



Tender no: BHEL / COP / STE-TE / EOI / 2022-23

Due Date: 05.02.2023

Notice for Expression of Interest for empanelment of New Vendors

The Heavy Electrical Equipment Plant (HEEP) located in Haridwar, is one of the major manufacturing plants of BHEL. The core business of HEEP includes design and manufacture of large steam and turbo generators, condenser and so on.

We are looking for reputed vendors having capability to manufacture & supply Cross Over Pipe Assembly for Steam Turbine Application.

Contact persons:

Mr. Alok Bhaskar
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Only Technical BID along with the documents required as per Annexure-I shall be submitted to participate against this EOI.

Important Date & Time:

- Enquiry Issue Date: 07.01.2023
- Last Date of Tender Documents Download: 04.02.2023 (01:45 PM)
- Last Date of Tender Document Submission: 04.02.2023 (before 1:45 PM)
- Tender Opening Date: 05.02.2023 (2:00 PM)

Essential Instructions:

- Expression of Interest shall be published through NIC portal and all interested vendors have to submit the bid electronically through NIC portal only. If any offer received from vendor manually, it shall be ignored.
- The notification shall be published on www.bhel.com and <https://hwr.bhel.com>
- EMD & Tender fee are not applicable.
- The Quotation should be from the Principal / Original Manufacturer, failing which the quotation may likely to be ignored. In Case the quotation is submitted through agent, the quotation must accompany original authorization letter.
- Amendments / Corrigendum, if any, will be hosted on NIC portal only.



Annexure-I

**Expression of Interest
For
Manufacturing and Supply of Cross Over Pipe (COP)
along with Compensators for Steam Turbine
Application**

EOI No.: BHEL / COP / STE-TE / EOI / 2022-23

Document No. COP-EOI-01-2022

**BHARAT HEAVY ELECTRICALS LIMITED
HEAVY ELECTRICAL EQUIPMENT PLANT
HARIDWAR-249403, INDIA**



DISCLAIMER

All information contained in this EOI provided / clarified are in good interest and faith. The information contained in this Expression of Interest document or subsequently provided to Applicant(s), whether verbally or in documentary or any other form, by or on behalf of BHEL, is provided on the terms and conditions set out in this EOI and such other terms and conditions subject to which such information is provided.

The purpose of this EOI is to provide interested parties with information that may be useful for development of experienced vendors for supply of Cross over Pipe Assemblies with Bellows etc. This EOI is not an offer by BHEL to the prospective Applicant(s) or any other person. This EOI is neither intended nor shall it be construed as creating or requiring any ongoing or continuing relationship or commitment with any party or person. This is not an offer or invitation to enter into an agreement of any kind with any party.

Though adequate care has been taken in the preparation of this EOI document, the interested firms shall satisfy itself that the document is complete in all respects. The information is not intended to be exhaustive. Interested Agencies are required to make their own enquiries and assumptions wherever required. Intimation of discrepancy, if any, should be given to the specified office immediately. If no intimation is received by this office by the date mentioned in the document, it shall be deemed that the EOI document is complete in all respects and firms submitting their interest are satisfied with the EOI Document in all respects.

The issue of this EOI does not imply that BHEL is bound to select and shortlist Applicant(s) for next stage or to enter into any agreement(s) with any Applicant(s). BHEL reserves all right to reject any applications submitted in response to this EOI document at any stage without assigning any reasons thereof. BHEL also reserves the right to withhold or withdraw the process at any stage. Neither BHEL nor its employees and associates will have any liability any loss, expense or damage which may arise from or be incurred or suffered in connection with anything contained in this EOI document or any matter deemed to form part of this EOI document, the information and any other information supplied by or on behalf of BHEL. BHEL accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance/use of any statements/information contained in this EOI by the Applicant. BHEL is not making any representation or warranty, express or implied, as to the accuracy or completeness of any information/statements made in this EOI.

The Applicant shall bear all its costs associated with or relating to the preparation and submission of its Application including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by BHEL or any other costs incurred in connection with or relating to its Application. All such costs and expenses will remain with the Applicant and BHEL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Applicant in preparation or submission of the Application, regardless of the conduct or outcome of the EOI.



1. Description

Above assemblies of Steam Turbine are used as a carrier of steam from one Turbine to other Turbine. These assemblies consists of critical fabricated sub-assemblies of compensators and pipings. Compensators (Mettalic Expansion Bellows) are hydraulically formed and very critical in nature. These compensators absorb thermal expansion & contraction occuring due to heated steam passing through these assemblies at different operating conditions of temperature and pressure.

2. Qualification Criteria

The parties meeting the below mentioned technical criteria shall be considered for further development of vendor for Cross Over Pipe Assemblies with Bellows for Steam Turbine sets as per the BHEL specification / Drawings / Technical delivery conditions. Supplier should note that only “Hydraulically formed” bellows are required and all the convolutions of bellow should be manufactured in one go only using suitable die.

A. Technical Criteria :

1. Supplier should have experience of manufacturing and supply of fully finished “Cross over Pipe Assembly with Bellows” to Thermal Power Plant of Steam Turbine application / OEM of Steam Turbine manufacturer having Pipe diameter DN1800 and above. Supplier must have supplied at least 1 nos. of complete “Cross Over Pipe Assembly with Bellows” in the last 7 years (As on date of issue of EOI). Bellows used should be of LYRA Profile and hydraulically formed.

In support of the above specified experience requirement, supplier has to furnish details of two Cross over Pipe Assembly with LYRA profile Bellows in the format given below:

Sl. No.	Cross Over Pipe Assembly with Compensators (i.e. Bellows) Size (Max. Diameter of Pipe, Maximum diameter of Bellow, Length & weight of fabricated COP Assembly)	Size (DN) of Bellow (Compensator) of LYRA Profile	Name and Address of customer	P.O. Number & Year of supply
01				
02				

Supplier has to submit documentary evidence in support of above experience:

- i. Purchase Order Copy
- ii. Dispatch documents of above Supply

- iii. All test certificates pertaining to above supply
The correlation of test certificates with purchase order referred in support of experience has to be ensured by supplier.
2. From the above supply “One Cross Over Pipe Assembly with Bellows” shall be under working condition at steam turbine thermal power plant & respective customer certificate in support of satisfactory operation is to be submitted.
3. Supplier to furnish documents/ photographs which clearly specifies the facility for manufacturing of hydraulically formed Lyra profile bellows at their works for DN1800 or above.
4. Supplier should have in-house facility to conduct destructive Tests (Squirm, Meridional Yield & Rupture test & Fatigue Life Cycle Test) on Compensators with DN1800 & above as per EJMA. For this Party to submit following documents :
 - i. Test Facility set up Photographs for Squirm, Meridional Yield & Rupture test & Fatigue Life Cycle Tests.
 - ii. Type Test Procedure along with calculation for Squirm, Meridional Yield & Rupture test & Fatigue Life Cycle Test duly approved. (Approved by any Customer)
 - iii. Successful Type Test Reports with photographs for Squirm, Meridional Yield & Rupture test & Fatigue Life Cycle Test for 10,000 Cycles & above duly approved. (Witnessed & Approved by Customer / Third Party).
5. Supplier should have in-house facility to conduct Non-destructive Tests (Radiographic Test, Ultrasonic test (UT), Dye Penetrant test (DPT) on Compensators. For this Party to submit Test certificate for all above tests conducted and duly witnessed by Third Party / Customer for any Compensator.
6. Supplier should have in-house facility to conduct Routine Tests (Axial Movement test, Spring Rate Test, Vacuum Test and Hydraulic Test / Leak Test Test,) on Compensators. For this Party to submit following documents:
 - i. Test Facility set up Photographs
 - ii. Approved Test Procedure for above Tests. (Approved by any Customer)
 - iii. Test Reports duly approved. (Witnessed & Approved by Customer / Third Party)



7. Supplier should have sufficient pre-fabrication machining facilities – Vertical boring (Dia.3000 mm, Height 2000 mm approx.), Horizontal/Vertical milling, lathe, drilling etc. Supplier to provide the details of all manufacturing facilities.
8. Supplier should have sufficient bending/rolling facilities for cylinder and cone bending. Max thickness = 40 mm, width = 2000 mm & minimum diameter = 400 mm.
9. Supplier should have the capacity to develop and submit WPS, PQR & WPQ as per ASME Section IX duly certified by independent third party of International reputation preferably by M/S Lloyds/ TUV along with brand name/ supplier of electrode and its test reports confirming to ASME Section IIC. All supporting documents and test reports to be submitted.
10. Personnel qualified by ASNT/ISNT or equivalent shall carry out NDT (Non Destructive Testing). Relevant supporting documents for this is to be submitted.

3) Selection of Supplier/ Manufacturer / Company:

Based on the information provided under this EOI, the prospective Supplier/ Manufacturer / Company shall be technically shortlisted. The short listed Supplier/ Manufacturer / Company will further be evaluated on the basis of terms and conditions defined in the enquiry.

Pre-bid clarification meeting can be held with the short listed parties regarding scope, confidentiality requirements and deliverables, physical checking of facilities at vendor works.