



ISO  
9001:2008, 14001:2004,  
50001:2011 & OHSAS  
18000  
MAHARATNA COMPANY

**MATERIAL MANAGEMENT (PURCHASE)**  
**CENTRAL FOUNDRY FORGE PLANT, BHEL HARDWAR**  
RANIPUR, HARIDWAR (INDIA) – 249403  
Phone No. +91-1334-281277/284548, FAX No. 225892  
e-mail : [ranjank@bhelhwr.co.in](mailto:ranjank@bhelhwr.co.in); [kraj@bhelhwr.co.in](mailto:kraj@bhelhwr.co.in);  
[amitkg@bhelhwr.co.in](mailto:amitkg@bhelhwr.co.in)

**Sub:** Tender Enquiry No. 201703301 / 6115 due on <sup>13</sup> 10.17 at 2.00 PM

Dear Sir,

We are pleased to invite offer in **E-Tender (Open Tender)** as per enclosed specifications & terms and conditions for the under mentioned items

| SI No | Tender No        | Description of Material    | Qty   | Date & Time of Opening         |
|-------|------------------|----------------------------|-------|--------------------------------|
| 01    | 201703301 / 6115 | Water Ring Pump as per NIT | 1 No. | <sup>13</sup> 10.17 at 2 00 PM |

Kindly read terms and conditions. Offer not in accordance with the instructions is liable to be disqualified or ignored.

Please visit [www.bhel.com](http://www.bhel.com) or [www.bhelhwr.co.in](http://www.bhelhwr.co.in) for more details & corrigendum if any for the tender enquiry.

Offers are to be submitted online in E-tender portal at <https://bheleps.buyjunction.in/>

**Offer to be submitted only on e-procurement portal. Hard copy of offer is not required to be submitted to CFFP. Any offers received in Hard copy shall not be accepted and straightaway rejected by CFFP.**

Before proceeding for submitting quotation in e-portal, supplier to ensure that they are having a valid Digital Signature Certificate (DSC). Valid DSC refers to an Active Signing and Encryption Certificate (both), with specification Class III SHA2 2048 bit

Please arrange to fill the SRF (Supplier Registration Form) of your company **online** at our site [www.bhel.com](http://www.bhel.com) or [www.bhelhwr.co.in](http://www.bhelhwr.co.in)

Your company can fill the SRF of your company at this link: <https://supplier.bhel.in/>

Thanking You.

Yours Faithfully.

For & On behalf of CFFP, BHEL, Hardwar

  
(Amit Kumar Gupta)  
Dy. Manager (Purchase)

**Note:** Corrigendum if any shall not be published, kindly refers websites for any changes



CFFP:HWR, BHEL, Haridwar, POSTAL CODE :700091, HARDWAR, UTTARANCHAL, INDIA

## RFQ/NIT HEADER DETAIL

|                         |                            |                       |                          |
|-------------------------|----------------------------|-----------------------|--------------------------|
| ORGANIZATION NAME       | CFFP HWR, BHEL             | RFQ FLOATED UNDER THE | PURCHASE POLICY          |
| RFQ/NIT REFERENCE       | 201703301 / 6115           | POLICY                |                          |
| CODE/ENQUIRY NO         |                            | RFQ OWNER/NIT         | MR AMIT KUMAR GUPTA(Dy.  |
| RFQ/NIT TYPE            | OPEN TENDER                | OFFICER/ENQUIRY OWNER | MANAGER)                 |
| NUMBER OF ITEMS ALREADY | 1                          |                       |                          |
| ATTACHED                |                            |                       |                          |
| CURRENCY                | ANY                        |                       |                          |
| DESCRIPTION             | WATER RING PUMP AS PER NIT |                       |                          |
| DETAILED DESCRIPTION    | WATER RING PUMP AS PER NIT |                       |                          |
| NUMBER OF BID PART(S)   | 2                          | PUBLISHED DATE        | 22 Sep , 2017 3:16:27 PM |

## ATTRIBUTE(S)

| ATTRIBUTE NAME                                                 | ATTRIBUTE VALUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inspection Required                                            | Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Validity of the Offer (In days- Excluding Tender Opening Date) | 90 days                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Remarks-I                                                      | 1.Kindly submit the offer only on e-procurement portal. No need to submit hard copy of offer against this enquiry.<br>2. Offer must be submitted strictly in line with specification, terms & conditions of enquiry else offer is likely to be ignored.<br>3. All taxes/duties/levies etc. must be specified correctly in amount or in percentage in respective fields. Incomplete offer shall not be accepted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Remarks-II                                                     | The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <a href="http://www.bhel.com">http://www.bhel.com</a> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.<br>In case of rejection of material after receipt at CFFP, vendor / supplier is required to take back the rejected material at their cost within 45 days from the date of rejection memo / note. If vendor / supplier fails to take back the rejected material from CFFP within 90 days from the date of rejection memo / note, CFFP has the right to dispose off the rejected material at the risk & cost of the vendor / supplier and no further claim for the rejected material will be entertained.                                         |
| Remarks-III                                                    | Open tender documents are attached.<br><br>Conditions to break ties in landed price<br>Cases where landed price of two or more vendors are same then while ordering preference will be given to Vendor whose conditions are favorable to CFFP. If all conditions are same for vendors then the vendor whose SPR is more shall be given preference.<br>First time vendor (new vendor) or vendor who has not executed any PO in material category of tender enquiry item/s, their Supplier performance rating (SPR) will be treated as zero.<br>In case, SPR of vendors are equal, then quantity will be distributed equally between those vendors who have quoted lowest landed rate. If quantity ordered is only one piece or where quantity can't be divided equally then preference will be given to vendor whose quality rating is more. If quality rating is also same then ordering will be on vendor whose delivery rating is better. |
| Minimum Quotation Validity Required(In Days)                   | 90 (VALUE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |





CFFP HWR, BHEL, Haridwar, POSTAL CODE : 700091, HARDWAR, UTTARANCHAL, INDIA

## DATE-TIME DETAIL(S)

BID START DATE 22 Sep , 2017 3:25:09 PM BID DUE DATE 13 Oct , 2017 2:00:00 PM  
BID OPEN DATE 13 Oct , 2017 2:00:05 PM  
(SCHEDULED)

## PRE-BID DISCUSSION DETAILS

PRE-BID DISCUSSION TYPE NOT REQUIRED

## ALTERNATE BID DECRYPTOR(S)

## USER DETAILS

MR Rohit Varshney(MANAGER)  
MR RAJ KISHORE(Sr. MANAGER)  
MR AMIT KUMAR GUPTA(Dy. MANAGER)

## TERM AND CONDITION DETAIL(S) - SPECIAL TERM(S)

| SL. NO. | CATEGORY        | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | SPECIAL TERM(S) | <p>SPECIAL TERM(S)</p> <p>TEST CERTIFICATE IS REQUIRED.</p> <p>GURANTEE CERTIFICATE IS REQUIRED FOR ONE YEAR.</p> <p>EARLY DELIVERY SHALL BE ACCEPTABLE.</p> <p>ACCEPTANCE OF MATERIAL SHALL BE AFTER FINAL INSPECTION AT CFFP, BHEL, HARIDWAR.</p> <p>DELIVERY SCHEDULE:-</p> <p>FOR, Destination (Door delivery basis). Destination will be C. Store, CFFP, BHEL, Haridwar.</p> <p>DELIVERY IN ONE LOT WITHIN 60 DAYS FROM P.O. DATE</p> <p>TEST CERTIFICATE IS REQUIRED.</p> <p>GURANTEE CERTIFICATE IS REQUIRED FOR ONE YEAR.</p> <p>E&amp;C TO BE DONE BY THE VENDOR.</p> <p>SPECIFICATIONS ARE ENCLOSED.</p> <p>EARLY DELIVERY SHALL BE ACCEPTABLE.</p> <p>ACCEPTANCE OF MATERIAL SHALL BE AFTER FINAL INSPECTION AT CFFP, BHEL, HARIDWAR.</p> <p>DELIVERY SCHEDULE:-</p> <p>FOR, Destination (Door delivery basis). Destination will be C. Store, CFFP, BHEL, Haridwar.</p>                                                                                                                                                                                 |
| 2       | SPECIAL TERM(S) | <p>SPECIAL TERM(S)</p> <p>GST WILL BE APPLICABLE AS PER GOVT. RULES AT THE TIME OF DISPATCH.</p> <p>TAXES AND DUTIES WILL BE EXTRA AS PER GST RULES.</p> <p>In case of any issue related to GST &amp; pertaining to CFFP, BHEL, kindly send query on mail id: <a href="mailto:gst.cffp@bhelhwr.co.in">gst.cffp@bhelhwr.co.in</a></p> <p>GST WILL BE REIMBURSED TO VENDOR AGAINST GST COMPLIANT INVOICE, FILLING OF ONLINE RETURN AND DEPOSIT OF SAME TO GOVT. ACCOUNT.</p> <p>KINDLY CONFIRM THE RA ACCEPTANCE AS PER ATTACHED ANNEXURE.</p> <p>GST WILL BE APPLICABLE AS PER GOVT. RULES AT THE TIME OF DISPATCH.</p> <p>TAXES AND DUTIES WILL BE EXTRA AS PER GST RULES.</p> <p>In case of any issue related to GST &amp; pertaining to CFFP, BHEL, kindly send query on mail id: <a href="mailto:gst.cffp@bhelhwr.co.in">gst.cffp@bhelhwr.co.in</a></p> <p>GST WILL BE REIMBURSED TO VENDOR AGAINST GST COMPLIANT INVOICE, FILLING OF ONLINE RETURN AND DEPOSIT OF SAME TO GOVT. ACCOUNT.</p> <p>KINDLY CONFIRM THE RA ACCEPTANCE AS PER ATTACHED ANNEXURE.</p> |





CFFF HWR, BHEL, Haridwar, POSTAL CODE :700091, HARDWAR, UTTARANCHAL, INDIA

|   |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | SPECIAL TERM(S) | <p>SPECIAL TERM(S)</p> <p>KINDLY SUBMIT THE OFFER AS PER TENDER ENQUIRY , PQC , SPECIFIACATION, SPECIFICATION.</p> <p>ALSO ATTACH COPY OF ACCEPTANCE FOR PQC, SPECIFICATION, ANNEXURE.</p> <p>KINDLY CONFIRM THE PAYMENT TERMS CONDITIONS AS MENTIONED IN ANNEXURE.</p> <p>/</p> <p>KINDLY SUBMIT THE OFFER AS PER TENDER ENQUIRY , PQC , SPECIFIACATION, SPECIFICATION.</p> <p>ALSO ATTACH COPY OF ACCEPTANCE FOR PQC, SPECIFICATION, ANNEXURE.</p> <p>KINDLY CONFIRM THE PAYMENT TERMS CONDITIONS AS MENTIONED IN ANNEXURE.</p> |
|---|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## RFQ SPECIFIC REQUIRED ATTACHMENT(S)

## PREQUALIFICATION

| SL. NO. | SUPPORTING DOCUMENT NAME                                       | MANDATORY | ALLOW EXEMPTION | GROUP      |
|---------|----------------------------------------------------------------|-----------|-----------------|------------|
| 1       | PQC                                                            | YES       | NO              | EXPERIENCE |
| 2       | SRF FOR NEW VENDOR                                             | NO        | NO              | PERSONAL   |
| 3       | KINDLY ATTACH INVOICE COPY AND C FORM AGAINST PQC OF PO PLACED | NO        | NO              | FINANCIAL  |

## RFQ/NIT ITEM DETAILS

| SL. NO. | CODE              | DESCRIPTION                                                                | QUANTITY                       | RFQ/NIT U.O.M | OFFER U.O.M |
|---------|-------------------|----------------------------------------------------------------------------|--------------------------------|---------------|-------------|
| 1       | FF8122502016      | WATER RING PUMPWATER RING PUMP AS PER SPECIFICATION NO.: SMS/2017/ WRP-01. | 01.00                          | NO            | NO          |
|         | ATTRIBUTE DETAILS | ATTRIBUTE NAME                                                             | ATTRIBUTE VALUE                |               |             |
|         |                   | Lot 1                                                                      | 1                              |               |             |
|         |                   | Lot Date                                                                   | 31-Dec-17 2 month from PO date |               |             |
|         |                   | Lot Qty                                                                    | 1                              |               |             |

## IMPORTANT NOTICE

PLEASE READ THE FOLLOWING ATTACHMENT(S) [SEPARATELY DOWNLOADABLE] ALONG WITH THIS RFQ/NIT/ENQUIRY .

## RFQ/NIT/ENQUIRY - ATTACHMENTS

| LABEL                           | FILE NAME                            |
|---------------------------------|--------------------------------------|
| TENDER ENQUIRY CONDITION FINAL  | TENDER ENQUIRY CONDITION FINAL.pdf   |
| 4 MSE Suppliers                 | 4 MSE Suppliers.pdf                  |
| CA CERTIFICATE FOR MSE VENDOR   | CA CERTIFICATE FOR MSE VENDOR.pdf    |
| Reverse Auction terms conditons | Reverse Auction terms conditons.docx |
| Commerical term                 | Commerical term.pdf                  |
| PQC                             | PQC.pdf                              |
| SPECIFICATION                   | SPECIFICATION.pdf                    |
| NIT Information Copy            | NIT Information Copy.pdf             |



**Commercial Terms****Annexure: I**

Item - Water Ring Pump

Qty - 01 No.

Confirmation/comments on the conditions given below are mandatory. Please confirm the following or else your offer is liable to be rejected.

| Sr. No. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Vendor Confirmation |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| 1       | Material shall be supplied as per tender enquiry no 201703301/6115 in all respects without any deviation. Point wise reply / confirmation of attached specification no. SMS/2017/WRP-01 is required to be submitted along with offer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |
| 2       | <b>Pointwise confirmation of PQC of Water Ring Pump is required along with offer.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |
| 3       | Vendor to provide Guarantee/Warranty for 18 months from the date of receipt or twelve months from the date of commissioning, whichever is earlier.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                     |
| 4       | Final inspection will be done after receipt of material at CFFP, BHEL, Haridwar.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |
| 5       | <b>Delivery Term:</b><br>a) For Indian supplier: FOR Destination basis, destination being Stores/CFFP/BHEL Haridwar.<br>b) For Foreign supplier: Delivery CIF, Mumbai. - Date of B / L.<br><br>Quoted rate should be inclusive of the charges like freight, service tax on freight, insurance, packing & forwarding etc. for the delivery term given above or else proper loading.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                     |
| 6       | <b>Payment Terms:</b><br><b>Indigenous Supplier:</b> 80% payment of Supply value plus 100% Taxes & Duties shall be made within 45 days from the date of receipt of material at CFFP / BHEL. Balance 20% of Supply value will be paid after commissioning of equipment at CFFP,BHEL Haridwar.<br><b>For foreign supplier:</b> 80 % Payment of Supply value plus 100% Taxes & Duties shall be made through USANCE L/C on 70th day of bill of lading date ( B/L date) and balance 20% of supply value of purchase order will be through trunk transfer after commissioning of equipment at CFFP,BHEL Haridwar<br><br><b>Note :</b> Any deviation, in Payment Terms by bidder w.r.t. tender conditions following loading shall be applicable:<br>(a) Base rate of SBI (as applicable on the date of bid opening; Techno commercial bid opening in case of two part bids) + 6 %, shall be considered for loading for the period of relaxation sought by bidders..<br>(b) On account of payment through LC, Bank charges shall also be loaded for the deviation in<br>(i) opening of LC by BHEL and<br>(ii) period and amount of LC w.r.t. above NIT terms. |                     |
| 7       | <b>Currency of offer:</b><br><b>Indian Vendor:</b> Only in Indian Rupee<br><b>Foreign Vendor:</b> Only in USD /EURO / POUND STERLING/YEN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                     |
| 8       | <b>Validity of offer:</b> Minimum 180 days from tender opening date.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 9  | Prices shall be firm till execution of Order.                                                                                                                                                                                                                                                                                                                                                                                        |  |
| 10 | Provide name of contact person,<br>mobile no. & email address.                                                                                                                                                                                                                                                                                                                                                                       |  |
| 11 | <b>LATE DELIVERY PENALTY CLAUSE (LD):</b> Penalty for late delivery shall be applicable @ 0.5% per week and part thereof subject to a maximum of 10% of total P.O. value (Total material cost + packing and forwarding + freight ) from the date of scheduled delivery of Purchase Order.                                                                                                                                            |  |
| 12 | <b>Settlement of Disputes:</b><br><b>For Foreign Vendors:</b> Settlement of disputes through arbitration shall be in accordance with Arbitration Rules of Conciliation and Arbitration of the ICC, Paris. The venue of arbitration shall be Delhi. The courts of Delhi shall have exclusive jurisdiction.<br><b>For Indigenous Vendor:</b> The venue of arbitration shall be Haridwar Courts, which will have exclusive jurisdiction |  |
| 13 | Delivery of material will be required within 02 months from the date of purchase order.                                                                                                                                                                                                                                                                                                                                              |  |
| 14 | Unregistered vendors have to fill SRF ( Supplier Registration Form) of their company online at our website <a href="http://www.bhel.com">www.bhel.com</a> or <a href="http://www.Bhelhwr.co.in">www. Bhelhwr.co.in</a> . They can fill the SRF of their company at this site link : <a href="https://supplier.bhel.in/">https://supplier.bhel.in/</a>                                                                                |  |
| 15 | BHEL will prefer to deal directly with foreign vendor/ original manufacturer. In case, vendor engages any Indian agent or take service of any Indian agent, copy of agent agreement required along with offer in line with Annexure-IV attached.                                                                                                                                                                                     |  |
| 16 | <b>Risk Purchase:</b> In case of delayed/defective supplies or non-fulfillment of any other terms & conditions given in the purchase order, the purchaser may cancel the purchase order and may also make the purchase of such material at the risk & cost of supplier.                                                                                                                                                              |  |
| 17 | <b>Conditions for opening of Price :-</b><br><b>As per Reverse Auction clause attached along with tender documents. Kindly read the same carefully and provide your acceptance for the same.</b>                                                                                                                                                                                                                                     |  |
| 18 | - In case any column is left blank, it shall be deemed to be accepted by vendor.<br>- If any difference is found for any term and condition in the offer and this annexure "I", the terms quoted in this annexure 'I' shall be deemed as final and binding on vendor.<br>- Evaluation shall be on the basis of delivered cost at CFFP (i.e.) "Landed cost Input Tax Credit (ITC)".                                                   |  |
|    | <b>Note:</b> Attach separate sheet for additional information if necessary. The above terms & conditions supersede the terms & conditions found contradictory written elsewhere in the tender enquiry.                                                                                                                                                                                                                               |  |

Date: 14.09.17

**PRE-QUALIFICATION CRITERIA FOR WAER RING PUMP**  
**(INDENT NO.: 20170330, MAT CODE: FF8122502016)**

1. Vendor must be a manufacturer or agent/dealer of manufacturer.
  - 1.1 Vendor's registration copy as a manufacturer must be submitted along with offer.
  - 1.2 In case of agent/dealer of manufacturer, authorization certificate from the manufacturer along with Vendor's registration copy as a manufacturer must be submitted along with offer.
2. Vendor must have executed minimum 1 Nos. of purchase order of water ring vacuum pump of suction capacity minimum 2500 cubic meter per Hr., in any industry in last 5 years (period 01.04.12 to 31.03.17), copy of purchase order must be accompany with offer.
3. Name, Designation & contact details (Phone, Fax no. and Email add.) of at least two customers where Water Cooled Cable has been supplied in last 5 years.

Note: Water Ring Pump to be supplied as per Specification No.: SMS/2017/WRP-01.

\*Clause no. 1 & 2 are mandatory for technical evaluation of offer.

\*\* Clause no. 3 may be asked by the vendor to confirm but may not be considered for technical evaluation.

STEEL MELTING SHOP  
CFFP/BHEL-HARIDWAR

Specification No.: SMS/2017/WRP-01

**SPECIFICATION OF WATER RING VACUUM PUMP**

**A. Application:**

- i) Water Ring Pump will be used to suck Fumes and gases from Liquid Metal (Temp. of Liquid Metal will be 1600 Deg C). Temperature of Fume will be 45 deg C.
- ii) Temperature of feed water is 25 Deg C & Temperature of Discharge water in existing WRP is 35 Deg C

**B. Item Details:**

Water Ring Pump unit will be consisted of Pump (1No.), Motor (1No.), Accessories (1 Set) & Spares. Details are as under:

| Water Ring Vacuum Pump |                                              |                                |
|------------------------|----------------------------------------------|--------------------------------|
| 01                     | Minimum Suction capacity (with open suction) | 3000 mtr <sup>3</sup> /Hr      |
| 02                     | Vacuum to be achieved                        | Less than or equal to 115 Torr |
| 03                     | Casing Body                                  | CI as per IS 210 FG 260        |
| 04                     | Shaft Sleeve                                 | SS 304                         |
| 05                     | Drive Arrangement with Motor                 | Direct Coupling / V Belt       |

| Motor for Water Ring Vacuum Pump |                   |                                  |
|----------------------------------|-------------------|----------------------------------|
| 01                               | Voltage           | 3ø, 415V+/-10%V, 50Hz AC         |
| 02                               | KW                | 125 KW to 150KW                  |
| 03                               | Energy Efficiency | IE3 (Certificate to be provided) |
| 04                               | Insulation        | Class F, Temp Raise to B Class   |
| 05                               | Protection        | IP 55                            |
| 06                               | Mounting          | Foot Mounted                     |

| Accessories |                                                           |                                             |        |
|-------------|-----------------------------------------------------------|---------------------------------------------|--------|
| 01          | Vacuum Gauge- 4" Dia - 0 to 760 Torr                      |                                             | 01 No. |
| 02          | Water Pressure Gauge - 4" Dia 0 to 2.1 Kg/Cm <sup>2</sup> |                                             | 01 No. |
| 03          | Water Line with S.S. Ball Valve                           |                                             | 01 No. |
| 04          | Base Frame for Pump (M.S.)                                |                                             | 01 No. |
| 05          | Suction Manifold (M.S.)                                   |                                             | 01 No. |
| 06          | Discharge Manifold (M.S.)                                 |                                             | 01 No. |
| 07          | Silencer (M.S.)                                           |                                             | 01 No. |
| 08          | Y Type Strainer for Water Line.                           |                                             | 01 No. |
| 09          | For V Belt Drive                                          | V Belts Set                                 | 01 Set |
|             |                                                           | Pulleys for Pump (C.I.) fitted with pump.   | 01 No. |
|             |                                                           | Pulleys for Motor (C.I.) fitted with motor. | 01 No. |
|             |                                                           | V-Belt Guard (M.S.)                         | 01 No. |

|  |                           |                                                    |        |
|--|---------------------------|----------------------------------------------------|--------|
|  |                           | Slide Rail Arrangement with Belt Tightening Screw. | 01 No. |
|  | For Direct Coupling Drive | Coupling for Pump (C.I) fitted with pump.          | 01 No. |
|  |                           | Coupling for Motor (C.I) fitted with Motor.        | 01 No. |
|  |                           | Recommended Coupling Bolt                          | 01 Set |
|  |                           | Rubber Bush for Coupling Bolt                      | 01 Set |

| Spares |                           |                               |        |
|--------|---------------------------|-------------------------------|--------|
| 01     | For V Belt Drive          | V Belts Set                   | 02 Set |
|        | For Direct Coupling Drive | Recommended Coupling Bolt     | 02 Set |
|        |                           | Rubber Bush for Coupling Bolt | 02 Set |

**C. Information to be provided by the vendor:**

| Sl/No. |                       | Unit | Data to be provided by the vendor |
|--------|-----------------------|------|-----------------------------------|
| 01     | Water Consumption     | LPM  |                                   |
| 02     | Pump operating speed  | RPM  |                                   |
| 03     | Motor Operating Speed | RPM  |                                   |

**D. Confirmation to be given by the vendor:**

| Sl/No. |                                                                                                                                             | Confirmation by the vendor |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 01     | WRP unit must be designed for the Applications as states above in Clause 'A'.                                                               |                            |
| 02     | Erection and commissioning to be done by the party.                                                                                         |                            |
| 03     | All the Civil related works for E&C will be in the scope of BHEL. Party has to submit Foundation Drawing 15 days before supply of material. |                            |
| 04     | Guarantee/Warrantee for 18 months from the date of receipt of 12 months from date of commissioning, whichever is earlier.                   |                            |