

An ISO 9001 Company

## **Bharat Heavy Electricals Limited**

(High Pressure Boiler Plant)
Tiruchirappalli – 620014, TAMIL NADU, INDIA
CAPITAL EQUIPMENT/ MATERIALS MANAGEMENT

| ENQUIRY |                        | Phone: +91 431 257 76 53            |
|---------|------------------------|-------------------------------------|
|         |                        | Fax : +91 431 252 07 19             |
| ı       | NOTICE INVITING TENDER | Email: <u>skaruna@bheltry.co.in</u> |
|         |                        | l                                   |

Web : <u>www.bhel.com</u>

TWO PART BID
Tender to be submitted in two parts.

Enquiry Number: Date: quotation: 28.07.2011

You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.

Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 hrs on the Date of tender opening.

| Item | Description                                                                                                                                                                                            | Quantity |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 10   | Hydraulic System for CPE as per the technical specification, general guidelines instructions & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in) | 1 Set    |

Important points to be taken care during submission of offer

- 1. The Drawings as per the list mentioned in the Point No. 29 are available with Material Management / Capital Equipment / Purchase Department. Interested Parties can collect the drawings from the above said Department.
- 2. The Drawings collected shall be returned along with the offer, since it is BHEL property.
- 3. A Declaration in this regard duly signed by an authorized official of vendor shall be attached along with the offer. The Drawings shall not be copied or given to any other company / consultant/ sub vendor of yours without specific written permission from BHEL.
- 4. In case of an order and the Drawings is attached with the order shall also be returned to BHEL after supply is completed.
- 5. Checklist for acceptance of commercial terms and conditions to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
- 6. Subsequent to the hosting of this Enquiry, any corrigendum to the Enquiry that may be hosted in the BHEL Web-site as well as Government Tenders-portal shall be viewed by the vendors regularly to know the details of corrigendum. In case if any vendor without seeing the corrigendum quoted as per original Enquiry and intimate that they have wrongly quoted, their offer will not be considered and hence rejected. However as per the existing Policy of BHEL appropriate action will be taken on them in this regard.

BHEL's General guidelines / instructions (refer MM/CE/GT/001) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site <a href="http://www.bhel.com">http://www.bhel.com</a> or from the Government tender website <a href="http://tenders.gov.in">http://tenders.gov.in</a> (public sector units > Bharat Heavy Electricals Limited page) under Enquiry referred above.

Tenders should reach us before 14:00 hours on the due date Tenders will be opened at 14:30 hours on the due date Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present

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Yours faithfully,
For BHARAT HEAVY ELECTRICALS LIMITED

Manager MM Capital Equipment

S.KARUNANIDHY

Manager
MM / Capital Equipment
BHEL. TRICHY-620 014

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## Scope of Supply for Hydraulic power pack and valve stands

| SI. No. | <b>Description</b>                                                                                                                                                                                                                                                |  |  |  |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| 1       | Scope includes supply, erection & commissioning of NINE Hydraulic Circuits as per the Drawings attached, should be of manifold /stacking valve construction with minimum number of pipes and pipe joints with easy accessibility of components for maintenance.   |  |  |  |
| 2       | Type of Oil – Servo system 68 or Indian equivalent                                                                                                                                                                                                                |  |  |  |
| 3       | Before manufacturing, the design of Power pack and Valve stands should be approved by BHEL                                                                                                                                                                        |  |  |  |
| 4       | The Tank, Pumps and related Accessories should be located in cellar. The valve blocks should be located in various locations where the circuits required by BHEL with easy accessibility of components for maintenance                                            |  |  |  |
| 5       | Pipe lines interconnecting one circuit to another and pipe lines connecting the actuators from valve stands should be laid properly with suitable clamps with minimum joints. Lay out should be acceptable by BHEL                                                |  |  |  |
| 6       | All Pumps, Valves, Pressure switches, Accumulators, Accessories, etc. in the system should be of Rexroth / Vickers or equivalent reputed make acceptable to BHEL (Details to be submitted). Capacities and sizes of components should be as per Circuit Drawings. |  |  |  |
| 7       | Filter elements in Duplex / Standby filter units should be reusable type. The filter unit should be of Rexroth / Vickers / Hydac / Parker or any other equivalent reputed make acceptable to BHEL (Details to be submitted)                                       |  |  |  |
| 8       | Motors should be of Siemens , ABB, Bharat Bijlee or equivalent reputed make acceptable to BHEL (Details to be submitted)                                                                                                                                          |  |  |  |
| 9       | The flexible hoses used in the system should be of Gates, Monuli or equivalent make acceptable to BHEL (Details to be submitted)                                                                                                                                  |  |  |  |
| 10      | Heat exchanger for oil cooling system should be of reputed make acceptable to BHEL (Details to be submitted).                                                                                                                                                     |  |  |  |
| 11      | Heating arrangement shown in the drawing may be deleted as the same is not required for our climatic condition                                                                                                                                                    |  |  |  |
|         | The Pressure gauges used in the system should be Glycerine filled ones and to be provided as per the Drawing.                                                                                                                                                     |  |  |  |
| 12      | All accumulators in the system should be of Nitrogen filled with replaceable bladder.                                                                                                                                                                             |  |  |  |
| 13      | wherever elements are combined in to a block the same is to be explicitly mentioned in the offer                                                                                                                                                                  |  |  |  |
| 14      | Control voltage for solenoids of valves should be of 24 Volt DC with manual overrides and LED light indication                                                                                                                                                    |  |  |  |

| 15   | Power and control supply for motor operation is in scope of BHEL. Control supply for solenoid valve operation which requires 24 V DC is in scope of BHEL. However for proportional valves and any other special valve power supply (230 V AC or 24 V DC) will be provided by BHEL. Required electrical and electronic hardware for valve control is in the scope of vendor. |  |  |  |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| 16   | Each valve stand should be equipped with Prewired junction boxes                                                                                                                                                                                                                                                                                                            |  |  |  |
| 17   | All components in the hydraulic power pack should be provided with identification numbers as per the circuit and should be pasted with metallic identification number plates                                                                                                                                                                                                |  |  |  |
| . 18 | Suitable leakage oil collection metallic tray is to be provided wherever                                                                                                                                                                                                                                                                                                    |  |  |  |
| 19   | All pipe lines should be painted with standard colour coding accepted internationally for hydraulic system                                                                                                                                                                                                                                                                  |  |  |  |
| 20   | All pipe / hose end fittings should be of standard weld nipple with suitable 'O'- rings. No ferrule joint is to be used. All threaded connection should be of BSP                                                                                                                                                                                                           |  |  |  |
| 21   | All elements shown in the drawings are in the scope of vendor, except the actuators. Only actuators are in the scope of BHEL. They are shown in drawing for reference.                                                                                                                                                                                                      |  |  |  |
| 22   | The Power pack should be designed taking into account the energy efficiency                                                                                                                                                                                                                                                                                                 |  |  |  |
| 23   | All pipelines & hoses are in the scope of vendor                                                                                                                                                                                                                                                                                                                            |  |  |  |
| 24   | All oil pipe lines should be of seamless steel and should undergo pickling process and components and pipe lines should be of dust free.                                                                                                                                                                                                                                    |  |  |  |
| 25   | Bill of material shall be prepared and enclosed along with the offer.                                                                                                                                                                                                                                                                                                       |  |  |  |
| 26   | During commissioning First fill oil (SS68) will be supplied by SSTP/BHEL                                                                                                                                                                                                                                                                                                    |  |  |  |
| 27   | Separate rate shall be quoted for supply quantity & erection portion                                                                                                                                                                                                                                                                                                        |  |  |  |
| 28   | In addition to supply & erection rates for components (power pack & valve stand etc.), supplier shall also quote unit rate in measureable unit for supply & erection of pipe lines                                                                                                                                                                                          |  |  |  |
| 29   | List of drawing is enclosed (29 Nos.)                                                                                                                                                                                                                                                                                                                                       |  |  |  |
| 1    |                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |

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## List of Drawing for Hydraulic system

| Circuit   | BHEL Drawing No:                       | Sheet No.       | . Description                                                                                                                                      |  |
|-----------|----------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--|
|           | 2-7-1123-40-08021                      | Sheet No: 1/4   |                                                                                                                                                    |  |
| Circuit 1 | 2-7-1123-40-08022                      | Sheet No: 2/4   | <b>T</b>                                                                                                                                           |  |
|           | 2-7-1123-40-08023                      | Sheet No: 3/4   | Tank and Pumps Circuit                                                                                                                             |  |
|           | 2-7-1123-40-08024                      | Sheet No: 4/4   |                                                                                                                                                    |  |
| Circuit 2 | 1-7-1123-40-08022                      | Short No. 4/00  | Ejector to scrap, Cross transfers inlet,                                                                                                           |  |
|           |                                        | Sheet No:1/23   | intermediate and behind RHF, Hollow                                                                                                                |  |
|           | 1-7-1123-40-08023                      | Sheet No:2/23   | bloom stopper                                                                                                                                      |  |
| Circuit 3 | 1-7-1123-40-08024                      | Sheet No:3/23   | Entry pusher                                                                                                                                       |  |
|           |                                        |                 |                                                                                                                                                    |  |
|           | 1-7-1123-40-08025                      | Sheet No:4/23   | Drum pusher down (lower), Drum                                                                                                                     |  |
|           | 1-7-1123-40-08026                      | Sheet No:5/23   | balancing (upper), Feed angle adjusting                                                                                                            |  |
| Circuit 4 | 1-7-1123-40-08027                      | Sheet No:6/23   | + clamping upper and lower, Roll stand                                                                                                             |  |
|           | 1-7-1123-40-08028                      | Sheet No:7/23   | cap moving, Drum clamping (Upper and                                                                                                               |  |
|           | 1-7-1123-40-08029                      | Sheet No:8/23   | lower), Balance cylinder build in housing,<br>Carriage clamping vertical, Carriage                                                                 |  |
|           | 1-7-1123-40-08030                      | Sheet No:9/23   | moving and Build in housing vertical                                                                                                               |  |
|           | 1-7-1123-40-08031                      | Sheet No:10/23  | adjustment                                                                                                                                         |  |
|           | 1-7-1123-40-08032                      |                 |                                                                                                                                                    |  |
|           |                                        | Sheet No:11/23  | Three Roller guide 2 & 3, Pinch Roll, Spindle lower and upper support move in and move out, raising and lowering, drive for Transport roller 1 - 5 |  |
| Circuit 5 | 1-7-1123-40-08033                      | Sheet No:12/23  |                                                                                                                                                    |  |
| on out o  | 1-7-1123-40-08034                      | Sheet No:13/23  |                                                                                                                                                    |  |
|           | 1-7-1123-40-08035<br>1-7-1123-40-08036 | Sheet No:14/23  |                                                                                                                                                    |  |
|           | 1-7-1123-40-08036                      | Sheet No:15/23  |                                                                                                                                                    |  |
|           | 1-7-1123-40-08037                      | Sheet No:16/23  |                                                                                                                                                    |  |
| Circuit 6 | 1-7-1123-40-08038                      | Sheet No:17/23  | Three roller guides, Transport rolls                                                                                                               |  |
|           | 1-7-1123-40-08039                      | Sheet No: 18/23 | gaides, FransportTolls                                                                                                                             |  |
|           |                                        |                 | Brake Drive unit Thrust block Thrust                                                                                                               |  |
| Circuit 7 | 1-7-1123-40-08040                      | Sheet No:19/23  | Brake Drive unit Thrust block, Thrust block clamping, Balancing axial adjusting,                                                                   |  |
|           | 1-7-1123-40-08041                      | Sheet No:20/23  | Bloom stopper, Thrust block rope, Rope supporting carriage                                                                                         |  |
|           | 1-7-1123-40-08042                      | Sheet No:21/23  |                                                                                                                                                    |  |
| Circuit 8 | 1-7-1123-40-08043                      | Sheet No:22/23  | Transport SWW (Take over levers and                                                                                                                |  |
|           | 1-7-1123-40-08044                      | Sheet No:23/23  | Hollow bloom stopper)                                                                                                                              |  |
|           |                                        |                 |                                                                                                                                                    |  |
| Circuit 9 | 1-7-1124-40-08045                      | Sheet No: 01/02 | Crimping Press                                                                                                                                     |  |
|           | 2-7-1124-40-08027                      | Sheet No: 02/02 |                                                                                                                                                    |  |

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