

EoI-Ref: CPC/VDC/M&C-MYS/ENGINE/BSIV

Date:16/03/2021

Expression of Interest (EoI) for supply of CEV Stage-IV / equivalent Emission norms certified Diesel Engines by Original Equipment Manufacturers for Mining and Construction Equipment.

1.0 Back ground:

BEML Limited is a leading multi-technology and multi-location company under the Ministry of Defence. BEML is 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 Coal, Mining, Steel, Limestone, Power, Irrigation, Construction, Road building, Aviation, Defence, metro and railways. It has emerged as the forerunner of heavy engineering industry with a track record of growth and revenues for over five decades.

The company has state-of-the-art manufacturing facilities at Kolar Gold Fields, Mysuru, Bengaluru and Palakkad, all possessing ISO 9001-2015 and ISO 14001 (HSC) certifications. BEML has its own world-class composite R&D establishment for Design & Development of products.

The Company has a nationwide Marketing Network and an International Business Division for Exports activity.

Details of BEML Ltd are available at www.bemlindia.in

2.0 Overview of BEML Capabilities:

BEML Limited, a Central Public Sector Enterprise coming under the Ministry of Defence was incorporated in 1964. Subsequently it became a listed company and is engaged in the design, development and manufacturing in the areas of Mining & Construction, Defence & Aerospace and Rail & Metro equipment's.

2.1 Mining & Construction:

BEML Ltd is engaged in the business of Hydraulic Excavators, Bulldozers, Wheel Loaders, Wheel Dozers, Dump Trucks, Motor Graders, Pipe Layers, Tyre Handlers, Water Sprinklers and Backhoe Loaders to customers in the Mining and Construction segments.

BEML has also developed Mining Dump trucks of 150 Ton and 200 Ton class and Excavators of both Hydraulic and Electrical of 180 Ton capacity.

2.2 Defence & Aerospace:

BEML Ltd is engaged in the business of High Mobility vehicle for all terrain operations, Heavy Recovery Vehicle, Pontoon Mainstream Bridge Systems, Crash Fire Tenders, Mobile Mast Vehicle, Engineering Mine Ploughs, Tank Transportation Trailers, Weapon Loading equipment, Armoured Recovery Vehicle, Mil rail Coaches and Wagons, ground support vehicles and other products to the Indian and other Armed Forces.

2.3 Rail & Metro:

BEML Ltd is engaged in the business of Integral Rail Coaches, Overhead Inspection Cars, AC/DC Electrical Multiple Units, Stainless steel EMUs, Utility vehicles, Track Laying Equipment, Broad-gauge Rail bus, Treasury Vans, Spoil disposal Units to the Indian and other Railways.

BEML Ltd has also successfully diversified into manufacturing state-of-the-art technology stainless steel Metro Cars for various urban Metro Corporations and enjoys a dominant market share in this segment.

3.0 Research & Development:

BEML Ltd has R&D establishment for Design & Development of high-tech engineering products for its three verticals. It employs over 300 professionals with high experience and skills spanning a wide range of technology areas.

The R&D establishment has CAD Centre, Fluid-power, Powerline, Structural Engineering & Material Science laboratories and is continuously engaged in New Product Development and upgradation of existing products to meet customer requirements. More than 65% of Company's Sales Turnover is through in-house developed R&D products. The R&D expenditure is around 2 ~ 3% of its turnover.

4.0 International Business Division:

BEML has a sizeable market share in export markets with exports to 68 countries across the globe. Over the years this division has exported over 1200 machines covering all the three verticals.

5.0 Requirements:

BEML is seeking CEV Stage-IV / equivalent emission norms certified Diesel Engines for the following equipment from reputed Engine OEMs who are having manufacturing technology and supplied to various Mining and Construction mobile equipment and having their after sales service network in India.

5.1 Rigid Dump truck/Water Sprinkler:

Sl. No	Equipment Model	Gross		Net		Rating	Remarks
		Power kW Min.	Torque N-m	Power kW	Torque in Nm		
1	BH60M	522.2 @2000 rpm	2983@1400 rpm	480@2000	2875@1400	Intermittent	Mech. Dump Truck
3	BH100	807 KW @2100	4870@1500	768 @2100	4775 @1500 rpm	--do--	--do--
4	BH100S	783 kW@2100	4629@1300 rpm	746kW@2100	4565 @1300 rpm	--do--	-do-
5	BWS70	708 kW@2100	4188 @1300 rpm	668 kW@2100	4092 @1300 rpm	--do--	Water sprinkler with Mechanical drive train
4	BH150E	1398 @1900 rpm	7872@1500 rpm	1348@1900 rpm	7696@1500 rpm	--do--	Electrical Drive Dump truck
5	BH205E	1716 @1900 rpm	9054@1500 rpm	1628@1900 rpm	8747@1500 rpm	-do-	--do--

5.1.1 The supplier shall abide by the following:

- a) Proven diesel engines for Mining and construction application should be offered.
- b) Willingness to offer CEV Stage-IV / equivalent emission norms diesel engine with flywheel, flywheel housing, PTO, sump, AC Compressor drive with suitable mounting provision for compressor, etc., suitable for engineering on BEML equipment. In case the offered engine with flywheel, flywheel housing, PTO, sump etc, is not suitable in as is condition, development of any additional components and scope of supply of additional items will be decided mutually to meet BEML requirement. The final acceptance of additional components and the extent of modification required are solely at the discretion of BEML.
- c) The supply shall include after treatment kit, if required, to meet the requisite emission norms. The exhaust muffler / offered after treatment kit shall be suitable for mounting on engine (excluding DEF tank which may be remote mounted) and customized jointly by BEML and supplier to meet the equipment envelope requirement.
- d) The supply shall include PRP items (Performance Related Parts) viz. air intake (suitable for mounting on engine), cool pack, fan, Anti vibration mounts etc.
- e) The supplier shall share all necessary technical documents including 2D drawings and 3D models.
- f) The offered diesel engine shall be suitable for upgrading to CEV Stage-V / equivalent emission norms with minimal modification.
- g) The supplier shall submit CEV Stage-IV / equivalent emission norms certificate from authorized testing agency like ARAI for application rating.
- h) The supplier shall extend technical support during engineering and performance evaluation.
- i) Supply of spares & consumables necessary for operation of the equipment for a minimum period of 15 years from the date of last supply shall be ensured.
- j) The supplier shall provide training to BEML engineers/ Customer service personnel for trouble shooting & maintenance of the engine.

5.1.2 Qualification criteria:

1. The supplier should be in the business of supply and installation of diesel engines for mining equipment application especially dump truck for a minimum of 5 years and shall provide documentary evidence for the same.
2. The supplier should not have been debarred / blacklisted by Government of India / any State Government in India / Central or State Government undertaking and shall submit an undertaking signed by authorized signatory of the supplier.
3. The firm should be possessing certified quality systems such as ISO 9001, ISO 14000 or any other relevant system and shall submit the Quality Certificates for the same.
4. The supplier shall meet clauses 5.1.1
5. The supplier should furnish the Information on qualification criteria as per the enclosed **Format A**.

5.2 Motor Grader:

MOTOR GRADER	Gross power	Gross torque	Net Power	Net torque	Rating	Remarks
	kW	N-m	kW	N-m		
BG825	223@2100 rpm	1274 @1400 rpm	209@2100 rpm	1236 @1400 rpm	Intermittent	Motor Grader

5.2.1 The supplier shall abide by the following:

- a) Proven diesel engines for Mining and Construction Motor Grader application should be offered.
- b) Willingness to offer CEV Stage-IV / equivalent emission norms diesel engine with flywheel, flywheel housing, sump, AC Compressor drive with suitable mounting provision for compressor, etc., suitable for engineering on BEML equipment. In case the offered engine with flywheel, flywheel housing, sump etc, is not suitable in as is condition, development of any additional components and scope of supply of additional items will be decided mutually to meet BEML requirement. The final acceptance of additional components and the extent of modification required are solely at the discretion of BEML.
- c) The supply shall include after treatment kit, if required, to meet the requisite emission norms. The exhaust muffler / offered after treatment kit may be suitable for mounting on engine (excluding DEF tank which may be remote mounted) and customized jointly by BEML and supplier to meet the equipment envelope requirement.
- d) The supply shall include PRP items (Performance Related Parts) viz. air intake, cool pack, fan, Anti vibration mounts etc. or in any case shall be willing to extend technical support for developing (including prove out) the PRP items.
- e) The supplier shall share all necessary technical documents including 2D drawings and 3D models.
- f) The offered diesel engine shall be suitable for upgrading to CEV Stage-V / equivalent emission norms with minimal modification.
- g) The supplier shall submit CEV Stage-IV / equivalent emission norms certificate from authorized testing agency like ARAI for application rating.
- h) The supplier shall extend technical support during engineering and performance evaluation.
- i) Supply of spares & consumables necessary for operation of the equipment for a minimum period of 15 years from the date of last supply shall be ensured.
- j) The supplier shall provide training to BEML engineers/ Customer service personnel for trouble shooting & maintenance of the engine.

5.2.2 Qualification criteria:

1. The supplier should be in the business of supply and installation of diesel engines for mining and construction mobile crawler equipment application for a minimum of 5 years and shall provide documentary evidence for the same.
2. The supplier should not have been debarred / blacklisted by Government of India / any State Government in India / Central or State Government undertaking and shall submit an undertaking signed by authorized signatory of the supplier.

3. The firm should be possessing certified quality systems such as ISO 9001, ISO 14000 or any other relevant system and shall submit the Quality Certificates for the same
4. The supplier shall meet clauses 5.2.1
5. The supplier should furnish the Information on qualification criteria as per the enclosed **Format B**.

6.0 General:

Prospective supplier should consider following also while submitting the response

1. Prospective supplier may also be required to enter into a long-term Supply Agreement for Engine, spares etc. and meet the expected delivery requirements and other Terms & Conditions of RFP / Tender to be issued by BEML on cost basis.
2. Prospective supplier shall provide firm and irrevocable commitment to provide product support in terms of materials, spares, maintenance etc. for a minimum period of 15 years from the date of last supply to BEML.
3. Those who have complied with “**YES**” for all the criteria indicated in the respective formats **A, B** and **C** against each equipment model will be considered for qualification.
4. The supplier may respond for any or all models of BEML equipment.
5. The suppliers who are shortlisted based on the EOI submitted will be contacted for selection of suitable engine for BEML equipment. Upon suitability and technical qualification separate tender will be floated for supply of CEV Stage – IV / equivalent emission norms diesel engines.

7.0 Contact Person:

Interested suppliers shall forward their interest by providing the details of their organization with credentials and areas of interest by providing the time line to following address through email only (**bemleoi@beml.co.in**) on or before 15-04-2021, Time: 5 PM.

Shri. SUNIL KHARAD
General Manager, Corporate Materials
BEML Ltd, BEML Soudha
No 23/1, Sampangiram Nagar
Bengaluru – 560 027
Karnataka State,
INDIA Phone: +91 80 22963 253

Email id: bemleoi@beml.co.in

For technical clarification, kindly contact following official:

Shri. Sudarshan K S
General Manager, (R & D)
BEML Ltd, Belavadi post
Mysuru – 570 018
Karnataka State,
INDIA Phone: +91 821-2402 344

Email: sudhiks.gw@beml.co.in (for technical clarifications only)

Detailed information sought for Qualification:

Sl. No.	Parameter	YES/NO	Details	Remarks
1	Proven diesel engines on Mining and Construction Dump truck (Mechanical/Electrical) application should be offered.			Supplier should indicate YES or NO
2	Willingness to offer CEV Stage-IV / equivalent emission norms diesel engine with flywheel, flywheel housing, PTO, sump, AC Compressor drive with suitable mounting provision for compressor, etc., suitable for engineering on BEML equipment. In case the offered engine with flywheel, flywheel housing, PTO, sump etc, is not suitable in as is condition, development of any additional components and scope of supply of additional items will be decided mutually to meet BEML requirement. The final acceptance of additional components and the extent of modification required are solely at the discretion of BEML.			Supplier shall indicate the BEML equipment model/models in the details column for which interested.
3	The supply shall include after treatment kit, if required, to meet the requisite emission norms. The exhaust muffler / offered after treatment kit shall be suitable for mounting on engine (excluding DEF tank which may be remote mounted) and customized jointly by BEML and supplier to meet the equipment envelope requirement.			
4	The supply shall include PRP items (Performance Related Parts) viz. air intake (suitable for mounting on engine), cool pack, fan, Anti vibration mounts etc. or in any case shall be willing to extend technical support for developing (including prove out) the PRP items.			
5	The supplier shall share all necessary technical documents including 2D drawings and 3D models.			
6	The offered diesel engine shall be suitable for upgrading to CEV Stage-V / equivalent emission norms with minimal modification.			
7	The supplier shall submit CEV Stage-IV / equivalent emission norms certificate from authorized testing agency like ARAI for application rating			

8	The supplier shall extend technical support during engineering and performance evaluation			
9	Supply of spares & consumables necessary for operation of the equipment for a minimum period of 15 years from the date of last supply shall be ensured.			
10	The supplier shall provide training to BEML engineers/ Customer service personnel for trouble shooting & maintenance of the engine			
11	The supplier should be in the business of supply and installation of engines for mining and construction equipment application for a minimum of 5 years and shall provide documentary evidence for the same.			Documentary evidence to be provided
12	The supplier should not have been debarred / blacklisted by Government of India / any State Government in India / Central or State Government undertaking on the Closing date of EOI and shall submit an undertaking signed by authorized signatory of the supplier.			Undertaking to be provided in their letterhead
13	The firm should be possessing certified quality systems such as ISO 9001, ISO 14000 or any other relevant system and shall submit the Quality Certificates for the same.			Documentary evidence to be provided
14	Whether supplier supplied CEV Stage-IV / equivalent emission norms diesel Engines for use on Mining and Construction Dump truck application			If YES, indicate number of engines manufactured and supplied in details column and documentary evidence to be provided

Detailed information sought for Qualification:

Sl. No.	Parameter	YES/NO	Details	Remarks
1	Proven diesel engines on Mining and Construction Motor Grader application should be offered.			Supplier should indicate YES or NO
2	Willingness to offer CEV Stage-IV / equivalent emission norms diesel engine with flywheel, flywheel housing, sump, AC Compressor drive with suitable mounting provision for compressor, etc., suitable for engineering on BEML equipment. In case the offered engine with flywheel, flywheel housing, sump etc, is not suitable in as is condition, development of any additional components and scope of supply of additional items will be decided mutually to meet BEML requirement. The final acceptance of additional components and the extent of modification required are solely at the discretion of BEML.			Supplier shall indicate the BEML equipment model/models in the details column for which interested.
3	The supply shall include after treatment kit, if required, to meet the requisite emission norms. The exhaust muffler / offered after treatment kit may be suitable for mounting on engine (excluding DEF tank which may be remote mounted) and customized jointly by BEML and supplier to meet the equipment envelope requirement.			
4	The supply shall include PRP items (Performance Related Parts) viz. air intake, cool pack, fan, Anti vibration mounts etc. or in any case shall be willing to extend technical support for developing (including prove out) the PRP items.			
5	The supplier shall share all necessary technical documents including 2D drawings and 3D models.			
6	The offered diesel engine shall be suitable for upgrading to CEV Stage-V / equivalent emission norms with minimal modification.			
7	The supplier shall submit CEV Stage-IV / equivalent emission norms certificate from authorized testing agency like ARAI for application rating.			
8	The supplier shall extend technical support during engineering and performance evaluation.			

9	Supply of spares & consumables necessary for operation of the equipment for a minimum period of 15 years from the date of last supply shall be ensured.			
10	The supplier shall provide training to BEML engineers/ Customer service personnel for trouble shooting & maintenance of the engine.			
11	The supplier should be in the business of supply and installation of diesel engines for mining and construction mobile crawler equipment application for a minimum of 5 years and shall provide documentary evidence for the same.			Documentary evidence to be provided
12	The supplier should not have been debarred / blacklisted by Government of India / any State Government in India / Central or State Government undertaking on the Closing date of EOI and shall submit an undertaking signed by authorized signatory of the supplier.			Undertaking to be provided in their letterhead
13	The firm should be possessing certified quality systems such as ISO 9001, ISO 14000 or any other relevant system and shall submit the Quality Certificates for the same			Documentary evidence to be provided
14	Whether supplier supplied CEV Stage-IV / equivalent emission norms diesel Engines for use on Mining and Construction Motor Grader equipment.			If YES, indicate number of engines manufactured and supplied in details column and documentary evidence to be provided

Detailed information sought for Qualification:

Sl. No.	Parameter	YES/NO	Details	Remarks
1	Proven diesel Engines on Mining and Construction mobile application should be offered.			Supplier should indicate YES or NO
2	Willingness to offer CEV Stage-IV / equivalent emission norms diesel engine with flywheel, flywheel housing, sump, AC Compressor drive with suitable mounting provision for compressor, etc., suitable for engineering on BEML equipment. In case the offered engine with flywheel, flywheel housing, sump etc, is not suitable in as is condition, development of any additional components and scope of supply of additional items will be decided mutually to meet BEML requirement. The final acceptance of additional components and the extent of modification required are solely at the discretion of BEML			Supplier shall indicate the BEML equipment model/models in the details column for which interested.
3	The supply shall include after treatment kit, if required, to meet the requisite emission norms. The exhaust muffler / offered after treatment kit shall be suitable for mounting on engine (excluding DEF tank which may be remote mounted) and customized jointly by BEML and supplier to meet the equipment envelope requirement.			
4	The supply shall include PRP items (Performance Related Parts) viz. air intake, cool pack, fan, Anti vibration mounts etc. and shall be willing to extend technical support for developing (including prove out) the PRP items.			
5	The supplier shall share all necessary technical documents including 2D drawings and 3D models.			
6	The offered diesel engine shall be suitable for upgrading to CEV Stage-V / equivalent emission norms with minimal modification			
7	The supplier shall submit CEV Stage-IV / equivalent emission norms certificate from authorized testing agency like ARAI for			

	application rating			
8	The supplier shall extend technical support during engineering and performance evaluation			
9	Supply of spares & consumables necessary for operation of the equipment for a minimum period of 15 years from the date of last supply shall be ensured.			
10	The supplier shall provide training to BEML engineers/ Customer service personnel for trouble shooting & maintenance of the engine			
11	The manufacturer should be in the business of supply and installation of diesel engines for mining and construction mobile equipment application for a minimum of 5 years and shall provide documentary evidence for the same			Documentary evidence to be provided
12	The supplier should not have been debarred / blacklisted by Government of India / any State Government in India / Central or State Government undertaking on the closing date of EOI and shall submit an undertaking signed by authorized signatory of the supplier.			Undertaking to be provided in their letterhead
13	The firm should be possessing certified quality systems such as ISO 9001, ISO 14000 or any other relevant system and shall submit the Quality Certificates for the same			Documentary evidence to be provided
14	Whether supplier supplied CEV Stage-IV / equivalent emission norms diesel Engines for use on Mining and Construction mobile equipment.			If YES, indicate number of engines manufactured and supplied in details column and documentary evidence to be provided