
1	Oracle Database and Application Migration	1 Set									
2	Migration of KBPCES	1 Set									
	<b>Total _ Price Bid -B</b>										

Date: .....

Vendors Signature &amp; Seal

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

Page **59** of **87**

**Price Format-C**

**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**

<b>Price Format-C</b>							
<b>Quarterly AMC Charges for 6<sup>th</sup> and 7<sup>th</sup> year</b>							
		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 9 for 6 <sup>th</sup> and 7 <sup>th</sup> years						
<b>Note : X + Y should be 100%</b>							
	<b>Details</b>						<b>Total Quarterly Charges in Rs.</b>
	Total – Price Bid A						
	Total – Price Bid C						
	<b>Total</b>						
	One Time Payment - Price Bid B						

Date: .....

Vendors Signature &amp; Seal

Compliance: Accepted to comply all the above points

Name:

Signature of bidder with Date:

Company Seal

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### 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

## INTEGRITY

### 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.

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

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.

**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.

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

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.

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:**

Bank Guarantee No. \_\_\_\_\_ Date \_\_\_\_\_  
Banker Name \_\_\_\_\_ Bank Guarantee Value \_\_\_\_\_

Please affix Non-Judicial Stamp here  
as per Stamp Act

### **BANK GUARANTEE**

1. This deed of guarantee made this \_\_\_\_\_ day of \_\_\_\_\_ by

\_\_\_\_\_ (Bank's name, branch, place, address) (hereinafter referred to as 'the Bank') in favour of M/s. Bharat Heavy Electricals Limited (A Government of India undertaking, a company incorporated under the Companies Act 1956 having its Registered Office at "BHEL House", SIRI Fort, New Delhi - 110049) through its Boiler Auxiliaries Plant located at Ranipet - 632406, (hereinafter called "the Company").

2. WHEREAS the Company has entered into a contract with M/s. \_\_\_\_\_ (hereinafter called "the said Contractor", which term includes "suppliers" for the purpose of this guarantee), for supply of equipments and/or services by the said Contractor vide Contract No. \_\_\_\_\_, dated \_\_\_\_\_.

3. WHEREAS under the terms and conditions of the said Contract between the Company and the said Contractor, the said Contractor is to furnish a performance Bank Guarantee for due performance of the equipment to be supplied under the said Contract and for the fulfillment of all the terms and conditions of the said Contract.

4. WHEREAS the said Contractor have requested the Bank to offer a Guarantee and at their request, WE the Bank have agreed to furnish such Guarantee to the said Contractor.

.....2

Sign & Seal of the Issuing Bank

Bank Guarantee No. \_\_\_\_\_ Date \_\_\_\_\_  
Banker Name \_\_\_\_\_ Bank Guarantee Value \_\_\_\_\_

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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.

.....3

Sign & Seal of the Issuing Bank

Bank Guarantee No. \_\_\_\_\_ Date \_\_\_\_\_  
Banker Name \_\_\_\_\_ Bank Guarantee Value \_\_\_\_\_

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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 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 Contractor 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.

.....4

Sign & Seal of the Issuing Bank.

Bank Guarantee No. \_\_\_\_\_ Date \_\_\_\_\_  
Banker Name \_\_\_\_\_ Bank Guarantee Value \_\_\_\_\_

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.

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**



## **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.
- 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 1<sup>st</sup> 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.

- 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 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.



**LIST OF BHEL'S BANKERS  
FROM WHOM BANK  
GUARANTEE IS TO BE OBTAINED**

Sl. No.	Name of the Bank
1.	State Bank of India
2.	ABN AMRO Bank N.V.
3.	Bank of Baroda
4.	Canara Bank
5.	CITI Bank N.A.
6.	Duestche Bank AG
7.	HDFC Bank Ltd.
8.	ICICI Bank Ltd.
9.	IDBI Bank Ltd.
10.	Punjab National Bank
11.	Standard Chartered Bank
12.	State Bank of Hyderabad
13.	State Bank of Travancore
14.	The Hongkong and Shanghai Banking Corporation Ltd.

**Annexure D**

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

This is to certify that M/s .....having its registered office at .....is registered under MSMED Act 2006 and categorized under .....unit 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 of .....unit 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

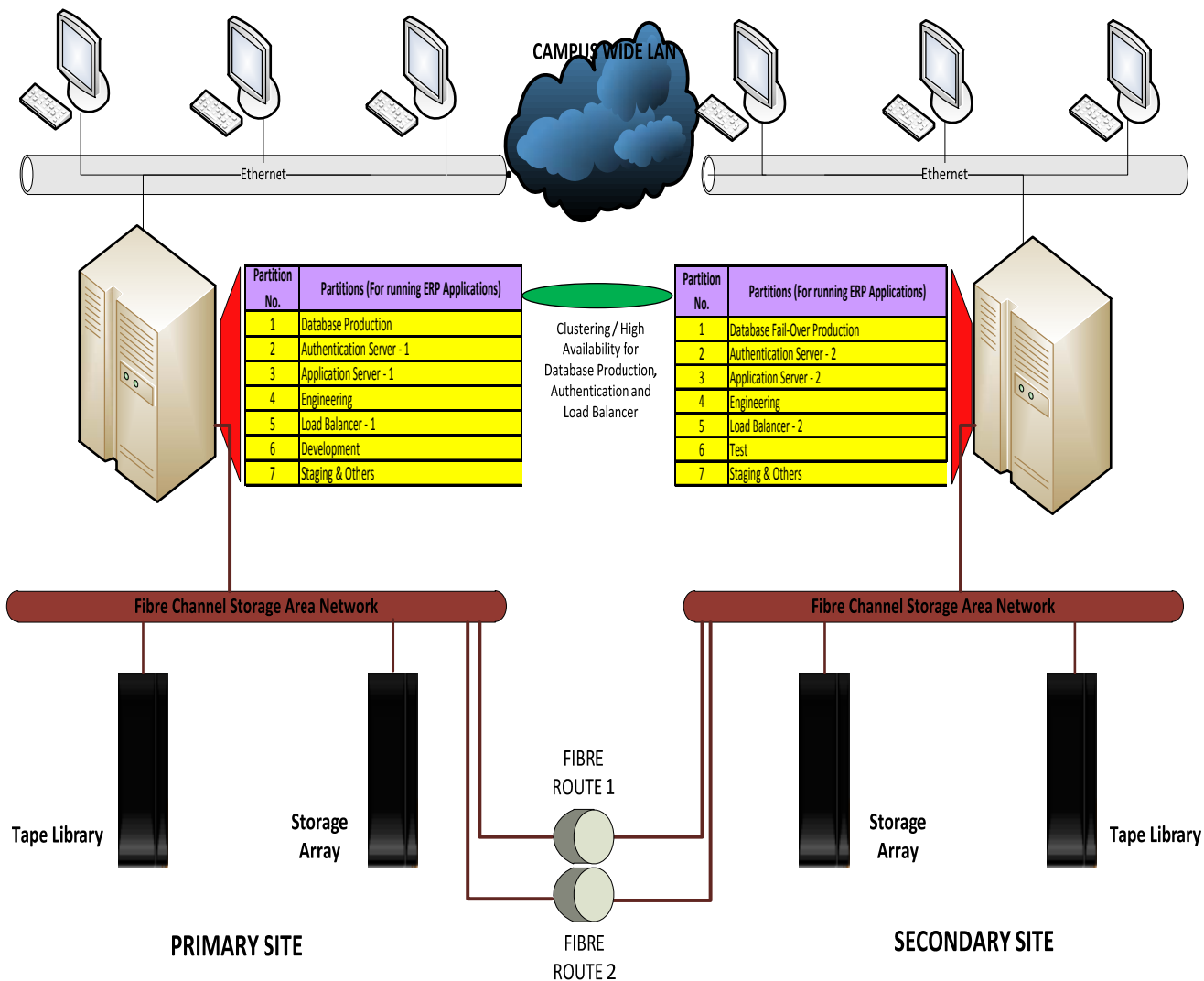
Place:

Date:

## 8. Check List of Enclosures

Sl No	Documents to be attached	Format attached as annexure	Whether attached or not
1	Authorization letter from OEM citing reference of this tender and certificates from respective OEMs declaring support for a minimum period of seven years from the date of commissioning.	Annexure-II	
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 and D	
6	Quoted for all items	Check	
7	Documents reference for meeting eligibility criteria clause 2.2	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	Confirmation on not hold/delist/banned	Annexure –V	
16	Commercial terms and conditions	Annexure –VI	

**SCHEMATIC DIAGRAM DESCRIBING THE REQUIRED HARDWARE AND OTHER EQUIPMENT'S TO RUN ORACLE DATABASE AND APPLICATIONS.**



AUTHORIZATION BY OEM

Date: \_\_\_\_\_

To,

SDGM PURCHASE  
UTILITY SECTION  
BHEL, RANIPET

Subject: **Letter of Authority**

Tender Ref. No.: **BHEL/BAP/IC/DBSERVER** dated \_\_\_\_\_

Dear Sir,

We hereby authorize \_\_\_\_\_ who has all India presence and fulfills the requirements of the tender enquiry ref. no. BHEL/BAP/IC/DBSERVER dated \_\_\_\_\_ to quote/ negotiate and service the equipment as required in the above tender enquiry.

This authorization is valid only for the following equipment for which we are the OEM:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

The authorized agency would ensure reliable service during complete lease period and if BHEL opts, the agency would provide maintenance support for two years after the expiry of the financial lease period.

In case of any default we would do alternative arrangement on the same terms and conditions as negotiated and finalized in this tender enquiry.

(Authorized Signatory)

For \_\_\_\_\_

Note: This 'Letter of Authority' should be issued on the letterhead of OEM and enclosed in Part-I.

**Annexure III**

**Annual Turnover of Bidder**

<b>Sl.No.</b>	<b>Financial Year</b>	<b>Turnover (In Rs. Crores)</b>
1	2011-2012	
2	2012-2013	
3	2013-2014	

**COPY OF MAJOR ORDERS RECEIVED IN LAST 5 YEARS**

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

**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:

## CONFIRMATION TO COMMERCIAL TERMS AND CONDITIONS

	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 -	<b>Bidder's compliance</b>  <b>YES/NO</b>	<b>Bidder's remarks</b>
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 payment for AMC will be made quarterly at the end of the each quarter and within 45 days of submission of invoice, in		

	<p>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&amp;G contract period of five years.</p>		
8	<p>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.</p> <p>The vendor has also to produce a certificate from his principal OEM for back to back support as per enclosed format (Annexure II)</p>		
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		

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		
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		