BHARAT HEAVY ELECTRICALS LIMITED
HEEP: HARDWAR-249 403 (UA)

Due Date: 11-April-2020

Ref: PPX/EM/EOI/20-21/ Slot side ripple spring

Notice Inviting Expression of Interest for empanelment of New Vendors

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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 gas turbines, turbo generators, hydro turbines and generators and so on. **We are looking for reputed Vendors having capability to supply Slot side ripple spring used in Large Size Turbo Generators.**

The specification of these items may be obtained from BHEL after submission of Ink Signed Non-Disclosure Agreement (Annexure-2). The Non-Disclosure Agreement is to be submitted to the following person (s) for obtaining Specifications:

Contact Person 1:
Mr. Ankur Goyal
Designation: Dy Manager (PPX/EM)
Email ID: agoyal@bhel.in
Tel: +91 1334 28 5203

Contact Person 2:
Mr. Ashim Dalui
Designation: Engineer (PPX/EM)
Email ID: ashim.dalui@bhel.in
Tel: +91 1334 28 5203

The offers received will be technically evaluated by BHEL & successful short listed parties will be asked to submit their detailed Techno-Commercial offers through formal NIT/Enquiry, for our future requirements. Vendors shall confirm that there is no deviation with respect to BHEL Specifications. However, deviations, if any, are to be listed as a separate attachment. The offers that do not meet the substantial requirements of our specifications are liable to be ignored. **Following documents are to be necessarily filled and submitted along with the technical offer:**

1. Details/ Documents in support of Pre-Qualification Requirement (**Annexure-1, Page-3**)
2. Non-Disclosure Agreement **(Annexure-2)**
3. Supplier/Vendor Registration Form. (Indigenous/Foreign as applicable)
4. Quality control documents / procedure.
5. Details of Manufacturing Facility
6. Company Profile.
7. Financial report of the company.
8. Past experience along with documentary proof.
9. Details such as technical features, experience details, product catalogue, reference list or any other relevant information.
10. List of equipment's manufactured in-house.
11. List of Bought Out items along with vendors list of each equipment's with experience details with respect to size rating and years of operation.

Only Technical BID along with the documents mentioned above should be sent & the envelope containing the offer shall be duly sealed and super scribed as "**Technical Offer for (ITEM NAME) AGAINST Reference No. PPX/EM/EOI/20-21/ Slot Side ripple Spring, SUBMITTED BY (Name of company)"**

The last date for submission of Technical offers is 11-April-2020.

Due Date: 11-April-2020

- The Technical Offers complete in all respect must be addressed to "Shri B K Roy, AGM (PPX/EM)" **and should reach before 1345 Hrs (IST) on 16-March-2020**. Tenders will be opened on the same day at 1400Hrs (IST) in the Tender Room.
- Late offers will not be considered in any case. BHEL will not be responsible for any type of postal delay / incomplete information from vendor.
- EMD & Tender fee are not applicable.
- The Quotation should be from the Principle / Original Manufacturer, otherwise the Quotation is likely to be ignored. In case the quotation is submitted through agent, the quotation must accompany original authorization letter from Principle / Original Manufacturer.
- Amendments / Corrigendum, if any, will be hosted on our website only.
- For any further clarifications, feel free to contact the undersigned or log on to www.bhel.com or www.bhelhwr.co.in or www.tenders.gov.in

(Anil Kumar)
DGM (PPX-EMI)

BHARAT HEAVY ELECTRICALS LIMITED
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Annexure-1

PRE-QUALIFICATION REQUIREMENTS (TECHNICAL) FOR EOI OF SLOT SIDE RIPPLE SPRING

1. **ITEM DESCRIPTION:** Ripple springs are used as slot side packing between the stator bars and the slot sides in large capacity Turbo Generators to suppress bar vibrations. It is made of glass fabric and epoxy resin with conducting pigment and have outer layers of polyester fleece (weight = 30g/m^2). The glass fiber must be so oriented that it must have uniform strength in both longitudinal and transverse directions. Epoxy resin with carbon additives should have a limit temperature of ≥155°C. Ripple springs are corrugated semi-conducting glass textolite strips, which are functionally flattened. The strip characteristic is almost linear up to 80% of the spring level. These are manufactured in sheets and cut into required sizes.

2. **EXPERIENCE:** The vendor should have manufactured and supplied Slot Side Ripple Spring for Turbo-generators to reputed power plant equipment manufacturers world-wide during the last 7 years. The supplied material should have following properties:

Thickness(mm) & Tolerence	Spring pressure(N/cm^2) at spring height of		Glass Transition Temperature	Loss on Ignition	Resistance per unit length(based on specified width) in KΩ/dm^2		Current flow Resistance in KΩ/dm^2	Limit Temperature as per DIN EN 60216-1
	1.5mm	2.1mm	(°C)	(%)				
0.3+0.08 -0.02	>0.1	-	≥160°C	40±10	≥10	≥5	≤50	≥155°C
0.5±0.08	>0.4	-						
0.8±0.15	>2.5	>2.2						
1.0±0.20	>6.0	>4.5						
1.2±0.20	>8.5	>7.0						

In support of which, vendor to submit the following documents: -

a) Vendor should have manufactured and supplied the above material of any above mentioned thickness against at least 3 Purchase Orders in last 7 years from the date of enquiry. Vendor to furnish copies of Purchase Orders of the same.

b) Vendor to furnish Test Certificates (for dimensional, mechanical and electrical test, etc.) for the Purchase Orders furnished against Clause a).

c) End User Certificate: Vendor to furnish at least one Certificate from End User or Generator Manufacturer certifying that the Slot Side Ripple Spring supplied by the vendor has been successfully used in assembly of TG stator and the said Turbo-generator has been in operation for at least 1 year. The End User Certificate should be pertaining to any one of the above Purchase Orders.

3. **MANUFACTURING FACILITY:** **The** Vendor to confirm that they have all the in-house facilities for manufacturing this item.

4. **TESTING FACILITIES:** **The** Vendor to confirm that they have all the in-house facilities for testing this item for properties mentioned in sl. No. 2. If the vendor intends to outsource any testing activity, particulars of the same along with details of the laboratory to be furnished to BHEL.

5. BHEL reserves the right to verify the information submitted by the vendor. In case the information is found to be false or incorrect, the offer shall be rejected. All the documents should be furnished in English language only. If the documents are not in English, then they must be accompanied by duly certified English translations of the same.