

Ref : GMBD(Def)/Armoring Soln/EOI/2022/03

dt 24.11.2022

**M/s. BEML LIMITED,
BEML SOUDHA,
SAMPANGIRAMNAGAR,
BENGALURU - 560002**

**Invitation for Expression of Interest (Eoi) from Indian companies
for
Armoring Solution on BEML HMV 4x4**

Reference No: GMBD(Def)/Armoring Soln/EOI/2022/03 dt 24.11.2022

Due closing date: 24.12.2022

Eoi response mail ID: bemleoi@beml.co.in

**Contact for
Clarifications:** Mr. N. Ramesh
General Manager – Business Development (Defence)
gmbd@beml.co.in
+91 7760999807

**Issued by
M/s. BEML, Limited
(Under Ministry of Defence)**

1.0 INTRODUCTION:

BEML Limited is a leading multi-technology and multi-location company under the Ministry of Defence operating its business in three verticals viz., Defence & Aerospace, Mining & Construction and Rail & Metro. It offers high-quality products for diverse sectors of economy such as Defence, aviation, coal, mining, steel, limestone, power, irrigation, construction, road building, metro & railways. It has emerged as the forerunner of heavy engineering industry with a track record of growth and revenues for over five decades. For further details please visit our website www.bemlindia.in

2.0 Project Requirement - Fully Furnished Armoured Hull

Armoured Hull to be developed on indigenous BEML 4x4 chassis with all 4-wheel drives and front dis-engageable. The vehicle is bullet and blast proofed in a manner to conceal the occupants completely from the threats.

During the counter insurgent operations, the vehicles are forced to move both on the roads and off-road where they can encounter individual mines (in case of roads) and minefield sectors (off-road) emplaced by the adversary. Considering the above, in order to provide underbelly grenade detonation resistance, as well as resistance to ballistic fire and the ability to operate in various terrains and climatic conditions should characterize safety to the crew and ergonomic transport conditions. Concisely, during the vehicle design stage particular attention should be paid to the vehicle hull construction (its shape and armor), its suspension, seat construction and seat fixing method in the crew compartment, as well as mobility both on- and off-road.

The vehicle will be tested by accredited Government testing and certification agencies (VRDE/ARAI) for road worthiness as per QR and trial directives meeting CMVR norms. The vehicle operating temperature is from -20°C to +55°C. Hence an ergonomically designed Fully Furnished Armoured Hull to be developed for which the scope of work is to design, build, fabricate and supply ballistic resistant hull and designed for blast protection on 4x4 chassis of M/s BEML as per the technical and general requirement described in the document. The major portion of the supply includes NATO STANAG Level 2b protected Fully furnished Armoured Hull with wind shield, bullet proof glasses doors with three-point locking arrangement and meshes as mentioned

3. General Requirements

3.1. The Body consists of two modules

a) Crew Module

b) Front Bonnet & Fenders

- 3.2. Crew module should be a V-Shaped Hull, mounted on to BEML Chassis as per scheme provided by BEML during contract stage. The Crew module should have minimum Ballistic protection level of NATOSTANAG Level 2 and Blast Protection of Minimum NATO STANAG Level 2a and 2b. The Crew module to be designed to have high side blast protection capability. The crew module should be design in such a way so as to be upgradable to NATO STANAG level III ballistic and Blast at a later date.
- 3.3. The Bonnet module for the engine compartment, the protection level should be for avoiding damage to the radiator only. And should be designed in such a way that the maximum weight reduction is achieved.
- 3.4. The Bonnet and Fenders to be aesthetically designed and manufactured as per the styling schema provided by BEML during contract stage.
- 3.5. one number test hull (Crew Module) with required furnishing elements to be produced and subjected to test at TBRL/GFSU or Internationally accredited lab as per the protection level stated in 3.2. Upon satisfactory test result a new hull to be produced meeting all the requirements mentioned in the document and supplied by assembling on vehicle supplied by BEML.
- 3.6. The Raw materials, Fittings & Hardware should be of highest quality standards. The Manufacturing and assembly should be in compliance with MIL/NATO standards. As far as possible the fabrication and assembly to be carried out using proper Jigs and fixtures.

4.0 Vendor Qualification Requirements:

- The Armoring firm should have prior experience for Designing and manufacturing armoured Hull up to NATOSTANAG Level II or above for both ballistic and blast or Technological tie-up / JV with a reputed international company having relevant experience up to NATO STANAG Level II or above for both ballistic and blast. Relevant Documents to be attached along with projects performed of similar nature.
- In house Design and Simulation studio with Catia / Solid Works etc. for 3Ddesign facility with qualified engineers for designing the armoured vehicle. (Copy of valid licenses from software manufacturer to be enclosed).
- Company should have adequate Automobile background with HMC / VMC machining facilities for manufacturing different parts, hinges, etc. for the fabricated capsule.

- In house testing facility such as hardness, Hinge strength, welding strength, leakage test (rain test) should be there with the vendor, relevant documents to be provided.
- The firm should have ISO certification for quality management systems
- All reports for the material used shall be submitted to BEML, by the firm from NABL/International accredited labs or other Government agencies/labs specifically designated for this purpose wherever required by the user. The provided sample report must be of the same heat material that is used for the Hull.
- Indigenous percentage: Vendor should specify indigenous percentages with details of the parts / assemblies in response to the tender
- Should have experience of handling DGQA/MAG agencies for obtaining Inspection clearance during FOPM and Bulk Production
- Vendor should be willing to participate in NC-NC trials of the proto equipment
- The Firm to provide spares and service support for Armour body as per tender

5.0 Acceptance Criteria

- Acceptance of “Armour Body “contains the fulfillment of technical requirements and test performances as listed.
- Supply of the Hull meeting all the requirements mentioned.
- Material certificates for Opaque and transparent Armour from NABL/International Accredited lab meeting NATO STANAG LEVEL II
- Test Report for Rain test/shower test (for no leakages) to be provided.

6.0 GENERAL GUIDELINES:

The following details should be submitted along with EOI

- a) Company profile, giving details of current activities and management / personnel structure including evidence of incorporation.
- b) Financial status statement 3 years
- c) Capacity to manufacture / year
- d) Highlight the infrastructure available / modalities to take up the project.

- e) Any other relevant information considered necessary for successful implementation of the proposed scope of work.

7.0 BENEFITS OF PARTNERING WITH BEML

BEML Ltd has an extensive marketing network and service centers. BEML has good manufacturing, testing and strong R&D.

Projected requirement of these equipment around 1300 Nos for Indian MoD and Home affairs and potential for Export market.

8.0 SUBMISSION OF THE EOI

The EOI response to be submitted online through BEML E-mail: bemleoi@beml.co.in, stating compliance to each point, along with the enclosures to be forwarded by interested reputed firms, super scribing "Expression of Interest for Armoring Solution for BEML HMV 4x4" on or before **24.12.2022 , Time : 17 :00 Hrs**

For any Technical Clarifications, Contact

Mr. Ramesh K Raju

Deputy General Manager – R&D (Defence)

gawrr@beml.co.in

~~~\*\*~~~