

# REQUEST FOR QUOTATION

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|  | <b>BHARAT HEAVY ELECTRICALS LIMITED</b><br>Electronics Division<br>PB No. 2606, Mysore Road Bangalore - 560026<br>INDIA | RFQ NUMBER:<br><b>RAK0000035</b><br><br>RFQ DATE :<br>05.FEB.2013 | Due Date<br><b>27.FEB.2013</b><br>Time: <b>13:00 HRS</b><br><br>VENUE :<br><b>NEW ENGG. BLDG</b> |
| MMI:PU:RF:003  |   |   |  |

(for all correspondence)

Purchase Executive : RAKESH KUMAR  
 Phone : 26999572  
 Fax : 00918026989227  
 E-mail: rakeshkumar@bheledn.co.in

Please submit your lowest quotation subject to our terms and conditions attached for the material mentioned below. The quotation must be enclosed in a sealed envelope / Fax superscribed with RFQ no. and due date, should reach us on or before the due date by **13.00** hours IST and will be opened on the same day at **13.30** hours at the venue mentioned above. **PLEASE DROP THE OFFER IN THE BOX PROVIDED AT RECEPTION.**

| SI No. | Description  | Qty | Unit | Delivery qty | Delivery Date |
|--------|--|-----|------|--------------|---------------|
| 1      | DA0659450100 SERVER STATION WITH RAID 5<br>SERVER STATION WITH RAID 5<br>AS PER PS4042029.<br><br>DRW PS4042029 02<br><br>Certificate as per BHEL Norms  | 46  | NO   | 46           |               |
| 2      | DA0659450313 STATION LAN SERVER WITH DUAL CPU & RAID5<br>STATION LAN SERVER WITH<br>DUAL CPU & RAID5 IMPLEMENTED<br>AS PER PS/404/2079<br><br>DRW PS4042079 01<br>Certificate as per BHEL Norms  | 10  | NO   | 10           |               |
| 3      | DA0659450690 WORKSTATION FOR OPERATOR-SATA<br>WORKSTATION FOR OPERATOR-SATA.<br>Intel Xeon Quad Core Processor,<br>with 4GB RAM,<br>minimum 500GB SATA HDD,<br>256MB Display Adapter,<br>and minimum 2 add on NIC's<br>as per PS/404/2139<br><br>DRW PS4042139 03<br>Certificate as per BHEL Norms                         | 132 | NO   | 132          |               |
| 4      | DA0659450704 WORKSTATION FOR ENGINEER-SATA<br>WORKSTATION FOR ENGINEER-SATA.<br>Intel Xeon Quad Core Processor,<br>with 4GB RAM,<br>minimum 500GB SATA HDD,<br>DVD +- READ/WRITE DRIVE,<br>256MB Display Adapter,<br>and minimum 2 add on NIC's<br>as per PS/404/2139<br>DRW PS4042139 03<br>Certificate as per BHEL Norms | 102 | NO   | 102          |               |
| 5      | DA0659450712 WORKSTATION FOR ENGINEER-SAS<br>WORKSTATION FOR ENGINEER-SAS.<br>Intel Xeon Quad Core Processor,<br>with 4GB RAM,<br>minimum 300GB SAS HDD<br>with SAS Controller,  | 92  | NO   | 92           |               |

For and On behalf of BHEL.

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|--------|--|-----|------|--------------|---------------|
|        | DVD +- READ/WRITE DRIVE,<br>256MB Display Adapter,<br>and minimum 2 add on NIC's<br>as per PS/404/2139<br><br>DRW PS4042139 03<br>Certificate as per BHEL Norms  |     |      |              |               |
| 6      | DA0659450720 WORKSTATION FOR OPERATOR-SAS<br>WORKSTATION FOR OPERATOR-SAS.<br>Intel Xeon Quad Core Processor,<br>with 4GB RAM,<br>minimum 300GB SAS HDD<br>with SAS Controller,<br>DVD ROM DRIVE,<br>256MB Display Adapter,<br>and minimum 2 add on NIC's<br>as per PS/404/2139<br>DRW PS4042139 03<br>Certificate as per BHEL Norms   | 131 | NO   | 131          |               |
| 7      | DA0659450755 22" WIDESCREEN TFT MONITOR<br>22" WIDESCREEN TFT MONITOR,<br>SPECIFICATIONS AS BELOW OR BETTER:<br>SCREN TYPE: IPS / PVA,<br>Viewable Size (MINIMUM) - 54.61cm (21.5#)<br>MAX RESOLUTION - 1920 x 1080 PIXELS,<br>CONTRAST RATIO - 1000:1<br>BRIGHTNESS - 250 cd/m2;<br>VIEWING ANGLE - 178V / 178H TYPICAL (@ 10:1 CR)<br>INTERFACE - VGA & DVI-D<br>Height-Adjustable stand, pivot, tilt<br>and swivel provisions to be present.<br>MAKE: DELL, HP, LENOVO<br>WARRANTY: 3 YEARS - ON SITE - COMPREHENSIVE,<br>NBD<br>INPUT POWER: 100 to 240 VAC; 50/60Hz | 225 | NO   | 225          |               |
| 8      | DA0659450763 LCD MONITOR - 24" WIDESCREEN TFT<br>LCD MONITOR - 24" WIDESCREEN TFT,<br>SPECIFICATIONS AS BELOW OR BETTER:<br>SCREN TYPE: IPS / PVA,<br>Viewable Size (MINIMUM) - 61cm (24#)<br>MAX RESOLUTION - 1920 x 1200 PIXELS,<br>CONTRAST RATIO - 1000:1  | 126 | NO   | 126          |               |

For and On behalf of BHEL.

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Please submit your lowest quotation subject to our terms and conditions attached for the material mentioned below. The quotation must be enclosed in a sealed envelope / Fax superscribed with RFQ no. and due date, should reach us on or before the due date by **13.00** hours IST and will be opened on the same day at **13.30** hours at the venue mentioned above. **PLEASE DROP THE OFFER IN THE BOX PROVIDED AT RECEPTION.**

| Sl No. | Description   | Qty | Unit | Delivery qty | Delivery Date |
|--------|---|-----|------|--------------|---------------|
|        | BRIGHTNESS - 400 cd/m <sup>2</sup> ;<br>VIEWING ANGLE - 178V / 178H TYPICAL (@ 10:1 CR)<br>INTERFACE - VGA & DVI-D<br>Height-Adjustable stand, pivot, tilt<br>and swivel provisions to be present.<br>MAKE: DELL, HP, LENOVO<br>WARRANTY: 3 YEARS - ON SITE - COMPREHENSIVE,<br>NBD<br>INPUT POWER: 100 to 240 VAC; 50/60Hz |     |      |              |               |

Total Number of Items - 8

Please note that the tender will be opened in the presence of the bidders or his authorised representatives (maximum two per organisation) who choose to be present with authorisation letters. Refer annexure for the terms and conditions.

Preference will be given to vendors who accepts our standard payment terms i.e. 100% payment - 30 days after receipt of material at our works subject to acceptance. Please specify Terms of delivery, Excise duty, sales tax, Ex-BHEL, Ex-works surcharge, Insurance, P&F, Freight and other taxes very clearly.

For evaluation, exchange rate (TT selling rate of SBI) as on scheduled date of tender opening (Part-I bid in case of two part bid) shall be considered.

The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site [www.bhel.com](http://www.bhel.com)

- i). This is only RFQ not an order.
- ii). In all correspondence quote RFQ No. & due date.
- iii). In Quotation BHEL material code / RFQ Sl. No. should be mentioned clearly.
- iv). Quotation Envelope / Fax not superscribed with RFQ No. and due date is liable for rejection.
- v). Quotation should remain valid for a minimum period of 90 days from due date.
- vi). In case of non-receipt of Quotation or regret letter for 3 consecutive RFQs you are liable to be removed from our vendors list.
- vii). All Prices should be written in words and numbers.
- viii). Excise Chapter Heading should be mentioned for all items where VAT is applicable.

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| For and On behalf of BHEL.<br><br>Page 3 OF 3 |
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**TERMS AND CONDITIONS****Annexure I to RFO RAK0000035****BIDDERS NOTE:** THIS ANNEXURE DULY FILLED AND SIGNED MUST BE SUBMITTED ALONG WITH THE TECHNICAL BID

| NO | Details  | CONFIRMATION FROM BIDDER |
|----|--|--------------------------|
| 1  | Test certificate: The test certificate containing the serial numbers of the items/material supplied is required.   |                          |
| 2  | <b>PACKAGE PURCHASE:</b> ALL ITEMS ARE REQUIRED FROM ONE BIDDER AND ONE MAKE ONLY. LI WILL BE ARRIVED AT AFTER CONSIDERING TOTAL VALUE OF ALL ITEMS<br>PL NOTE : AFTER RA LI BIDDER HAS TO GIVE INDIVIDUAL UNIT PRICE AND TOTAL PRICE FOR PLACEMENT OF ORDER.  |                          |
| 3  | AUTHORISATION CERTIFICATE: DEALERS / DISTRIBUTORS SHALL ENCLOSE VALID AUTHORISATION LETTER ISSUED BY MANUFACTURER. EACH DEALER SHOULD QUOTE FOR ONLY ONE MAKE.<br>Offers will be rejected in the absence of manufacturer s authorization letter.   |                          |
| 4  | In case of any short shipments /defective items observed after receipt of material at BHEL EDN, the same will be made good and supplies arranged to BHEL EDN Bangalore by M/S ..... (bidder) free of cost and charges.   |                          |
| 5  | Warranty: 36 MONTHS comprehensive on site warranty is required. Site address will be anywhere in India, site addresses will be informed to you at the time of ordering.<br>Warranty as per specification will be provided. Warranty certificate indicating serial numbers of the items required from BIDDER before release of payment. Defective items will be replaced at site by M/s..... (bidder) Without any extra charges to BHEL.  |                          |
| 6  | <b>PERFORMANCE "BANK" GUARANTEE:</b> PBG FOR 10 % OF THE BASIC MATERIAL COST SHALL BE FURNISHED IN THE BHEL PRESCRIBED FORMAT ONLY ( ANNEXURE D FOR INDIGENOUS PURCHASE ORDER AND ANNEXURE C FOR IMPORTED PURCHASE ORDER ).<br>PBG shall be valid for 36months + 6 months claim period from the date of dispatch.( totally 42`months from the date of dispatch)<br>PBG shall be from any of the BHEL consortium Bankers as per Annexure E enclosed and banker should send PBG directly to Mr.H G NAGARAJA, MANAGER IMPORTS BHEL EDN, MYSORE ROAD, PB NO. 2606, BANGALORE 560026.<br>OR<br>If PBG is not given then 10% of Purchase Order value will be released after the expiry of warranty period.<br>If the quote is foreign currency then PBG SHALL BE GIVEN BY FOREIGN BIDDER ONLY or foreign BIDDERS associates in India (same name) in Indian rupees.<br>If the BIDDER is not accepting to give PBG OR not accepting to get 10% of basic value after warranty period then the following Loading Factor is applicable:<br>10% of basic material value will be loaded<br>PBG SHALL BE ISSUED FROM THE 29 BANKS (CONSORTIUM BANKS) AS PER ANNEXURE-E ONLY. |                          |

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| 7  | <p>Port of Destination: Port of Destination for imports is Bangalore<br/>         If the quote is for supply items anywhere in India then item to be delivered to BHEL EDN stores.<br/>         For non agreement on delivery at BHEL EDN ( for quote anywhere in India) loading factor 10 %</p>  |  |
| 8  | <p><b>IN CASE QUOTATION IS IN FOREIGN CURRENCY THEN TERMS OF SHIPMENT SHALL BE FCA-INTERNATIONAL AIRPORT AS PER ANNEXURE-A.</b><br/> <b>TERMS WITH EX WORKS OR EX - WAREHOUSE IS NOT ACCEPTABLE.</b><br/> <b>BHEL WILL APPLY 3.5 % OF THE BASIC QUOTED VALUE TO THE BIDDERS WITH THE QUOTE AS FCA-INTERNATIONAL AIRPORT FOR ARRIVING AT THE COST FOR CIF-BANGALORE BASIS.</b></p>   |  |
| 9  | <p>Offer Validity: Bidder/BIDDER to confirm the offer validity 90 days from Due date as per enquiry.</p>  |  |
| 10 | <p>Description/Nomenclature of items in Order acknowledgement / confirmation &amp; invoice to be mentioned as per PO.</p>   |  |
| 11 | <p>DELIVERY: WE NEED DELIVERY in two lots.<br/> <u>1<sup>st</sup> lot 3 weeks from the po date as mentioned below</u><br/>         1-DA0659450313-10 NOS<br/>         2-DA0659450100-39 NOS<br/>         3-DA0659450704-61 NOS<br/>         4-DA0659450690-52 NOS<br/>         5-DA0659450712-92 NOS<br/>         6-DA0659450720-131 NOS<br/>         7-DA0659450763-75 NOS<br/>         8-DA0659450755-207 NOS<br/> <u>2<sup>nd</sup> lot 6 weeks from the po date as mentioned below</u><br/> <br/>         1-DA0659450100-7 NOS<br/>         2- DA0659450704-41 NOS<br/>         3- DA0659450690-80 NOS<br/>         4- DA0659450763-51 NOS<br/>         5-DA0659450755-18 NOS</p> |  |
| 12 | <p>BIDDER to confirm that prices quoted are FIRM till completion of orders for multiple Purchase orders / multiple shipments till completion of orders. Packing shall be air worthy/ road worthy best suited for multiple transshipments and to take care of transit damages if any.</p>  |  |

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| 13 | <p>Payment terms:</p> <p><u>A) FOR SUPPLY IN INDIAN RUPEES:</u></p> <p>BHEL standard payment terms is 100 % payment within 30 days after receipt of materials, Test certificates, warranty certificate and PBG.<br/>FOR NON AGREEMENT TO TERMS OF PAYMENT OF 100% PAYMENT WITH 30 DAYS CREDIT<br/>Loading factor : 10 %</p> <p><u>B) FOR SUPPLY IN FOREIGN CURRENCY:</u></p> <p>BHEL standard Payment for FE quote is " <b>SIGHT DRAFT</b>"<br/>SIGHT DRAFT MEANS: BIDDER SHOULD DESPATCH THE ITEM AND SUBMIT DESPATCH DOCUMENTS i.e.,: 1. INVOICE 2. PACKING LIST 3. AIR WAY BILL 4. TEST CERTIFICATES 5. WARRANTY CERTIFICATE 6. CLEARANCE CERTIFICATE ISSUED BY BHEL EDN BANGALORE DOCUMENTS TO BE SUBMITTED TO OUR BANK THROUGH FOREIGN BANK. ON RECEIPT OF DOCUMENTS BHEL WILL RELEASE THE PAYMENT IMMEDIATELY.<br/>BANK CHARGES OUT SIDE INDIA TO BIDDER S ACCOUNT AND WITHIN INDIA TO BHEL ACCOUNT</p> <p><u>Clearance certificate for releasing payment:</u> This certificate will be issued by BHEL after receipt of original PBG, Test certificates and warranty certificate, all in originals and acknowledgment from our freight forwarder for having received packages, commercial invoice and packing list for foreign currency order.</p> <p>Any deviation will attract loading factors as mentioned below. In case of foreign currency quote if LC is insisted, Irrevocable LC will be opened with bank charges to respective accounts after receipt of order confirmation / acknowledgement</p> <p><b>A) Negotiable documents for LC incase of imports:</b><br/>Airway bill: Original AWB of our authorized air consolidator with two copies. Invoice: Original signed commercial invoice with 2 copies indicating nomenclature of items.<br/>Packing list with 2 copies.<br/>Copy of clearance certificate issued by BHEL for releasing payments.</p> |  |
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|    | <p>-----</p> <p>LOADING FACTOR FOR PAYMENT TERMS:</p> <p>BHEL REQUIREMENT                      INCASE FOLLOWING                      LOADING PERCENT IS<br/> INSISTED BY<br/> BIDDER</p> <p>AGAINST SIGHT<br/> (PRESENTATION<br/> OF DOCUMENTS<br/> ALONG WITH PBG)</p> <p>A) 100 % THROUGH IRREVOCABLE LC BANK CHARGES                      2.5% ON 100% QUOTED PRICE/DRAFT<br/> OUTSIDE INDIA TO BENEFICIARY'S ACCOUNT                      FCA VALUE WILL BE LOADED<br/> ON PRESENTATION OF DOCUMENTS ALONGWITH PBG</p> <p>B) IF BANK CHARGES OUT SIDE INDIA TO BHEL ACCOUNT                      4% ON THE 100% QUOTED VALUE/ IS<br/> INSISTED                      FCA VALUE IN ADDITION TO (A)</p> <p>C) IF CONFIRMED LC IS INSISTED CONFIRMATION                      4% ON THE 100% VALUE/ FCA<br/> CHARGES TO BENEFICIARYS ACCOUNT                      VALUE WILL BE LOADED IN ADDITION TO (A)<br/> IF CONFIRMATION CHARGES TO BHEL ACCOUNT                      AND (B).<br/> IS INSISTED</p> <p>NO ADVANCE PAYMENT WILL BE MADE.IF PAYMENT IS INSISTED IN<br/> ADVANCE, OFFER WILL BE REJECTED.</p> |  |
| 14 | Gross weight, volume and no. of packages of each consignment to be informed to BHEL 10 days prior to shipment   |  |
| 15 | SPECIAL NOTE: <u>GUIDELINES FOR INDIAN AGENTS OF FOREIGN SUPPLIERS ARE ENCLOSED PLEASE GIVE FULL INFOrmATION (ANNEXURE F)</u>   |  |
| 16 | <p><b>IN CASE OF SEZ CLEARANCE, BHEL WILL GIVE AUTHORISATION LETTER TO BIDDER TO CLEAR THE GOODS FROM CUSTOMS. ALL CLAIMS OF THE CUSTOM DUTIES AS AGREED UPON MUTUALLY SHALL BE PAID BY THE BIDDER AND CLAIM TO BE MADE SUBSEQUENTLY FROM BHEL ALONG WITH THE ORIGINAL INVOICE AND RELEVANT DOCUMENTS AS APPLICABLE.</b></p> <p><b>BHEL WILL NOT CLEAR THE GOODS FROM SEZ AREA. OFFER SHOULD BE IN INR FOR SEZ CLEARANCE AND DELIVERY TERMS AS FOR BHEL EDN STORES ONLY.</b></p> <p><b>BIDDERS TO INDICATE CLEARLY PERCENTAGE OF TAXES AND DUTIES FOR WHICH THEY WILL GIVE NECESSARY DOCUMENTS TO CLAIM MODVAT BENEFIT. IN THE ABSENCE OF RELEVANT</b></p>  |  |

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| 17 | <p>As far as possible, the quotations shall be free from corrections/overwriting. Corrections if any should be initialed with your seal. Any typographical error, totaling mistakes, currency mistake, multiplication mistake summing mistake observed in your priced bids,</p> <ol style="list-style-type: none"> <li>i. If, in the price structure quoted for the required material, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of BHEL EDN there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.</li> <li>ii. If there is an error in total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected: and</li> <li>iii. If there is an discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (i) and (ii) above.</li> <li>iv. If there is such discrepancy in an offer, the same shall be conveyed to the bidder by BHEL EDN with target date up to which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.</li> </ol> <p>BIDDER SHALL HONOUR THE SAME IN CASE ORDER IS AWARDED FOR THE SAID TENDER ENQUIRY / RFQ.</p> |  |
| 18 | <p><b>QUOTATION SHALL BE SUBMITTED IN TWO PART BID TECHNO-COMMERCIAL AND UN PRICED offer in sealed envelope and Priced offer in a separate sealed envelope along with price</b></p> <p><b>Summary. BOTH THESE ENVELOPES SHALL BE AGAIN KEPT IN SINGLE SEALED ENVELOPE.</b></p> <p><b>BIDDER SHALL ENSURE TO SUPERSCRIBE THE ENVELOPES WITH RFQ NUMBER, RFQ DATE AND RFQ DUE DATE RESPECTIVELY.</b></p> <p>TENDER (QUOTATION) TO BE DROPPED IN THE TENDER BOX kept in BHEL Reception &amp; marked as <b>“CE, M&amp;C, SC&amp;PV, TCS, and DEFENCE”</b> BEFORE 13.00 HOURS. ON THE DESIGNATED DUE DATE</p>   |  |
| 19 | <p>Penalty for late delivery: For reckoning the date for delayed delivery for penalty purpose the quoted delivery will be considered. In the event of any negotiation/ recorded discussion the agreed delivery period will be considered for penalty purpose. In case of imports the date of handing over the packages along with commercial invoice and packing slip to our freight forwarder along with written confirmation from our air consolidator that packages are handed over to them for further air freight to India will be treated as proof of delivery or alternatively HAWB/AWB no and date will be treated as proof of delivery for penalty purpose.</p> <p>Penalty applicable is 0.5%% per week max limited to 10% of undelivered portion of the Purchase order value.</p> <p>LOADING FACTOR FOR NON AGREEMENT FOR PENALTY FOR DELAYED DELIVERY:</p>  |  |

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|    | <p>... If the quotation is NOT AGREEABLE : loading factor 10%</p> <p>... If the quotation is 5% maximum agreed ; loading factor 5%</p> <p>... If the quotation is other than the above: Loading factor (10% - (minus) quoted Max%)</p> <p>PENALTY FOR DELAYED WILL BE RECKONED WITH RESPECT TO PO DELIVERY AS GIVEN BELOW:</p> <p>.. If the delivery is at BHEL EDN by supplier, then delivery date at BHEL EDN will be the reference.</p> <p>... If the delivery is ex works (transportation by BHEL EDN) then invoice date will be the reference. ( for supply of items anywhere from India only)</p> <p>... <b>If the dispatch is with documents through bank then invoice date will be the reference.</b></p> <p>For imported items:<br/>For imported items, date of handing over to our freight forwarders will be the reference of delivery (acknowledgement for having received the packages along with all documents with date as a proof is required).</p> |  |
| 20 | <p>Qualification criteria;</p> <ol style="list-style-type: none"> <li>1. The bidder shall be an original equipment manufacturer (HP/DELL/IBM0-LENOVA) OR an authorized partner of any one of these OEMs. Bids from any other make or computer assemblers will be rejected. In case of authorized partner the bidder must submit authorization letter from OEM authorizing him to quote for the Tender.</li> <li>2. The bidder shall have experience of executing similar works (Supply of similar workstations and servers) for any major project / customer in last three years, ending on 31<sup>st</sup> March 2012.<br/>BIDDER should have executed a maximum of three orders of the total value of more than INR one crore. Copies of purchase orders and dispatch documents should be furnished for proof of the above.<br/>If the above terms are not complied with, the offer will be liable for rejection.</li> </ol>                                      |  |
| 21 | <p>Reverse auction: against this enquiry for the subject item /system with detailed scope of supply as per enquiry specifications, BHEL EDN reserves the right to follow REVERSE AUCTION PROCEDURE i.e, ON LINE BIDDING ON NETWORK, before finalizing the purchase order on technically competent bidders, as per the guidelines given in Annexure G enclosed. In case BHEL does not resort to Reverse Auction the price bids and price impacts (if any) already submitted and available with BHEL <b>shall only be opened as per BHEL's standard practice</b> without seeking any more price impacts on account of BHEL not going for Reverse Auction an process further</p>   |  |
| 22 | <p>VENDOR to confirm that the quoted model will be supplied till the completion of both deliveries.</p>   |  |

**LIST OF INTERNATIONAL AIRPORTS**

| Sl. No | Country        | Air Ports  |
|--------|----------------|--|
| 1      | Austria        | Vienna, Linz, Graz   |
| 2      | Australia      | Sydney, Melbourne, Perth   |
| 3      | Belgium        | Antwerp, Brussels  |
| 4      | Canada         | Toronto, Montreal  |
| 5      | China          | Shangai  |
| 6      | Cyprus         | Lamaca   |
| 7      | Czech Republic | Prague (Via Frankfurt)   |
| 8      | Denmark        | Copenhagen   |
| 9      | Egypt          | Cairo  |
| 10     | Finland        | Helsinki   |
| 11     | France         | Paris (Rossey), Lyon   |
| 12     | Germany        | Darmstadt, Manihem, Nurnberg, Hamburg, Stuttgart, Munich, Koln, Dusseldorf & Hannover, Frankfurt, Berlin                       |
| 13     | Hongkong       | Hongkong   |
| 14     | Italy          | Rome, Milan, Turin, Bologna, Florence  |
| 15     | Ireland        | Dublin   |
| 16     | Isrel          | Telaviv  |
| 17     | Japan          | Tokyo, Osaka   |
| 18     | Malaysia       | Kaulalampur, Penang  |
| 19     | Neatherlands   | Amsterdam, Rotterdam   |
| 20     | Newzealand     | Auckland   |
| 21     | Norway         | Oslo   |
| 22     | Oman           | Muscat   |
| 23     | Philiphines    | Manila   |
| 24     | Romania        | Bucharest  |
| 25     | Russia         | Moscow   |
| 26     | Saudi Arabia   | Riyad  |
| 27     | Singapore      | Singapore  |
| 28     | Slovakia       | Bartislowa   |
| 29     | South Africa   | Johannesburg, Durban   |
| 30     | South korea    | Kimpo  |
| 31     | Spain          | Barcelona  |
| 32     | Sweden         | Stockholm, Gothenburg, Milano  |
| 33     | Switzerland    | Basle, Zurich, Geneva  |
| 34     | Taiwan         | Taipei   |
| 35     | U.A.E.         | Dubai  |
| 36     | U.K.           | Landon (Heathrow), Newcastle, Oxford, Cheltham, Bristol, Wellingborough, Birmingham, East Midland, Manchester, Leeds, Glasgow. |
| 37     | U.S.A.         | Newyork, Chicago, Sanfrancisco, Los Angeles, Atlanta   |
| 38     | Ukraine        | Kiev   |

**BHEL EDN APPROVED TRANSPORTERS FOR INLAND ROAD TRANSPORTATION**

- ~~1. M/s Awagaman Road Carriers Ltd., Bangalore. (AWG)~~
- ~~2. M/s BLR India pvt., Ltd., Bangalore. (BLR)~~
- ~~3. M/s Delhi Assam Roadways corporation Ltd., Bangalore. (DRL)~~
- ~~4. M/s Indo Arya Central transport Ltd., Bangalore. (IACT)~~
- ~~5. M/s Prakash parcel Services, Bangalore. (PPS)~~
- ~~6. M/s Road Carrier of India, Bangalore. (RCI)~~
- ~~7. M/s Union Roadways Ltd., Bangalore. (URL)~~

**PERFORMANCE BANK GUARANTEE****(FOR FOREIGN PURCHASE ORDERS)****BANK NAME AND ADDRESS**

Bharat Heavy Electricals Limited (BHEL),  
 Electronics Division,  
 PB No. 2606,  
 Mysore Road,  
 BANGALORE- 560 026  
 INDIA

Dear Sir,

Ref: CONTRACT PERFORMANCE GUARANTEE.

WHEREAS you have entered into a contract reference No PO NO. \_\_\_\_\_ with M/s \_\_\_\_\_ having its registered office at \_\_\_\_\_ for the supply of \_\_\_\_\_ as detailed in your purchase order No. \_\_\_\_\_ which is hereinafter referred to as "the said contract" and WHEREAS M/s \_\_\_\_\_ has undertaken to produce a Bank Guarantee for 10% ( Ten Percent ) of \_\_\_\_\_ the contract price amounting to \_\_\_\_\_ ( \_\_\_\_\_ ) to secure its obligations to Electronics Division, BHEL having its registered office at New Delhi for the performance of the contract including the warranty of the equipment supplied, We \_\_\_\_\_ Bank, \_\_\_\_\_ hereby expressly, irrevocably and unreservedly undertake and guarantee as principal obligors on behalf of M/s \_\_\_\_\_ that in the event Bharat Heavy Electricals Ltd. (B.H.E.L.) declares to us in writing that M/s \_\_\_\_\_ has not fulfilled any obligation according to the contractual obligation of the said contract, to pay you on demand and without demur to Bharat Heavy Electricals Ltd., Electronics Division , Mysore Road, P.B.No. 2606, Bangalore-560 026, India an amount of \_\_\_\_\_ (in \_\_\_\_\_ words \_\_\_\_\_ ) subject to as may be determined below:

- 1) Notwithstanding any right M/s. \_\_\_\_\_ may have directly against you or any disputes raised by M/s \_\_\_\_\_, Your written demand shall be conclusive evidence to us that repayment is due under the terms of the said contract and shall be binding on us.
- 2) We shall not be discharged or released from this undertaking and Guarantee by any arrangements, variations made between you and M/s. \_\_\_\_\_ with or without our consent and Knowledge or by any alterations in the obligations of M/s. \_\_\_\_\_ by any forbearance whether as to payment, time, performance or otherwise.
- 3) This guarantee shall remain valid until the end of twenty-four weeks after the close of the warranty period or until the same is reported by BHEL to us whichever is earlier.
- 4) We agree and undertake not to revoke this guarantee during its validity unless discharged in writing by you subject to the provision of clause (7) below.

- 5) This guarantee shall be a continuing guarantee subject to the foregoing and shall not be discharged by any change in the constitution of the Bank or M/s. \_\_\_\_\_.
- 6) This guarantee shall be governed by and constructed in accordance with the Laws of India.
- 7) At any time \_\_\_\_\_ Bank may render this guarantee null and void by paying to Bharat Heavy Electricals Ltd. the full amount being \_\_\_\_\_ (in words \_\_\_\_\_ )

For and on behalf of Bank  
by its Authorised Signatory

**Note:**

- (1) To be executed in INR 100 Non-Judicial stamp paper by any authorized Indian Bank.
- (2) To be submitted directly by banker to concerned executive in purchase dept., Please give BHEL address to banker.
- (3) Do not enclose with Bank document.
- (4) Any Modification & omissions to this are not permitted

**PERFORMANCE BANK GUARANTEE**  
**(FOR INDIGENOUS PURCHASE ORDERS)**

THIS DEED OF GUARANTEE made and executed on the \_\_\_\_\_ day of \_\_\_\_\_(year), by the \_\_\_\_\_ (Bank), registered under the Companies Act 1956/Nationalised Bank constituted under the Banking Companies (acquisition and transfer of undertakings) Act constituted under the State Bank of India Act / Subsidiary Banks Act, having its registered / head office at \_\_\_\_\_ represented herein by its Branch Manager / authorised representative Sri. \_\_\_\_\_ & Sri. \_\_\_\_\_(Hereinafter called 'guarantor ' which term shall mean and include its successors and assigns)

IN FAVOUR OF BHARAT HEAVY ELECTRICALS LIMITED

\_\_\_\_\_ (Buyer's Name), a company registered under the companies Act, 1956 having its registered office at BHEL House at Siri Fort , New Delhi-100 049 and its Electronics Division at Mysore road, Bangalore-26 (hereinafter referred to as the 'Company' Which term shall include its successors and assigns):

Whereas the company has placed an order on \_\_\_\_\_ (State the name of the company / firm and its address) (hereinafter referred to as the 'Supplier' which term shall mean and include its liquidators, successors and assign) for the supply of system under order / Contract No. \_\_\_\_\_ Dt \_\_\_\_\_.

AND WHEREAS the supplier has agreed to supply the materials and carryout the works as detailed and in accordance with the terms set out in the said order/contract.

AND WHEREAS the company is not required to pay to the supplier a sum of Rupees \_\_\_\_\_ being the 10% of the value of the goods supplied / Works performed / Services rendered under the said order / contract between the supplier and the company, till the company is satisfied with the mechanical Warranties and the performance standards stipulated in the said order / contract between the company and the supplier has been duly fulfilled, except against a Bank Guarantee for the said sum of Rs \_\_\_\_\_ in favour of the company by reputed Bank, in which case the company has agreed to make payment to the supplier of the said sum of Rupees \_\_\_\_\_ being ( ...% ) of the value of the goods supplied / Works performed / Services rendered under the agreement between the supplier and the company and the Guarantor has at the request of the supplier, agreed to furnish this Guarantee subject to the terms and conditions stated below:

NOW THIS DEED WITNESSES THAT IN pursuance of the above said agreement, the guarantor hereby agrees and covenants With company is as follows :-

- 1) That during the period this contract of Guarantee remains effectual, the guarantor shall be liable in respect of the amount due and owing to the company in respect of the payments to the extent of Rs \_\_\_\_\_ (in words) \_\_\_\_\_ against any loss or damage caused to or suffered by the company by reasons of any breach of the terms of the said order / contract / Agreement by the supplier.
- 2) The Guarantor hereby undertakes to pay the amounts due and payable under this guarantee without any demur, merely on demand from the company intimating that the amount claimed is due by way of loss or damage caused to or suffered or would be caused or suffered by the supplier of any terms contained in the said order / contract. Any such demand made on the guarantor shall be conclusive as

regards the amount due and payable by the Guarantor irrespective of the fact whether the Contractor / supplier admits or denies.

- 3) The Guarantor further agrees that the agreement herein contained shall remain in force and effect till all the supplies to be made / Works to be performed / Services to be rendered under the said order / contract / agreement are completed to the entire satisfaction of the company or till company certifies that the terms and conditions of the said order / contract / agreement have been fully and properly carried out by the said supplier and accordingly discharges the Guarantee. Unless a demand or claim under this guarantee is made on the guarantor in writing on or before the expiry of claim period indicated in clause 6 below , the guarantor shall be discharged from all the liability under this guarantee thereafter.
- 4) The guarantor further agrees with the company that the company shall have the fullest liberty without the consent of the guarantor and without effecting in any manner the obligations of the guarantor hereunder to vary any of the terms of the said order / contract / agreement or extend the time of performance by the said supplier from time to time or refrain from exercising the power exercisable by the company against the said supplier or to forebear or omit to enforce any of the terms and conditions relating to the said order / contract / agreement, and the guarantor shall not be relieved of its liability in whole or in part , by reason of any act, commission or forbearance on the part of the company or by reason of any such variation, or extension being granted to the said supplier or by reason of any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving the guarantor.
- 5) The guarantor undertakes not to revoke this guarantee during its currency except with the previous consent of the company in writing.
- 6) Notwithstanding anything herein above contained, the liability of the guarantor under these presents is restricted to Rs\_\_\_\_\_. The guarantee shall be in force till its expiry on \_\_\_\_\_ unless a demand is made on the guarantor within SIX months from the date of expiry, all the liability of the guarantor under this guarantee shall stand fully discharged. The decision of the claimant in regard to breach of contract is final and binding on the Bank.

IN WITNESS whereof, the guarantor, acting through it authorised representative has executed this deed of Guarantee on the day, month and year first above written.

(Seal of the Bank to be affixed )

WITNESS

1.

2.

**BHEL MEMBER BANKS (CONSORTIUM BANKS)**

PBG SHALL BE ISSUED FROM THE FOLLOWING BANKS OR THEIR BRANCH OFFICES ONLY

|    |                                  |
|----|----------------------------------|
| 1  | <b>STATE BANK OF INDIA</b>       |
| 2  | <b>PUNJAB NATIONAL BANK</b>      |
| 3  | <b>HDFC BANK</b>                 |
| 4  | <b>SYNDICATE BANK</b>            |
| 5  | <b>CANARA BANK</b>               |
| 6  | <b>INDIAN BANK</b>               |
| 7  | <b>ST. BANK OF HYDERABAD</b>     |
| 8  | <b>ICICI BANK</b>                |
| 9  | <b>STANDARD CHARTERED BANK</b>   |
| 10 | <b>UCO BANK</b>                  |
| 11 | <b>KOTAK MAHINDRA</b>            |
| 12 | <b>ORIENTAL BANK OF COMMERCE</b> |
| 13 | <b>STATE BANK OF TRAVANCORE</b>  |
| 14 | <b>CENTRAL BANK</b>              |
| 15 | <b>IDBI BANK</b>                 |
| 16 | <b>FEDERAL BANK</b>              |
| 17 | <b>HSBC LTD</b>                  |
| 18 | <b>DEUTSCHE BANK</b>             |
| 19 | <b>CORPORATION BANK</b>          |
| 20 | <b>CITI BANK</b>                 |
| 21 | <b>BANK OF BARODA</b>            |
| 22 | <b>ABN AMRO BANK</b>             |
| 23 | <b>UNITED BANK OF INDIA</b>      |
| 24 | <b>VIJAYA BANK</b>               |
| 25 | <b>UNION BANK OF INDIA</b>       |
| 26 | <b>PUNJAB &amp; SIND BANK</b>    |
| 27 | <b>ANDHRA BANK</b>               |
| 28 | <b>BANK OF INDIA</b>             |
| 29 | <b>AXIS BANK</b>                 |

This format is applicable only to Indian Suppliers/ Agents supplying indigenous portion of Foreign Purchases.

| <b>SEARP<br/>(SRF)<br/>Clause No</b> | <b>Detail</b>  |
|--------------------------------------|--|
|                                      | <b>Name &amp; address of the firm</b>  |
| <b>1.0</b>                           | <b>Products/ Systems / Services being considered for</b>   |
| <b>2.0</b>                           | <b>General Information</b>   |
| 2.2                                  | Name of Chief Executive  |
| 2.3                                  | Details of authorized signatory  |
| <b>3.0</b>                           | <b>Ownership Information</b>   |
| 3.1                                  | Type of firm   |
| 3.2                                  | Nature of Business <ul style="list-style-type: none"> <li>• Attach <b>authorization letter</b> and <b>agency agreement</b> from Principal ( from whom capital equipment is procured)</li> <li>• Attach copy of declaration from Foreign Principal for <b>total guarantee/ warranty of indigenous supplies</b></li> </ul> |
| 3.3                                  | Year of establishment  |
| 3.4                                  | Year of commencement of business   |
| <b>4.0</b>                           | <b>Registration particulars</b>  |
| 4.1                                  | Permanent Account No.  |
| 4.2 / 4.3                            | Sales Tax / TIN no   |
| 4.6                                  | Service tax no. (in case of E&C)   |
| <b>5.0</b>                           | <b>Organisational strength</b>   |
| <b>6.0</b>                           | <b>Other particulars</b>   |
| 6.1                                  | If the company is already registered with other units  |
| 6.2                                  | Directors/ Partners, if related to any BHEL Employee   |
| 6.9                                  | If any Ex BHEL Personnel employed by the Company   |
| 6.12                                 | Details of pending legal issues with BHEL  |
| 6.13                                 | Bank Account information   |
| <b>9.0</b>                           | <b>Financial information</b>   |
| 9.6                                  | Sales/ Turnover details of last 3 years (or from the date of incorporation whichever is less )   |

### **GUIDELINES FOR REVERSE AUCTION PROCEDURE**

Against this enquiry for the subject item/system with detailed scope of supply as per enquiry specifications, BHEL-EDN proposes to resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING ON NETWORK, before finalizing the purchase order on technically competent bidders as per the guidelines given below:

1. Reverse Auction procedure shall be applicable for 2 Part bid tenders only.
  2. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate, BHEL will engage the services of a service provider, having network all over the world. The online bidding can be done from the vendor's respective offices on their computers with Internet facility or at any of the cyber cafe, for which service provider's representative will provide all necessary training and assistance before commencement of on line bidding. Training is free of cost .
  3. Vendors have to fax the Compliance form in the prescribed format (provided by Service provider) before start of Reverse auction. Without this, Reverse auction will not be started. Delay in faxing the above will lead to disqualification.
  4. BHEL will send the Auto formulated EXCEL sheet which will help to arrive at "Total Cost to BHEL" like Basic Material cost, Packing & forwarding charges, Excise duty, Sales Tax/VAT, Freight charges, Insurance (by BHEL), Service Tax for Services,(-) ED disclaimer if any, 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.
  5. Reverse auction will be conducted on a mutually agreed schedule and time.
  6. After Reverse auction is conducted , successful bidder has to Fax the Filled-in Excel sheet showing the final value accepted in Reverse Auction with breakup of each element as indicated in SI No. 4 above to the service provider within 48 hours of Auction without fail.
- Note: No changes are allowed in Rate of Excise Duty, Sales Tax, Freight, Insurance, Service Tax and Loading factors after auction is completed.
- After the reverse auction is conducted, the bidder whose price is lowest ( total cost to BHEL, after considering all factors as per enquiry including Loading factors for deviations to BHEL standard Commercial Terms & conditions), BHEL will process the tender as per BHEL purchase norms. Purchase order will be issued without loading factors for deviations.
- Note: BHEL will also reserve the right to open the sealed price offer submitted by the vendors for comparison purpose, if deemed necessary, without any intimation to the technically and commercially accepted bidders.
8. 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 only be opened as per BHEL's standard practice

without seeking anymore price Impacts on account of BHEL not going for Reverse Auction. Hence please quote your best lowest price in first instant itself.

9. Training by service provider will be given only once for the subsequent reverse auction. Training will not be given for a company which has already taken training for the FIRST REVERSE AUCTION conducted by BHEL-EDN, Bangalore.

10. Activities involved in Reverse Auction :

a) BHEL will inform the vendor in writing, the Service provider's information to enable them to contact & get trained. Alongwith the above information Business rules/policy also will be sent.

b) Vendors have to contact Service provider and send Compliance form for having understood Reverse Auction procedure and ready for Auction.

c) BHEL will send the Auto formulated Excel sheet (blank format without prices) as mentioned in SI No.4 above to the respective vendors.

d) Vendors have to fill-in the Excel sheet (provided by BHEL) including Loading factors and get ready for Reverse Auction.

e) Date & Time of Reverse Auction and Website address will be intimated by Service Provider.

f) Bid decrement will be indicated in the Website after the Sealed bid is over and before start of Reverse Auction.

g) Vendors will have to key-in the "Total cost to BHEL" (as worked out in the Excel sheet mentioned in SI No.4 above) in the "Sealed Bid" of the Reverse Auction within specified time duration of 20 to 30 minutes. After "Sealed Bid" auction, the lowest bidder's value or BHEL's start bid price will be the starting bid value for the commencement of Reverse Auction (English Reverse).

h) At the end of Reverse Auction time (English Reverse), the lowest bidder value will be known on the network.

i) Successful bidder has to fax the filled-in EXCEL sheet showing the final value accepted in the Reverse Auction with breakup of each component within 48 hours of completion of the Reverse Auction without altering any of the terms to the service Provider. Any alterations will be taken as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHEL for the period of 2 years.

j) The loading factors for non-conformance to BHEL standard commercial terms are only for arriving at lowest Bidder. In the event of Purchase order, same will be issued without loading factor values indicated in EXCEL Sheet. We repeat PO, will be issued for scope of supply+ Packing & Forwarding charges if any, Excise duty, Sales Tax, Service Tax for services and Freight & Insurance. Insurance will be to BHEL Account.



**PURCHASE SPECIFICATION  
SERVER STATION WITH RAID 5**

PS / 404 / 2029

REV. No. 02

PAGE 1 OF 4

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**PURCHASE SPECIFICATION  
Of  
SERVER STATION WITH RAID 5**

REVISION : 02

Approved

  
KPAL

Prepared

Checked

Issued

Date

  
SUNEEL

  
KPAL

CE-Engg / HMI

15-01-13



**PURCHASE SPECIFICATION**  
Server Station with RAID 5

PS /404 / 2029



REV. No. 02

PAGE 0 OF 4

**REVISION HISTORY SHEET**

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| Rev No. | DATE     | Nature Of change | Reason                             | Prepared by | Checked by | Approved by |
|---------|----------|------------------|------------------------------------|-------------|------------|-------------|
| 00      | 21/01/09 | FIRST ISSUE      | --                                 | RN          | KPAL       | KPAL        |
| 01      | 15/09/10 | Revised          | Minor revisions (No. of slots)     | SKB         | KPAL       | KPAL        |
| 02      | 15/01/13 | Revised          | Changes to RAM, processor<br>Etc., | SKB         | KPAL       | KPAL        |
|         |          |                  |                                    |             |            |             |

|                      |   |  |                             |
|----------------------|---|--|-----------------------------|
| <b>REVISION : 02</b> | Approved <br>KPAL |  |                             |
|                      | Prepared<br><br>SUNEEL  | Checked<br><br>KPAL | Issued<br><br>CE-Engg / HMI |



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**PURCHASE SPECIFICATION**  
Server Station with RAID 5

PS / 404 / 2029

REV. No. 02


PAGE 2 OF 4

**(A) BASE UNIT**

| Category        | Requirement  |
|-----------------|--|
| Make            | DELL / HP-COMPAQ / IBM -LENOVO.  |
| Type            | Server   |
| Power Supply    | Redundant, Hot swappable Power Supplies. Input: 100 to 240 VAC; 50~60 Hz. Redundant Fan Kit, Power Cords (suitable for Indian type sockets) for both Power Supplies to be provided.  |
| Restart         | Must have power failure protection.  |
| Processor       | Intel Xeon Processor E5600 Series - 2.00 GHz (min) / E5-2600 Series – 1.8GHz (min) or better, 1066 MHz FSB (minimum)   |
| Hard drive      | Minimum of 3 Nos. x 300 Gb SAS Hot swappable Hard Disks.   |
| SAS Controller  | Manufacturer supplied SAS Controller   |
| RAM             | 4GB minimum(dual channel symmetric:2 GB per channel) ECC DDR3 Ram, expandable to minimum 16 GB   |
| DVD-RW          | DVD +/- RW DUAL LAYER with Light-Scribe or equivalent SATA Drive, must support Multi-Read. Minimum software: Roxio/Nero Direct CD software ver 5 or later must be installed.   |
| DVD ROM         | 48X DVD-ROM SATA Drive , must support Multi-Read operation, along with suitable driver   |
| Expansion Slots | Minimum 6 Nos. 4 nos. PCIe slots, 2 Nos. PCI/PCI-X   |
| Ethernet Ports  | Three (3) 10 / 100 Base-T Ethernet ports with RJ45 connectors, plug in on PCI/PCI Express slots in addition to onboard RJ45 port. PC manufacturer supplied NIC Cards should be provided. Ethernet cards must use same drivers. |
| Serial Port     | 1 No. Standard Serial Port   |
| USB Port        | Minimum of Four (4) USB port   |
| RAID            | RAID controller and associated hardware/software for RAID 5 implementation to be provided. RAID 5 to be implemented.   |
| Keyboard/ Mouse | Standard keyboard and optical scroll mouse with mouse pad.   |
| Browser         | Microsoft Internet Explorer, version 5 or above.   |
| Drivers         | All controllers to be supplied with drivers suitable for Windows XP Professional and Windows 2003 Server, along with installation / set up utilities and System Management software.   |
| Chassis lock    | Chassis lock to be provided  |
| WARRANTY        | Three years on-site comprehensive warranty   |

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|  |  |                        |
|--|--|------------------------|
| <br>A4 - 11 | <b>PURCHASE SPECIFICATION</b><br><b>Server Station with RAID 5</b> | <b>PS / 404 / 2029</b> |
|  |  | <b>REV. No. 02</b>     |
|  |  | <b>PAGE 3 OF 4</b>     |

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**(B) NOTE**

1. Initial installation will be at our works in BHEL/EDN, Bangalore for testing along with customer. Subsequently material will be sent to site.
2. Any deviations with respect to the above specification should be brought out in the offer otherwise offer may be rejected
3. Installation of Windows 2003 Server, shall be done by the Vendor at the time of initial installation of machines at BHEL, EDN.
4. All components must be compatible for Windows 2003 Server.
5. Checklist attached (ANNEXURE-I) with the PSPEC should be filled in all respects and all options answered and duly signed by supplier. This is mandatory and offer will be rejected on non submission

**(C) DOCUMENTS TO BE GIVEN ALONG WITH QUOTATION**

1. Technical data sheet for Server
2. Filled checklist (Annexure – 1) duly signed by supplier..
3. Single point contact detail to be furnished for After sales service support under Warranty.
4. Deviations, if any, to our specification.

**(D) DOCUMENTS TO BE GIVEN ALONG WITH EQUIPMENT**

1. Manuals / CD's for computer to be supplied.

**(E) TEST CERTIFICATE**

1. Test Certificates for the System to be provided on installation.

**(F) WARRANTY**

1. Three Year Comprehensive On site warranty for all equipment / accessories supplied is to be provided. The exact location will be intimated at time of placement of PO.

**CHECKLIST FOR SERVER STATION WITH RAID 5****To be filled by the supplier.**

| <b>Sr. No.</b> | <b>Details</b>  | <b>Remarks</b> |
|----------------|---|----------------|
| A.1            | <b>Make: DELL / HP-COMPAQ / IBM -LENOVO.</b>  | YES/NO         |
| A.2            | Type: Server  |                |
| A.3            | Power Supply: Redundant, Hot swappable Power Supplies. Input: 100 to 240 VAC; 50~60 Hz.Redundant Fan Kit, Power Cords (suitable for Indian type sockets) for both Power Supplies to be provided.  | YES/NO         |
| A.4            | Restart: Must have power failure protection   | YES/NO         |
| A.5            | Processor: Quad Core Intel Xeon Processor E5600 Series - 2.00 GHz (min) / E5-2600 Series – 1.8GHz (min) or better, 1066 MHz FSB (minimum)   | YES/NO         |
| A.6            | Hard drive: Minimum of 3 Nos. x 300Gb SAS Hot swap Hard Disks.  | YES/NO         |
| A.7            | SAS Controller: Manufacturer supplied SAS Controller  | YES/NO         |
| A.8            | RAM: 4GB minimum(dual channel symmetric:2 GB per channel) ECC DDR Ram, expandable to minimum 16 GB  | YES/NO         |
| A.9            | DVD-RW: 1 DVD +/- RW DUAL LAYER with Light-Scribe or equivalent SATA Drive, must support Multi-Read. Minimum software: Roxio/Nero Direct CD software ver 5 or later must be installed.  | YES/NO         |
| A.10           | DVD ROM: 48X DVD-ROM SATA Drive , must support Multi-Read operation, along with suitable driver   | YES/NO         |
| A.11           | Expansion Slots: Minimum 6 Nos. 4 nos. PCIe slots, 2 Nos. PCI/PCI-X   | YES/NO         |
| A.12           | Ethernet Ports: Three (3) 10 / 100 Base-T Ethernet ports with RJ45 connectors, plug in on PCI/PCI Express slots in addition to onboard port. PC manufacturer supplied NIC Cards should be provided. Ethernet cards must use same drivers. | YES/NO         |
| A.13           | Serial Port: 1 No. Standard Serial Port   | YES/NO         |
| A.14           | USB Port: Minimum of Four (4) USB port  | YES/NO         |
| A.15           | RAID: RAID controller and associated hardware/software, for RAID 5 implementation to be provided. RAID 5 to be implemented.   | YES/NO         |
| A.16           | Keyboard/ Mouse: Standard keyboard and optical scroll mouse with mouse pad.   | YES/NO         |
| A.17           | Browser: Microsoft Internet Explorer, version 5 or above.   | YES/NO         |
| A.18           | Drivers: All controllers to be supplied with drivers suitable for Windows XP Professional and Windows 2003 Server, along with installation / set up utilities and System Management software.   | YES/NO         |
| A.19           | Chassis lock provided   | YES/NO         |
| A.20           | WARRANTY: Three years on-site comprehensive warranty  | YES/NO         |
| B.1            | Initial installation will be at our works in BHEL/EDN, Bangalore for testing along with customer. Subsequently material will be sent to site  | YES/NO         |
| B.2            | Any deviations with respect to the above specification should be brought out in the offer otherwise offer may be rejected   | YES/NO         |
| B.3            | Installation of Windows 2003 Server shall be done by Vendor at the time of initial installation of machines at BHEL, EDN.   | YES/NO         |
| B.4            | All components must be compatible for Windows 2003 Server   | YES/NO         |
|                | Supplier's signature & Seal   |                |



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REV: 01

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REVISION HISTORY SHEET

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| REV No. | DATE      | NATURE OF CHANGE          | REASON | PREPARED BY | REVIEWED BY |
|---------|-----------|---------------------------|--------|-------------|-------------|
| 00      | 2.09.2009 | FIRST ISSUE               | ---    | AT          | CMS         |
| 01      | 9.01.2013 | Processor and RAM updated | ---    | AT          | CMS         |
|         |           |                           |        |             |             |
|         |           |                           |        |             |             |
|         |           |                           |        |             |             |


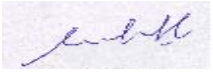
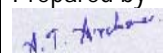
Revision: 00

Reviewed by: Manohar Salimath

Prepared by  
  
Archana AT

Issued by  
CE-Engg (HMI) - 404

Date  
9.1.2013

|   |  |   |                                  |
|---|--|---|----------------------------------|
|   | <br>A4-10   |   | PS / 404 / 2079                  |
|   |  |   | REV: 01                          |
|   |  |   | PAGE 02 OF 05                    |
| Copy Right And Confidential<br>The Information On This Document Is The Property Of Bharat Heavy Electricals Limited . It Must Not Be Used Directly Or Indirectly In Any Way Detrimental To The Interest Of The Company. | <b>Purchase Specification</b><br><br>Of<br><br><b>STATION LAN SERVER WITH DUAL CPU &amp;<br/>RAID 5</b>  |   |                                  |
|   | MATERIAL CODE: DA0659450313<br><br>DISTRIBUTION OF CONTROLLED COPIES:<br><br>Copy No.1 to MM Department.<br>Copy No.2 to Standards Department.<br><br>Master copy & controlled copies are monitored by: B N Sharma |   |                                  |
|   | Revision: 01   | Reviewed by: Manohar Salimath  |                                  |
|   |  | Prepared by<br><br>Archana AT   | Issued by<br>CE-Engg (HMI) - 404 |
|   |  |   | Date<br>9.1.2013                 |



**STATION LAN SERVER WITH DUAL CPU AND RAID 5**

PS / 404 / 2079  
Rev 01  
PAGE 03 OF 05

**(A) SERVER BASE UNIT**

| SPECIFICATION:   | SUPPLIER<br>(YES/NO) | REMARKS |
|--|----------------------|---------|
| <b>Make:</b> DELL , HP/ COMPAQ, IBM / LENOVO   |                      |         |
| <b>Type :</b> SERVER TOWER / CMT<br><b>Power Supply:</b> Redundant, Hot swappable Power Supplies. Input: 100 to 240 VAC; 50~60Hz.Redundant Fan Kit, Power Cords (suitable for Indian type sockets) for both Power Supplies to be provided.                         |                      |         |
| <b>Restart:</b> Must have power failure protection   |                      |         |
| <b>Processor:</b> Two nos. of Quad Core Intel Xeon Processor E5600 series or E5-2600 series, 1.80 GHz (min) or better, 1066 MHz FSB  |                      |         |
| <b>RAM:</b> 4GB minimum(dual channel symmetric:2 GB per channel preferred) ECC DDR3 Ram, expandable to minimum 4 GB<br><b>Hard drive:</b> Minimum of 3 Nos. x 300Gb SAS Hot swappable Hard Disks.  |                      |         |
| <b>Graphics:</b> Integrated Graphic controller supporting 1600 x 1280 resolution with true colors.   |                      |         |
| <b>DVD WRITER (DVD-RW):</b> DVD ± RW multi-layer Drive, must support Multi-Read. Minimum software: Roxio/Nero Direct CD software ver 5 or later must be installed<br><b>DVD ROM:</b> DVD-ROM Drive , must support Multi-Read operation, along with suitable driver |                      |         |
| <b>Expansion Slots:</b> Minimum 6 Nos. 4 Nos. PCIe based slots 2 Nos.PCI/PCI-X   |                      |         |
| <b>Ethernet Ports:</b> Three (3) 10 / 100 Base-T Ethernet ports with RJ45 connectors, plug in on PCI/PCI Express slots in addition to onboard RJ45 port. PC manufacturer supplied NIC Cards should be provided. Ethernet cards must use same driver                |                      |         |
| <b>Ports:</b> As a minimum 1 No. Standard Serial Port, 4 Nos. USB (Or USB to Serial converter to be provided)  |                      |         |
| <b>RAID:</b> RAID controller and associated hardware/software, for RAID 5 implementation to be provided. RAID 5 to be implemented.   |                      |         |
| <b>Video Ports &amp; Connectors:</b> DVI / Analog VGA ports or adapters  |                      |         |
| <b>Keyboard/ Mouse :</b> PS/2 / USB Standard keyboard and PS/2/ USB optical scroll mouse with mouse pad.   |                      |         |

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|  |   |                 |  |  |   |  |  |  |
|--|---|-----------------|--|--|---|--|--|--|
|   | STATION LAN SERVER WITH DUAL CPU AND RAID 5 | PS / 404 / 2079 |  |  |   |  |  |  |
| A4-11  |   | Rev 01          |  |  |   |  |  |  |
|  |   | PAGE 04 OF 05   |  |  |   |  |  |  |
| <table border="1"><tr><td data-bbox="402 344 1133 386"><b>Browser</b> : Microsoft Internet Explorer, version 5 or above</td><td data-bbox="1138 344 1479 386"></td></tr><tr><td data-bbox="402 392 1133 491"><b>Drivers</b>: All controllers to be supplied with drivers suitable for Windows 2003 Server, along with installation / set up utilities and System Management software.</td><td data-bbox="1138 392 1479 491"></td></tr><tr><td data-bbox="402 497 1133 575"><b>WARRANTY</b> : Three Years on-site comprehensive warranty</td><td data-bbox="1138 497 1479 575"></td></tr></table>   |   |                 | <b>Browser</b> : Microsoft Internet Explorer, version 5 or above |  | <b>Drivers</b> : All controllers to be supplied with drivers suitable for Windows 2003 Server, along with installation / set up utilities and System Management software. |  | <b>WARRANTY</b> : Three Years on-site comprehensive warranty |  |
| <b>Browser</b> : Microsoft Internet Explorer, version 5 or above   |   |                 |  |  |   |  |  |  |
| <b>Drivers</b> : All controllers to be supplied with drivers suitable for Windows 2003 Server, along with installation / set up utilities and System Management software.  |   |                 |  |  |   |  |  |  |
| <b>WARRANTY</b> : Three Years on-site comprehensive warranty   |   |                 |  |  |   |  |  |  |
| <p><b>NOTE: If PCI-X based NIC's are offered, Supplier to get Letter from OEM Vendor of Workstation manufacturer that PCI-X Cards will be supported / available for next 5 years.</b></p>  |   |                 |  |  |   |  |  |  |
| <p><b>(B) NOTE</b></p>   |   |                 |  |  |   |  |  |  |
| <p>1. Initial installation will be at our works in BHEL/EDN, Bangalore for testing along with customer. Subsequently material will be sent to site.<br/>2. Any deviations with respect to the above specification should be brought out in the offer otherwise offer may be rejected<br/>3. Installation of Windows 2003 Server by Vendor shall be done at the time of initial installation of machines at BHEL, EDN.<br/>4. All components must be compatible for Windows 2003 Server<br/>5. PSPEC should be filled in all respects and all options answered and duly signed by supplier. This is mandatory and offer will be rejected on non submission.</p> |   |                 |  |  |   |  |  |  |
| <p><b>(C) DOCUMENTS TO BE GIVEN ALONG WITH QUOTATION</b></p>   |   |                 |  |  |   |  |  |  |
| <p>1. Technical data sheet for Server.<br/>2. Filled checklists given in this specification, duly signed by supplier.<br/>3. Single point contact detail to be furnished for After sales service support under Warranty.<br/>4. Deviations, if any, to our specification.</p>  |   |                 |  |  |   |  |  |  |
| <p><b>(D) DOCUMENTS TO BE GIVEN ALONG WITH EQUIPMENT</b></p>   |   |                 |  |  |   |  |  |  |
| <p>1. Manuals / CD's for computer to be supplied.</p>  |   |                 |  |  |   |  |  |  |
| <p><b>(E) TEST CERTIFICATE</b></p>   |   |                 |  |  |   |  |  |  |
| <p>1. Test Certificates for the System to be provided on installation.</p>   |   |                 |  |  |   |  |  |  |
| <p><b>(F) WARRANTY</b></p>   |   |                 |  |  |   |  |  |  |
| <p>1. Three Year Comprehensive On site warranty for all equipment / accessories supplied is to be provided.</p>  |   |                 |  |  |   |  |  |  |

**CHECKLIST FOR SERVER STATION WITH DUAL CPU & RAID 5**

**To be filled by the supplier.**

| <b>Sr. No.</b> | <b>Details</b>  | <b>Remarks</b> |
|----------------|---|----------------|
| A.1            | Make: DELL / HP-COMPAQ / IBM -LENOVO.   | YES/NO         |
| A.2            | Type: Server  |                |
| A.3            | Power Supply: Redundant, Hot swappable Power Supplies. Input: 100 to 240 VAC; 50~60 Hz.Redundant Fan Kit, Power Cords (suitable for Indian type sockets) for both Power Supplies to be provided.  | YES/NO         |
| A.4            | Restart: Must have power failure protection   | YES/NO         |
| A.5            | Processor: Dual CPU, Quad Core Intel Xeon Processor E5600 Series - 2.00 GHz (min) / E5-2600 Series – 1.8GHz (min) or better, 1066 MHz FSB (minimum)   | YES/NO         |
| A.6            | Hard drive: Minimum of 3 Nos. x 300Gb SAS Hot swap Hard Disks.  | YES/NO         |
| A.7            | SAS Controller: Manufacturer supplied SAS Controller  | YES/NO         |
| A.8            | RAM: 4GB minimum(dual channel symmetric:2 GB per channel) ECC DDR Ram, expandable to minimum 16 GB  | YES/NO         |
| A.9            | DVD-RW: 1 DVD +/- RW DUAL LAYER with Light-Scribe or equivalent SATA Drive, must support Multi-Read. Minimum software: Roxio/Nero Direct CD software ver 5 or later must be installed.  | YES/NO         |
| A.10           | DVD ROM: 48X DVD-ROM SATA Drive , must support Multi-Read operation, along with suitable driver   | YES/NO         |
| A.11           | Expansion Slots: Minimum 6 Nos. 4 Nos.PCIe, 2 Nos.PCI/PCI-X   | YES/NO         |
| A.12           | Ethernet Ports: Three (3) 10 / 100 Base-T Ethernet ports with RJ45 connectors, plug in on PCI/PCI Express slots in addition to onboard port. PC manufacturer supplied NIC Cards should be provided. Ethernet cards must use same drivers. | YES/NO         |
| A.13           | Serial Port: 1 No. Standard Serial Port   | YES/NO         |
| A.14           | USB Port: Minimum of Four (4) USB port  | YES/NO         |
| A.15           | RAID: RAID controller and associated hardware/software, for RAID 5 implementation to be provided. RAID 5 to be implemented.   | YES/NO         |
| A.16           | Keyboard/ Mouse: Standard keyboard and optical scroll mouse with mouse pad.   | YES/NO         |
| A.17           | Browser: Microsoft Internet Explorer, version 5 or above.   | YES/NO         |
| A.18           | Drivers: All controllers to be supplied with drivers suitable for Windows XP Professional and Windows 2003 Server, along with installation / set up utilities and System Management software.   | YES/NO         |
| A.19           | Chassis lock provided   | YES/NO         |
| A.20           | WARRANTY: Three years on-site comprehensive warranty  | YES/NO         |
| B.1            | Initial installation will be at our works in BHEL/EDN, Bangalore for testing along with customer. Subsequently material will be sent to site  | YES/NO         |
| B.2            | Any deviations with respect to the above specification should be brought out in the offer otherwise offer may be rejected   | YES/NO         |
| B.3            | Installation of Windows 2003 Server shall be done by Vendor at the time of initial installation of machines at BHEL, EDN.   | YES/NO         |
| B.4            | All components must be compatible for Windows 2003 Server   | YES/NO         |
|                | Supplier's signature & Seal   |                |



**PURCHASE SPECIFICATION  
WORKSTATION PC's**

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

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**PURCHASE SPECIFICATION  
Of WORKSTATIONS  
SATA and SAS**

- 1. OPERATOR STATION            – SATA (OWS)
- 2. ENGINEER STATION            – SATA (EWS)
- 3. OPERATOR STATION            – SAS (OWS)
- 4. ENGINEER STATION            – SAS (EWS)

REVISION : 03

Approved   
Prithvi Raj S

|  |   |                         |                  |
|--|---|-------------------------|------------------|
| Prepared<br><br>Kamlesh Kr Jain | Checked<br><br>Kamlesh Kr Jain | Issued<br>CE-Engg / HMI | Date<br>21/12/12 |
|--|---|-------------------------|------------------|



**PURCHASE SPECIFICATION**

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

PAGE 0 OF 9

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**REVISION HISTORY SHEET**

| Rev No. | DATE     | Nature Of change | Reason                | Prepared by | Checked by | Approved by |
|---------|----------|------------------|-----------------------|-------------|------------|-------------|
| 00      | 05/05/10 | FIRST ISSUE      | --                    | KKJ         | KKJ        | PRS         |
| 01      | 15/09/10 | Updated          | Minor Corrections     | KKJ         | KKJ        | PRS         |
| 02      | 05/07/11 | Updated          | Processor types added | KKJ         | KKJ        | PRS         |
| 03      | 21/12/12 | Updated          | Processor types added | KKJ         | KKJ        | PRS         |

|                     |  |   |                         |                  |
|---------------------|--|---|-------------------------|------------------|
| <b>REVISION: 03</b> | Approved <br>Prithvi Raj S    |   |                         |                  |
|                     | Prepared<br><br>Kamlesh Kr Jain | Checked<br><br>Kamlesh Kr Jain | Issued<br>CE-Engg / HMI | Date<br>21/12/12 |



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# PURCHASE SPECIFICATION WORKSTATION PC's

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## (A) WORKSTATION BASE UNIT - SATA

| SPECIFICATION:  | OPERATOR STATION (OWS)<br>DA065945<br>0690                                  | ENGINEER / STORIAN (EWS)<br>DA0659450<br>702                                | ENGINEER / STORIAN RAID-1<br>DA065944<br>9692                               |
|---|---|---|---|
| <b>Make:</b> DELL , HP/ COMPAQ, IBM / LENOVO  | YES   | YES   | YES   |
| <b>Type :</b> Tower / CMT   | YES   | YES   | YES   |
| <b>Input:</b> 100 to 240 VAC; 50/60Hz. Power Cords (suitable for Indian type sockets) to be provided.   | YES   | YES   | YES   |
| <b>Restart:</b> Must have power failure protection  | YES   | YES   | YES   |
| <b>Processor:</b> Intel Xeon E3-1200 Series (minimum 3.10GHz) or higher, Raid 0,1,5 capability)with Intel Chipset   | YES   | YES   | YES   |
| <b>RAM:</b> 4 GB (2 X 2GB symmetrical) DDR3 ECC (minimum 1333MHz) RAM, expandable to minimum 8 GB   | YES   | YES   | YES   |
| <b>Hard drive:</b> Minimum 500Gb SATA Hard Disk (7200 RPM).   | YES   | YES   | -   |
| <b>Hard drive:</b> 2 Nos. RAID 1, Minimum 500Gb SATA Hard Disk (7200 RPM).  | -   | -   | YES   |
| <b>Sound:</b> Integrated Audio with in-built speakers   | YES   | YES   | YES   |
| <b>Graphics:</b> OEM recommended <b>PCI-Express Graphics</b> card with full 16X support, minimum 512 MB RAM, support 1600 x 1280 resolution with true colors. <b>Dual</b> Output.   | YES   | YES   | YES   |
| <b>DVD WRITER (DVD-RW):</b> 16X DVD +- RW multi-layer Drive, must support Multi-Read. Minimum software: Roxio/Nero Direct CD software ver 5 or later installed  | NO  | YES   | YES   |
| <b>DVD ROM:</b> 16X/48X DVD-ROM Drive, must support Multi-Read operation, along with suitable driver  | YES   | YES   | YES   |
| <b>Expansion Slots:</b> Minimum 3 Nos. PCIe based slots   | YES   | YES   | YES   |
| <b>Ethernet Ports:</b> 10/100/1000 Base-T Ethernet ports <b>excluding Onboard port. Cards must be from OEM</b><br><br>If Dual Onboard is available – 1 Dual Port NIC on PCIe additional   | <b>A: 2 NIC – PCIe</b><br><br><b>B: Dual Onboard + 1 Dual Port NIC PCIe</b> | <b>A: 2 NIC – PCIe</b><br><br><b>B: Dual Onboard + 1 Dual Port NIC PCIe</b> | <b>A: 2 NIC – PCIe</b><br><br><b>B: Dual Onboard + 1 Dual Port NIC PCIe</b> |
| <b>Ports:</b> 1 No. Standard Serial Port, 6 Nos. USB(minimum)   | YES   | YES   | YES   |
| <b>Video Ports/Connectors:</b> DVI/Analog VGA ports/adapters  | YES   | YES   | YES   |
| <b>Keyboard/ Mouse :</b> USB Standard keyboard and USB optical scroll mouse with mouse pad.   | YES   | YES   | YES   |
| <b>Operating System:</b> Genuine Windows 7 32 bit downgrade to genuine Microsoft Windows XP Professional with latest service pack to be preloaded.<br><b>WIN XP PROFESSIONAL Recovery / IMAGE CD TO BE SUPPLIED</b> along with Windows 7 Recovery CD. | YES   | YES   | YES   |
| <b>Browser :</b> Microsoft Internet Explorer, version 5 or above  | YES   | YES   | YES   |
| <b>Drivers:</b> All controllers to be supplied with CD having drivers suitable for Windows XP Professional / Windows 7, with required installation / set up utilities.  | YES   | YES   | YES   |
| <b>Security Feature:</b> 1. Chassis lock  | YES   | YES   | YES   |
| <b>WARRANTY :</b> Three Years on-site comprehensive warranty  | YES   | YES   | YES   |

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## PURCHASE SPECIFICATION SAS-WORKSTATION PC's

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### (B) WORKSTATION BASE UNIT - SAS

| Category  | Requirement   |   |
|---|---|---|
| <b>SPECIFICATION:</b>   | OPERATOR / LINK STATION (SAS-OWS) DA0659450712                              | ENGINEER (SAS-EWS) / STORIAN DA0659450720                                   |
| <b>Make:</b> DELL , HP/ COMPAQ, IBM / LENOVO WORKSTATION  | YES   | YES   |
| <b>Type :</b> Tower / CMT   | YES   | YES   |
| <b>Input:</b> 100 to 240 VAC; 50/60Hz. Power Cords (suitable for Indian type sockets) to be provided.   | YES   | YES   |
| <b>Restart:</b> Must have power failure protection  | YES   | YES   |
| <b>Processor:</b> Intel Xeon E3-1200 Series (minimum 3.10GHz) or higher, Raid 0,1,5 capability)with Intel Chipset   | YES   | YES   |
| <b>RAM:</b> 4 GB (2 X 2GB symmetrical) DDR3 ECC (minimum 1333MHz) RAM, expandable to minimum 8 GB   | YES   | YES   |
| <b>Hard drive:</b> Minimum <b>450Gb SAS</b> Hard Disk (3Gb/s minimum).  | YES   | YES   |
| <b>SAS Controller :</b> OEM SAS Controller card   | YES   | YES   |
| <b>Sound:</b> Integrated Audio with in-built speakers   | YES   | YES   |
| <b>Graphics:</b> OEM recommended <b>PCI-Express Graphics</b> card with full 16X support, with minimum 512 MB RAM, supporting 1600 x 1280 resolution with true colors. Dual Output   | YES   | YES   |
| <b>DVD WRITER (DVD-RW):</b> 16X DVD +- RW multi-layer Drive, must support Multi-Read. Minimum software: Roxio/Nero Direct CD software ver 5 or later must be installed  | No  | YES   |
| <b>DVD ROM:</b> 16X/48X DVD-ROM Drive , must support Multi-Read operation, along with suitable driver   | YES   | YES   |
| <b>Expansion Slots:</b> Minimum 3 Nos. PCIe based slots   | YES   | YES   |
| <b>Ethernet Ports:</b> 10/100/1000 Base-T Ethernet ports <b>excluding Onboard port. Cards must be from OEM</b><br><br>If Dual Onboard is available – 1 Dual Port NIC on PCIe additional   | <b>A: 2 NIC – PCIe</b><br><br><b>B: Dual Onboard + 1 Dual Port NIC PCIe</b> | <b>A: 2 NIC – PCIe</b><br><br><b>B: Dual Onboard + 1 Dual Port NIC PCIe</b> |
| <b>Port:</b> 1 No. Standard Serial Port, 6 Nos. USB (minimum)   | YES   | YES   |
| <b>Video Ports &amp; Connectors:</b> DVI / Analog VGA ports or adapters   | YES   | YES   |
| <b>Keyboard/ Mouse :</b> USB Standard keyboard and USB optical scroll mouse with mouse pad.   | YES   | YES   |
| <b>Operating System:</b> Genuine Windows 7 32 bit downgrade to genuine Microsoft Windows XP Professional with latest service pack to be preloaded.<br><b>WIN XP PROFESSIONAL Recovery / IMAGE CD TO BE SUPPLIED</b> along with Windows 7 Recovery CD. | YES   | YES   |
| <b>Browser :</b> Microsoft Internet Explorer, version 5 or above  | YES   | YES   |
| <b>Drivers:</b> All controllers to be supplied with CD having drivers suitable for Windows XP Professional / Windows 7, with required installation / set up utilities.  | YES   | YES   |
| <b>Security Feature:</b> 1. Chassis lock  | YES   | YES   |
| <b>WARRANTY :</b> Three Years on-site comprehensive warranty  | YES   | YES   |

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**PURCHASE SPECIFICATION  
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**(B) NOTE**

1. Initial installation will be at our works in BHEL/EDN, Bangalore for testing along with customer. Subsequently material will be sent to site.
2. Any deviations with respect to the above specification should be brought out in the offer otherwise offer may be rejected
3. Installation of Windows XP Professional shall be pre-installed or done at the time of initial installation of machines at BHEL, EDN.
4. All components must be compatible for Windows XP Professional.
5. Checklist attached (ANNEXURE-1) with the PSPEC should be filled in all respects and all options answered and duly signed by supplier. This is mandatory and offer will be rejected on non submission.

**(C) DOCUMENTS TO BE GIVEN ALONG WITH QUOTATION**

1. Technical data sheet for Workstation. This is **MANDATORY**
  2. Filled checklists given in this specification duly signed by supplier.
  3. Single point contact detail to be furnished for After sales service support under Warranty.
  4. Deviations, if any, to our specification.
  5. NOTE - Technical data sheet of quoted Models and Filled checklists **ARE MANDATORY.**
- Offer will be Technically REJECTED** if not accompanied by them.

**(D) DOCUMENTS TO BE GIVEN ALONG WITH EQUIPMENT**

1. Manuals / CD's for computer to be supplied.

**(E) TEST CERTIFICATE**

1. Test Certificates for the System to be provided on installation.

**(F) WARRANTY**

1. Three Year Comprehensive On site warranty for all equipment supplied is to be provided. The exact location will be intimated at time of placement of PO.



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## PURCHASE SPECIFICATION WORKSTATION PC's

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### ANNEXURE-1: CHECKLIST – OPERATOR / LINK WORKSTATION (SATA):

- DA0659450690

| SPECIFICATION:  | REQUIRE-<br>MENT   | VENDOR<br>CONFIRMATION             |
|---|--|------------------------------------|
| <b>Make:</b> DELL , HP/ COMPAQ, IBM / LENOVO – <b>Specify Model</b>   | YES  |                                    |
| <b>Type :</b> Tower / CMT - <b>Specify</b>  | YES  |                                    |
| <b>Input:</b> 100 to 240 VAC; 50/60Hz. Power Cords (suitable for Indian type sockets) to be provided.   | YES  |                                    |
| <b>Restart:</b> Must have power failure protection  | YES  |                                    |
| <b>Processor:</b> Intel Xeon E3-1200 Series (minimum 3.10GHz) or higher, Raid 0,1,5 capability)with Intel Chipset   | YES  |                                    |
| <b>RAM:</b> 4 GB (2 X 2GB symmetrical) DDR3 ECC (minimum 1333MHz) RAM, expandable to minimum 8 GB   | YES  |                                    |
| <b>Hard drive:</b> Minimum 500Gb SATA Hard Disk (7200 RPM minimum).   | YES  |                                    |
| <b>Sound:</b> Integrated Audio with in-built speakers   | YES  |                                    |
| <b>Graphics:</b> OEM recommended <b>PCI-Express Graphics</b> card with full 16X support, with minimum 512 MB RAM, supporting 1600 x 1280 resolution with true colors. Dual Output.  | YES  |                                    |
| <b>DVD ROM:</b> 16X/48X DVD-ROM Drive , must support Multi-Read operation, along with suitable driver   | YES  |                                    |
| <b>Expansion Slots:</b> Minimum 3 Nos. PCIe based slots   | YES  |                                    |
| <b>Ethernet Ports:</b> 10/100/1000 Base-T Ethernet ports <b>excluding</b> Onboard port. Addon NIC's SHOULD be from OEM.<br><b>2 NIC's on PCIe</b><br><b>OR</b><br>If Dual Onboard is available – 1 Dual Port NIC on PCIe additional | A: 2 NIC –<br>PCIe<br><br>B: Dual<br>Onboard<br>+ 1 Dual<br>Port NIC<br>PCIe | Option A<br><br>OR<br><br>OPTION B |
| <b>Ports:</b> 1 No. Standard Serial Port, 6 Nos. USB (minimum)  | YES  |                                    |
| <b>Video Ports &amp; Connectors:</b> DVI / Analog VGA ports or adapters   | YES  |                                    |
| <b>Keyboard/ Mouse</b> –USB Standard keyboard and USB optical scroll mouse with mouse pad.  | YES  |                                    |
| <b>Operating System:</b> Genuine Windows 7 32 bit downgrade to genuine Microsoft Windows XP Professional with latest service pack to be preloaded.  | YES  |                                    |
| <b>WIN XP PROFESSIONAL Recovery / IMAGE CD TO BE SUPPLIED</b> along with Windows 7 Recovery CD.   | YES  |                                    |
| <b>Browser :</b> Microsoft Internet Explorer, version 5 or above  | YES  |                                    |
| <b>Drivers:</b> All controllers to be supplied with CD having drivers suitable for Windows XP Professional / Windows 7, with required installation / set up utilities.  | YES  |                                    |
| <b>Security Feature:</b> 1.Chassis Lock   | YES  |                                    |
| <b>WARRANTY :</b> Three Years on-site comprehensive warranty  | YES  |                                    |

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## PURCHASE SPECIFICATION WORKSTATION PC's

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### ANNEXURE-2: CHECKLIST – ENGINEER / STORIAN WORKSTATION (SATA):

- DA0659450704

| REQUIREMENT:   | REQUIRE-<br>MENT  | VENDOR<br>CONFIRMATION                              |
|--|---|---|
| <b>Make:</b> DELL , HP/ COMPAQ, IBM / LENOVO - <b>Specify Model</b>  | YES   |   |
| <b>Type :</b> Tower / CMT - <b>Specify</b>   | YES   |   |
| <b>Input:</b> 100 to 240 VAC; 50/60Hz. Power Cords (suitable for Indian type sockets) to be provided.  | YES   |   |
| <b>Restart:</b> Must have power failure protection   | YES   |   |
| <b>Processor:</b> Intel Xeon E3-1200 Series (minimum 3.10GHz) or higher, Raid 0,1,5 capability)with Intel Chipset  | YES   |   |
| <b>RAM:</b> 4 GB (2 X 2GB symmetrical) DDR3 ECC (minimum 1333MHz) RAM, expandable to minimum 8 GB  | YES   |   |
| <b>Hard drive:</b> Minimum 500Gb SATA Hard Disk (7200 RPM minimum).  | YES   |   |
| <b>Sound:</b> Integrated Audio with in-built speakers  | YES   |   |
| <b>Graphics:</b> OEM recommended <b>PCI-Express Graphics</b> card with full 16X support, with minimum 512 MB RAM, supporting 1600 x 1280 resolution with true colors. Dual Output  | YES   |   |
| <b>DVD WRITER (DVD-RW):</b> 16X DVD +- RW multi-layer Drive, must support Multi-Read. Minimum software: Roxio/Nero Direct CD software ver 5 or later must be installed   | YES   |   |
| <b>DVD ROM:</b> 16X/48X DVD-ROM Drive , must support Multi-Read operation, along with suitable driver  | YES   |   |
| <b>Ethernet Ports:</b> 10/100/1000 Base-T Ethernet ports excluding Onboard port. Addon NIC's SHOULD be from OEM.<br><b>2 NIC's on PCIe</b><br><br><b>OR</b><br>If Dual Onboard is available – 1 Dual Port NIC on PCIe additional | <b>A: 2 NIC – PCIe</b><br><br><b>B: Dual Onboard + 1 Dual Port NIC PCIe</b> | <b>OPTION A</b><br><br><b>OR</b><br><b>OPTION B</b> |
| <b>Ports:</b> 1 No. Standard Serial Port, 6 Nos. USB (minimum)   | YES   |   |
| <b>Video Ports &amp; Connectors:</b> DVI / Analog VGA ports or adapters  | YES   |   |
| <b>Keyboard/ Mouse :</b> USB Standard keyboard and USB optical scroll mouse with mouse pad.  | YES   |   |
| <b>Operating System:</b> Genuine Windows 7 32 bit downgrade to genuine Microsoft Windows XP Professional with latest service pack to be preloaded.   | YES   |   |
| <b>WIN XP PROFESSIONAL Recovery / IMAGE CD TO BE SUPPLIED</b> along with Windows 7 Recovery CD.  | YES   |   |
| <b>Browser :</b> Microsoft Internet Explorer, version 5 or above   | YES   |   |
| <b>Drivers:</b> All controllers to be supplied with CD having drivers suitable for Windows XP Professional / Windows 7, with required installation / set up utilities.   | YES   |   |
| <b>Security Feature:</b> 1.Chassis Lock  | YES   |   |
| <b>WARRANTY :</b> Three Years on-site comprehensive warranty   | YES   |   |

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**ANNEXURE-3: CHECKLIST – ENGINEER / STORIAN WORKSTATION (SATA-RAID1):**

- DA0659449692

| REQUIREMENT:   | REQUIRE-<br>MENT  | VENDOR<br>CONFIRMATION                              |
|--|---|---|
| <b>Make:</b> DELL , HP/ COMPAQ, IBM / LENOVO - <b>Specify Model</b>  | YES   |   |
| <b>Type :</b> Tower / CMT - <b>Specify</b>   | YES   |   |
| <b>Input:</b> 100 to 240 VAC; 50/60Hz. Power Cords (suitable for Indian type sockets) to be provided.  | YES   |   |
| <b>Restart:</b> Must have power failure protection   | YES   |   |
| <b>Processor:</b> Intel Xeon E3-1200 Series (minimum 3.10GHz) or higher, Raid 0,1,5 capability)with Intel Chipset  | YES   |   |
| <b>RAM:</b> 4 GB (2 X 2GB symmetrical) DDR3 ECC (minimum 1333MHz) RAM, expandable to minimum 8 GB  | YES   |   |
| <b>Hard drive:</b> 2 Nos. Minimum 500Gb SATA Hard Disk (7200 RPM minimum) configured for RAID1   | YES   |   |
| <b>Sound:</b> Integrated Audio with in-built speakers  | YES   |   |
| <b>Graphics:</b> OEM recommended <b>PCI-Express Graphics</b> card with full 16X support, with minimum 512 MB RAM, supporting 1600 x 1280 resolution with true colors. Dual Output  | YES   |   |
| <b>DVD WRITER (DVD-RW):</b> 16X DVD +- RW multi-layer Drive, must support Multi-Read. Minimum software: Roxio/Nero Direct CD software ver 5 or later must be installed   | YES   |   |
| <b>DVD ROM:</b> 16X/48X DVD-ROM Drive , must support Multi-Read operation, along with suitable driver  | YES   |   |
| <b>Ethernet Ports:</b> 10/100/1000 Base-T Ethernet ports excluding Onboard port. Addon NIC's SHOULD be from OEM.<br><b>2 NIC's on PCIe</b><br><b>OR</b><br>If Dual Onboard is available – 1 Dual Port NIC on PCIe additional | <b>A: 2 NIC – PCIe</b><br><br><b>B: Dual Onboard + 1 Dual Port NIC PCIe</b> | <b>OPTION A</b><br><br><b>OR</b><br><b>OPTION B</b> |
| <b>Ports:</b> 1 No. Standard Serial Port, 6 Nos. USB (minimum)   | YES   |   |
| <b>Video Ports &amp; Connectors:</b> DVI / Analog VGA ports or adapters  | YES   |   |
| <b>Keyboard/ Mouse :</b> USB Standard keyboard and USB optical scroll mouse with mouse pad.  | YES   |   |
| <b>Operating System:</b> Genuine Windows 7 32 bit downgrade to genuine Microsoft Windows XP Professional with latest service pack to be preloaded.   | YES   |   |
| <b>WIN XP PROFESSIONAL Recovery / IMAGE CD TO BE SUPPLIED</b> along with Windows 7 Recovery CD.  | YES   |   |
| <b>Browser :</b> Microsoft Internet Explorer, version 5 or above   | YES   |   |
| <b>Drivers:</b> All controllers to be supplied with CD having drivers suitable for Windows XP Professional / Windows 7, with required installation / set up utilities.   | YES   |   |
| <b>Security Feature:</b> 1.Chassis Lock  | YES   |   |
| <b>WARRANTY :</b> Three Years on-site comprehensive warranty   | YES   |   |

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### ANNEXURE-4: CHECKLIST – OPERATOR / LINK WORKSTATION (SAS):

- DA0659450720

| SPECIFICATION:   | REQUIRE-<br>MENT   | VENDOR<br>CONFIRMATION             |
|--|--|------------------------------------|
| <b>Make:</b> DELL , HP/ COMPAQ, IBM / LENOVO – <b>Specify Model</b>  | YES  |                                    |
| <b>Type :</b> Tower / CMT - <b>Specify</b>   | YES  |                                    |
| <b>Input:</b> 100 to 240 VAC; 50/60Hz. Power Cords (suitable for Indian type sockets) to be provided.  | YES  |                                    |
| <b>Restart:</b> Must have power failure protection   | YES  |                                    |
| <b>Processor:</b> Intel Xeon E3-1200 Series (minimum 3.10GHz) or higher, Raid 0,1,5 capability)with Intel Chipset  | YES  |                                    |
| <b>RAM:</b> 4 GB (2 X 2GB symmetrical) DDR3 ECC (minimum 1333MHz) RAM, expandable to minimum 8 GB  | YES  |                                    |
| <b>Hard drive:</b> Minimum <b>450Gb SAS</b> Hard Disk (3Gb/s minimum).   | YES  |                                    |
| <b>SAS Controller :</b> <b>OEM SAS Controller card</b>   | YES  |                                    |
| <b>Sound:</b> Integrated Audio with in-built speakers  | YES  |                                    |
| <b>Graphics:</b> OEM recommended <b>PCI-Express Graphics</b> card with full 16X support, with minimum 512 MB RAM, supporting 1600 x 1280 resolution with true colors. Dual Output  | YES  |                                    |
| <b>DVD ROM:</b> 16X/48X DVD-ROM Drive , must support Multi-Read operation, along with suitable driver  | YES  |                                    |
| <b>Expansion Slots:</b> Minimum 3 Nos. PCIe based slots  | YES  |                                    |
| <b>Ethernet Ports:</b> 10/100/1000 Base-T Ethernet ports excluding Onboard port. Addon NIC's SHOULD be from OEM.<br><b>2 NIC's on PCIe</b><br><b>OR</b><br>If Dual Onboard is available – 1 Dual Port NIC on PCIe additional | A: 2 NIC –<br>PCIe<br><br>B: Dual<br>Onboard<br>+ 1 Dual<br>Port NIC<br>PCIe | OPTION A<br><br>OR<br><br>OPTION B |
| <b>Ports:</b> 1 No. Standard Serial Port, 6 Nos. USB (minimum)   | YES  |                                    |
| <b>Video Ports &amp; Connectors:</b> DVI / Analog VGA ports or adapters  | YES  |                                    |
| <b>Keyboard/ Mouse :</b> USB Standard keyboard and USB optical scroll mouse with mouse pad.  | YES  |                                    |
| <b>Operating System:</b> Genuine Windows 7 32 bit downgrade to genuine Microsoft Windows XP Professional with latest service pack to be preloaded.   | YES  |                                    |
| <b>WIN XP PROFESSIONAL Recovery / IMAGE CD TO BE SUPPLIED</b> along with Windows 7 Recovery CD.  | YES  |                                    |
| <b>Browser :</b> Microsoft Internet Explorer, version 5 or above   | YES  |                                    |
| <b>Drivers:</b> All controllers to be supplied with CD having drivers suitable for Windows XP Professional / Windows 7, with required installation / set up utilities.   | YES  |                                    |
| <b>Security Feature:</b> 1.Chassis Lock  | YES  |                                    |
| <b>WARRANTY :</b> Three Years on-site comprehensive warranty   | YES  |                                    |

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### ANNEXURE-5: CHECKLIST – ENGINEER / STORIAN WORKSTATION (SAS):

- DA0659450712

| REQUIREMENT:   | REQUIRE-<br>MENT  | VENDOR<br>CONFIRMATION                              |
|--|---|---|
| <b>Make:</b> DELL , HP/ COMPAQ, IBM / LENOVO - <b>Specify Model</b>  | YES   |   |
| <b>Type :</b> Tower / CMT - <b>Specify</b>   | YES   |   |
| <b>Input:</b> 100 to 240 VAC; 50/60Hz. Power Cords (suitable for Indian type sockets) to be provided.  | YES   |   |
| <b>Restart:</b> Must have power failure protection   | YES   |   |
| <b>Processor:</b> Intel Xeon E3-1200 Series (minimum 3.10GHz) or higher, Raid 0,1,5 capability)with Intel Chipset  | YES   |   |
| <b>RAM:</b> 4 GB (2 X 2GB symmetrical) DDR3 ECC (minimum 1333MHz) RAM, expandable to minimum 8 GB  | YES   |   |
| <b>SAS Controller :</b> OEM SAS Controller card  | YES   |   |
| <b>Sound:</b> Integrated Audio with in-built speakers  | YES   |   |
| <b>Graphics:</b> OEM recommended <b>PCI-Express Graphics</b> card with full 16X support, with minimum 512 MB RAM, supporting 1600 x 1280 resolution with true colors. Dual Output  | YES   |   |
| <b>DVD WRITER (DVD-RW):</b> 16X DVD +- RW multi-layer Drive, must support Multi-Read. Minimum software: Roxio/Nero Direct CD software ver 5 or later must be installed   | YES   |   |
| <b>DVD ROM:</b> 16X/48X DVD-ROM Drive , must support Multi-Read operation, along with suitable driver  | YES   |   |
| <b>Expansion Slots:</b> Minimum 3 Nos. PCIe based slots  | YES   |   |
| <b>Ethernet Ports:</b> 10/100/1000 Base-T Ethernet ports excluding Onboard port. Addon NIC's SHOULD be from OEM.<br><b>2 NIC's on PCIe</b><br><b>OR</b><br>If Dual Onboard is available – 1 Dual Port NIC on PCIe additional | <b>A: 2 NIC – PCIe</b><br><br><b>B: Dual Onboard + 1 Dual Port NIC PCIe</b> | <b>OPTION A</b><br><br><b>OR</b><br><b>OPTION B</b> |
| <b>Ports:</b> 1 No. Standard Serial Port, 6 Nos. USB (minimum)   | YES   |   |
| <b>Video Ports &amp; Connectors:</b> DVI / Analog VGA ports or adapters  | YES   |   |
| <b>Keyboard/ Mouse :</b> USB Standard keyboard and USB optical scroll mouse with mouse pad.  | YES   |   |
| <b>Operating System:</b> Genuine Windows 7 32 bit downgrade to genuine Microsoft Windows XP Professional with latest service pack to be preloaded.   | YES   |   |
| <b>WIN XP PROFESSIONAL Recovery / IMAGE CD TO BE SUPPLIED</b> along with Windows 7 Recovery CD.  | YES   |   |
| <b>Browser :</b> Microsoft Internet Explorer, version 5 or above   | YES   |   |
| <b>Drivers:</b> All controllers to be supplied with CD having drivers suitable for Windows XP Professional / Windows 7, with required installation / set up utilities.   | YES   |   |
| <b>Security Feature:</b> 1.Chassis Lock  | YES   |   |
| <b>WARRANTY :</b> Three Years on-site comprehensive warranty   | YES   |   |

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