

Ref : GP/1001/146EOI-Expert

Dated 11.12.2023

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

**Invitation for Expression of Interest(Eoi) from Consultant
For**

“Engaging of Engine Technical Consultant / Advisor (Indian OR Global) for Development of 600 HP to 1500 HP Powerpack / Engine & Integration with Transmission on Armoured Fighting Vehicle , Design & Development of Marine Engines and Defence Diesel Engine Aggregates”

Reference No: 1001/146/EOI-Expert Dated 11.12.2023

Due closing date: 10.01.2024

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

Contact for Engines : Mr. Mahadev Nellur, DGM, Engine D&D
Clarifications: Email : gpe@beml.co.in, Mobile : 8618735789
Transmission/Integration : Mr.Ramesh Raju, DGM, R&D,
Email : gawrr@beml.co.in, Mobile : 9972001894

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

INTRODUCTION

BEML Limited was established in May 1964 as a Public Sector Undertaking and plays a pivotal role serving India's core sectors such as Defence, Rail, Power, Mining and Infrastructure. The manufacturing units located at Bangalore, Kolar Gold Fields (KGF), Mysore and Palakkad along with all India Sales & Service network and backed up by a strong R&D base. For more details please visit www.bemlindia.in.

Engine Division was established in the year 1991 in Mysuru, with technical know-how from Komatsu Japan. BEML diesel engines are built for maximum reliability, high performance and lasting value. These engines are backed by the facility of application engineering, multi-location sales & service network and rehabilitation facility.

Engine Division manufactures heavy duty Diesel Engines for application on a wide variety of Earth Moving, Mining and Construction Machinery and Defence Equipment ranging from 75 hp to 1500 hp Engines. BEML Engines are used on Bull Dozers, Dump Trucks, Motor Graders, Wheel Loaders, Pipe Layers, Hydraulic Excavators, Loading Shovels, C Crane, Aircraft Towing Tractors, Backhoe Loaders, Water Sprinklers, Heavy Duty Trucks and Futuristic Main Battle Tank. These Engines are capable of operations over a wide terrain right from sea level conditions to high altitude (5000 meter) as well as under sub-zero conditions (-40 °C.)

Qualification Criteria:

Design Consultant must meet the following qualification criteria and indicate YES or NO in the below table during submitting their Expression of Interest (EOI) & relevant documents to be submitted while participating in the tender as mentioned the respective rows.

Engine Technical Consultant /Advisor Qualification Criteria:

SI No.	Qualification Criteria	Consultant Response Yes / No	Supporting Documents to be submitted (self Certified) during tendering stage
1	<p>Design & Development of Power Pack (Diesel Engine + Transmission)</p> <p>Overall experience in the field of diesel Power pack (Engine + Transmission) for 30 years or more with minimum 20 years worked in RICARDO/AVL/FEV/Reputed Engine manufacturers.</p> <p>Work experience on Power pack integration of Armoured Fighting Vehicles (AFV), Large Marine Engine design capabilities (3MW to</p>		Relevant document indicating the role played during the period concerned.

	10MW). Should have executed development of Heavy duty Diesel / Large Diesel Engine of Power rating 1000hp minimum, from concept stage to production and integration of Engine on equipment		
2	<p>Qualification/ Specialization:</p> <p>Minimum Qualification required is M.Tech/ M.S. /Ph.D /Dr-Ing. However Ph.D /Dr-Ing would be preferred.</p> <p>Specialization: Mechanical / Automobile/IC Engines (Preferred for Diesel Engine design & Combustion Analyses)</p>		Certificate from the university awarding the Degree.
3a	<p>Area of Experience: design</p> <ol style="list-style-type: none"> 1. Experience on design of various Engine systems like intake, Exhaust, Fuel, Coolant, Lubrication, Crank train, Valve train, power train, gear train and electrical & electronics system. 2. Experience on Engine Structural analysis 3. CFD Analysis- Engine Performance, Combustion development, Thermal Management. 4. Engine Emission regulations, CEV Stage-IV, Stage-V, Working knowledge & upgrade Diesel engines to meet the above emission target with technologies like, EGR, SCR, DOC, DPF and OBD-II system. 5. Knowledge on application of latest technologies like Common Rail Direct Injection (CRDI) item, Waste Gate, variable Geometry Turbocharger etc., 6. CAE Transmission and Drive line <p>Expertise in engine testing and data analysis, application engineering.</p> <ol style="list-style-type: none"> 7. Engine Transmission and drive line design 8. Knowledge on Material selection for Marine application (High Humidity, corrosion resistant), subzero (-40°C) applications. 		Document related to subject areas

	9. Experience on Project Management, Life cycle management 10. Experience in Engine Testing , data analysis , application engineering.		
3b.	Vendor Development		
	i. Working knowledge of materials/processes for indigenization activities on diesel engine components like cylinder block, cylinder head, crank shaft, connecting Rod, Cam shaft etc.,		Description of one or more projects executed by the consultant involving the aspects highlighted.
	ii. Also Sourcing of engine performance related parts like fuel injection system components, All coolers (Air, oil, coolant etc.), water pump, oil pump and turbochargers. Awareness on Indian Sources for the above components.		
3c	Exposure to leading National/International engine design consultants in professional capacity and understanding of the best practices recommended by them for Engine design & emission control.		Document conforming engagement with one of the leading consultants in a formal capacity.
4	Age Limit : Between 55 to 70 years		
5.	Undertaking as per Annexure-1 as token of acceptance of all the tender terms & conditions		Please submit the undertaking as per Annexure-1 .
6.	Special condition arising out of implementation of G.S.T as per Annexure-2		Duly signed & sealed copy to be submitted as per Annexure-2

Project background:

BEML limited is working on design and development of various powerpack solutions for its customers for land and marine systems.

The Technical Consultant/Advisor will be required to work with BEML & advice BEML R&D team on these engine / power pack development projects and ensure that projects shall be completed within the time line.

Detailed Scope of Work

Complete details of scope of work, responsibility/ Deliverables are brought out as below:

1. Analysis and Design guidance including design / boundary input data for 1D, 3D, FEA & CFD analysis is for Internal Combustion systems like,
 - a. Crank train System,
 - b. Intake System
 - c. Exhaust system,
 - d. Cooling System
 - e. Lubrication System,
 - f. Fuel System,
 - g. Electrical System,
 - h. Valve train System and Gear Train System.
2. Application engineering of developed engines with design guidance & review on the following subjected area,
 - a. Repackaging of Engine components (Only Accessories)
 - b. Design guidance to prepare final layout of Engine systems
 - c. Review of engine design output & reports
 - d. Development of newly designed components & Engine testing
 - e. Engine adaptation and integration with respective Tanks & vehicle trial
3. Advice & review on use of Multi Fuel Injection on engines.
4. Technical advice on Sourcing & developing of engine critical components (Engine's Performance Related Parts) and imported parts.
5. Technical Co-ordination with supplier for important/critical components (Engine's Performance Relied Parts).
6. Review & advice on Engine and Transmission integration of equipment & support for Field trials.
7. Guidance to Project handling in technical and liaison with BEML Customer for project co-ordination.

8. Consultant shall be an expert on Engine calibration with respect to less fuel consumption and latest emission norms.
9. General Knowledge sharing (Know-How & Know-Why) on Diesel Engine design & analysis to BEML Engineers.
10. Consultant have to attend the project related meetings through Off-line as well On-line as per the meeting schedule.
11. Advice & provide Guidance to BEML design engineers for designing of High / Low / Medium speed Marine Engines for its customers.

1. Responsibility of BEML Limited:

1. BEML will provide access to current systems and processes as well as any other historical data if any.
2. BEML will provide required information / response sought by the Technical Consultant /Advisor within reasonable time, wherever data and information are available with BEML.
3. BEML will provide necessary permissions for entry at work sites and usage of infrastructure, subject to prior approval.
4. BEML will provide necessary administrative support and access to all relevant technical data during the course of engagement after signing of NDA (Non-Discloser Agreement)

2. Duration of Engagement:

The period of Engagement of the Technical Consultant / Advisor will be initially for a period of ONE YEAR (12 Months) with a 3 months probationary period and may be extended to next 36 Months (For every 06 Months extension shall be obtained based on the Technical consultant performance / Requirement) up to a maximum of total 48 months including the initial period of 1 YEAR.

3. Work Culture:

- 1) Consultant is preferred to visit 10 Days / Month to BEML Engine Division, Mysuru & On-line Support on remaining days (supporting role over E-Mail / Telephone call / Video Conference)
- 2) Also preferred to attend the project related meetings.
- 3) If any situation arises like Pandemic, Consultant can opt work from home.

4. General Conditions:

- 1) The Consultation Charges will be mutually discussed and agreed. All statutory taxes income tax, service tax, professional tax will be applicable and to be borne by the

Technical Consultant/Advisor. For Expats Travel To and Fro India shall be as per mutually agreed terms.

- 2) BEML will reimburse travel charges by air (Premium Economy / economy class) at actual towards travel within India for the project.
- 3) Local Transport, Boarding and furnished accommodation will be provided by BEML.
- 4) **Consultant/Advisor has to take care of Insurance / Medical expense on his/her own.**

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 “ **EOI for Engaging of Engine Technical Consultant / Advisor (Indian OR Global) for Development of 600 HP to 1500 HP Powerpack / Engine & Integration with Transmission on Armoured Fighting Vehicle , Design & Development of Marine Engines and Defence Diesel Engine Aggregates**”. on or before **10.01.2024** , Time : **17:00 Hrs**

For any Technical Clarifications, Please Contact

1) Mahadev Nellur , DGM, Engine D&D for Engines

Email ID : gpe@beml.co.in

2) Mr. Ramesh K Raju (For Transmission / integration)

Deputy General Manager – R&D (Defence) Email ID : gawrr@beml.co.in

Annexure-1

UNDERTAKING

To:
The Asst.General Manager (CMRM),
M/s. BEML LTD
Bangalore-27

Dear Sir,

Having examined the Tender ref: xxxxxxxxdated xx/xx/xxxx the receipt of which is hereby duly acknowledged, I, the undersigned, hereby confirming that I read, understood and accepting all the terms & conditions available in the tender. Further, I indicate that upon selection, I will execute the assignment as per the tender terms and conditions.

Signature with date of Authorized signatory

Name: _____

Designation: _____

Seal: _____

Annexure-2

Special Conditions arising out of implementation of GST

(Which is to be signed and submitted along with the offer)

Tax Indemnity clause

1. The supplier of Goods / Services shall comply with all the procedural requirements and relevant provisions under GST Law so as to enable BEML Limited (BEML) to avail Input Tax Credit (ITC) in a timely manner. BEML has the right to recover tax loss along with consequential interest and penalty suffered by BEML due to any non-compliance of tax laws by the supplier. Any GST liability arising on the supplier on account of loss of GST credits for reasons such as failure of the supplier to provide the details for raising invoice with necessary particulars, delay in payment of consideration beyond stipulated time period and the interest thereon would be on the suppliers themselves and BEML shall not be liable to compensate the same.
2. The supplier shall ensure that the Taxes which have been collected / with-held on behalf of BEML have been duly paid / will be paid to the Government account within the due dates specified under various Tax Laws in India and Rules made there under. It may please be noted that if BEML is not able to avail any tax credit due to any short coming on the part of the supplier (which otherwise should have been available to BEML in the normal course), then the supplier at his own cost and effort will get the short coming rectified. If for any reason the same is not possible, then the supplier will make 'good' the loss suffered by BEML due to the tax credit it lost in that transaction.
3. Under the GST Law, any economic or tax benefit arising out of the implementation of GST is mandatory and required to be passed on to BEML by the supplier. Similarly, the benefits enjoyed by the supplier and other players in the supply chain are also required to be passed on to the supplier by them, which in turn shall be passed on to BEML by way of price reductions. The suppliers shall indemnify BEML against any direct or indirect loss arising out of not passing on the aforesaid benefits. As responsible suppliers of BEML, the responsibility to pass on the above benefits vests with the supplier and BEML reserve the right to seek the manner in which such benefits is passed on to BEML.
4. Any amount paid to the suppliers including job-workers / sub-contractors shall be first attributable to the GST Tax charged in the invoice and the balance shall be considered towards the 'value' of supply of goods / services.
5. Timely provision of invoices / Debit Note / Credit Note: The supplier has to timely provide invoice / Debit Note / Credit Note to enable BEML to claim tax benefit on or before stipulated time period as per GST Law. All necessary adjustment entries (Credit Note, Purchase Returns, Debit Notes) shall be made before September of the succeeding Financial Year.
6. HSN for goods shall be specifically included to avoid disagreement on classification at a later stage.
7. BEML shall identify the Place of supply to enable to avail the GST credit at right location.

8. Advance payment if any made before supply of goods/services or raising of invoices, would attract GST. In case of receipt of advance, the supplier undertakes to raise the necessary statutory document. Further the supplier declares to raise the prescribed documentation governing the movement of goods.
9. Any known discount shall form part of terms of the agreement to enable Supplier / BEML to claim tax adjustment.
10. THREE copies of the invoices are mandatory and need to be provided by the suppliers and wherever the law requires, an Electronic Reference Number for each invoice should be provided. Further, the invoices for supplies shall clearly bear the GSTIN No. / UID No. along with purchase order number and date accompanied by despatch advice and date of packing list.
11. Wherever applicable, BEML has the right to deduct "Tax deducted at source" at the rate prescribed under the GST law and remit the same to the Government of India.
12. Any local levies and or other charges levied by any Central / State / Local authorities wherever applicable shall be extra and supplier shall be liable to discharge the same.
13. The supplier shall be responsible to issue documents required for movement of goods and the logistic partner shall not be liable for any loss arising due to confiscation of goods by government agencies on account of lack of proper documents, deficiencies in documentation or any wrong declaration.
14. Any Liability arising out of dispute on the tax structure, computation and payment to the Government will be to the Supplier's account.
15. Where the supply of goods / services are liable to GST under reverse charge mechanism, then the supplier should clearly mention the category under which it has been registered and also that "the liability of payment of GST is on the Recipient of Service".
16. The invoice should be clearly specified with any abatement, if any claimed or otherwise from the Taxable Value, while calculating the GST.
17. The Bid evaluation criteria will include but not limited to 'GST Compliance rating' when introduced and operational by GSTN. The Purchase Order shall be void, if at any point of time the supplier is found to be a blacklisted dealer as per GSTN rating system and further no payment shall be entertained.

Place:

Date:

Signature with date of Authorized signatory

Name: _____

Designation: _____

Firm's Seal: _____