



भारत हेवी ईलेक्ट्रिकल्स लिमिटेड, भोपाल  
(भारत सरकार का उपक्रम)  
**Bharat Heavy Electricals Limited, Bhopal**  
(A Government of India Undertaking)  
संकरण मशीन अभियांत्रिकी प्रभाग

(For uploading)



Ref: TME/EOI/2020-21/02

Date: 21/10/2020

**EXPRESSION OF INTEREST (EOI) FOR SUPPLYING ROLLING CONTACT BEARINGS FOR TRACTION APPLICATION**

Dear Sir,

BHEL invites Expression of Interest (EOI) from reputed **National/ International bearing manufacturers**, for supplying rolling contact bearings for traction application, to BHEL Bhopal. Details of rolling contact bearings are attached as Annexure-A.

**The annual requirement of the rolling contact bearing is approx. 500-1000 nos. per bearing.**

Technical Pre-Qualification requirement (PQR) criteria for "Rolling contact bearings for traction application" is attached as Annexure-B. The interested parties may submit their Expression of Interest (EOI), compliance of technical PQR and supporting documents through email within 60 days of the EOI publication date.

**Interested vendors may submit above-mentioned documents to following BHEL Bhopal representative through email:**

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**ANNEXURE A**

IT. NO.	ROLLING CONTACT BEARING
<b>A) ROLLER BEARINGS:</b>	
1.	ROLLER BRG DE NU 224 ECP/ C4 VA301 {SKF DESIGNATION - NU224 ECP/C4VA301 OR EQUIVALENT}.
2.	ROLLER BRG NDE NJ219 ECP.C4.VA309 + HJ219 EC.VA301 {SKF DESIGNATION - NJ219 ECP/C4VA3091 +HJ319 EC OR EQUIVALENT}.
3.	BEARING N332 ECMSRL- 340-370 VA309 TO DIN 43283 (SKF DESIGNATION:BC1-7088A OR EQUIVALENT).
4.	ROLLER BEARING TYPE NUP318 EM/C4.
5.	ROLLER BEARING (DOUBLE ROW) 22324 VAJ [SKF MAKE: 22324VAJ OR EQUIVALENT].
6.	ROLLER BEARING TYPE NU330 ECMAP64.
7.	ROLLER BEARING TYPE NJ324 ECMAP64 + HJ324 EC.
8.	ROLLER BEARING TYPE NU328 ECMRD/C4.
9.	ROLLER BEARING TYPE NU326 EM/C4.
10.	ROLLER BEARING TYPE NU 2236 EMRD/C4 VA 301 (RIVETLESS CYLINDRICAL ROLLER BEARING) OF SKF DESIGNATION OR EQUIVALENT NOMENCLATURE OF OTHER BEARING MANUFACTURER.
11.	ROLLER BEARING (NJ 320 ECM/C4VA309 + HJ320 ECVA301) (RIVETED & INSULATED CYLINDRICAL ROLLER BEARING) OF SKF DESIGNATION OR EQUIVALENT NOMENCLATURE OF OTHER BEARING MANUFACTURER.
12.	BEARING TYPE NU324 ECMRA/C4 VA301 (RIVETLESS CYLINDRICAL ROLLER BEARING) OF SKF DESIGNATION OR EQUIVALENT NOMENCLATURE OF OTHER BEARING MANUFACTURER.
13.	BEARING TYPE NH318 ECMRA/C4 VA3091 (RIVETLESS & INSULATED CYLINDRICAL ROLLER BEARING) OF SKF DESIGNATION OR EQUIVALENT NOMENCLATURE OF OTHER BEARING MANUFACTURER.
14.	NU214 (M/C4) (INSULATED RIVETTED/RIVETLESS CYLINDRICAL ROLLER BEARING) OF SKF DESIGNATION OR EQUIVALENT NOMENCLATURE OF OTHER BEARING MANUFACTURER.
15.	DOUBLE ROW SPHERICAL ROLLER BEARING 22312CC/C3.
<b>B) BALL BEARINGS:</b>	
1.	BALL BEARING TYPE 6311 (M/C4) INSULATED BALL BEARING OF SKF DESIGNATION OR EQUIVALENT NOMENCLATURE OF OTHER BEARING MANUFACTURER.

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**ANNEXURE A**

2.	BALL BEARING NDE 6326- M/C5, VA309 TO DIN 43283 (SKF DESIGNATION:BB1-7009BB OR EQUIVALENT).
3.	BALL BEARING TYPE 6318 M/C4.
<b>B) TAPER ROLLER BEARINGS:</b>	
1.	TAPER ROLLER BEARING GWE M67982-M67919.
2.	TAPER ROLLER BEARING RWE M67981-M67919.
3.	TAPER ROLLER BEARING GWE LM241148-LM241111.
4.	TAPER ROLLER BEARING RWE LL641148-LL641111.
5.	TAPER ROLLER BEARING GWE M349547-M349510.
6.	TAPER ROLLER BEARING RWE M249747-M249710.

**ANNEXURE B**

**Vendor to comply and provide following technical requirements\*\* for consideration of its offer:**

DESIGNATION OF THE OFFERED BEARING (MENTIONED IN ANNEXURE A)			
Cl. No.	Description	Vendor to comment	
		Complied/ Not complied	Supporting relevant document to be submitted
1.	The offered bearing shall be in the regular manufacturing range of the vendor.	Yes/No	Not Required
2.	Vendor to furnish drawings of the offered bearing. The technical data sheet of the same shall also be furnished, as per requirements mentioned in Annexure-C.	Yes/No	Drawing & technical data sheet of offered bearing
3.	Vendor to confirm that the offered bearing manufactured by vendor is for traction application or for industrial application.	Traction/ Industrial	Not Required
4.	The vendor should furnish experience (supply) details of offered bearing, in the last 5 years, for traction application, to any traction machines manufacturers or Indian Railways or other Railways.	Yes/No	a. PO copies (if required price details may be hidden).  b. Supply proof (challan, invoice etc.)
5.	Against clause 4, vendor shall confirm whether documents submitted for b) are correlating with the submitted PO copy for a).	Yes/No	Not Required
6.	Vendor to furnish the name of place of manufacturing plant, where offered bearing has been manufactured and supplied, as per clause 4.	Yes/No	Name of place of manufacturing plant
7.	Vendor to confirm that vendor or any rolling contact bearing of its make is not banned by RDSO Lucknow or any entity of Indian Railways for supply of bearing in traction application.	Banned/ Not banned	Not Required
8.	Vendor to submit Quality Assurance Plan (QAP) for the manufacturing of rolling contact bearing.	Yes/No	Copy of QAP

\*\* In case, vendor is offering multiple bearings (from bearings mentioned In Annexure A), vendor to furnish compliance of technical PQR and supporting documents, separately for individual bearing.

**(Seal and sign of Supplier's representative)**

## **ANNEXURE C**

### **Technical Specification for Rolling Contact Bearings**

#### **DRAWINGS AND TECHNICAL INFORMATION TO BE SUBMITTED WITH OFFER AGAINST EOI**

1. Dimensioned drawing of the bearing.
2. Type & Make of bearing.
3. Significance of each suffix/prefix.
4. Accuracy class : (Normal/P5/P6)
5. Suitability for application : (Traction/Industrial)
6. Number of rollers & size.
7. Radial internal clearance.
8. Axial clearance.
9. Type of cage construction : (Standard/Drop roller)
10. Type of cage guiding : (Roller/Outer race)
11. Cage Material : (Brass/Steel)
12. Material specification for rollers & races.
13. Surface finish on rollers and races.
14. Dynamic capacity of bearing.
15. Static capacity of bearing.
16. Maximum permissible speed (with Grease lubrication)

#### **GENERAL REQUIREMENTS:**

Bearings offered should conform to the below mentioned requirements:-

1. Bearings should be of special execution for traction application with suffix VA301 (SKF), F1 (FAG), SV1 (STEYR), MT (RHP) etc. Following special features may be envisaged in design and manufacturing processes.
  - 1.1 Improved and uniform surface finish by grinding of track chamfers, honing of tracks and lapping of rollers.
  - 1.2 Optimized cage construction for efficient lubrication.
  - 1.3 Vibration and noise level specially controlled.
  - 1.4 Bearings rings stabilized for higher temperatures.
  - 1.5 Uniform hardness on bearing rings and rollers, variation not exceeding ½ RC with in the same element.
  - 1.6 We require bearings with interchangeable assembly only.
2. Accuracy class for internal dimensions of bearing to be P5/P6.
3. Rollers should be designed to cater for increased load carrying capacity.