

Notice for invitation for Expression of Interest from interested renowned players having state of the art facilities for Manufacturing of Bogie Frames including Machining for Metro & Other EMU Applications.

Note - Bogie frame is traceable and life critical items for Metro Car.

BEML is a Miniratna Category-I Company under Ministry of Defence and is a multi technology company offering high quality products to diversified business segments viz. Defence, Rail & Metro, Mining & Construction etc.

BEML LIMITED is a leading supplier of Rolling Stocks for Metros in India and already has presence in Delhi, Jaipur, Bangalore & Kolkata.

In order to address these huge opportunities, BEML would like to off-load manufacturing of Bogie Frames for Metro & other EMU applications and related spares.

In this regard, BEML herewith seeks an Expression of Interest (EoI) from interested renowned players (herein after referred as "**Firm**") having state of art facilities & expertise for a win-win situation for both the parties.

BRIEF REQUIREMENTS FOR MANUFACTURING OF BOGIE FRAMES

The Bogie Frame is of Bolster-less "H" type Fabricated Frame construction with two Side frames, a Tubular Transom. After fabrication, the Bogie Frame is Stress relieved and Machined to facilitate for assembly.

The Firms should be a reputed Manufacturer having State of the art Facility, Capabilities & Expertise to Manufacture Bogie Frames for Metro/EMUs & Other types of Rolling Stock Bogies.

Scope of EoI

Part A: Manufacturing of Complete Bogie Frame including Machining, CMM Inspection & Finish Painting.

Part B: Machining, CMM Inspection of Bogie Frames.

Firms participating in **Part A** Scope should have experience in Metro Bogie Frame Manufacturing and should have supplied to Rolling Stock Manufacturers/Metro Corporations.

However, the firms having experience in manufacturing of fabricating structures including Machining with minimum 2 tons and above with world class quality assurance having done export of welded/fabricated products (or) deemed export (or) quality to the export standard may be considered for developmental Orders subjected to requirement.

Para .1.0 : Process Requirement for Fabrication of Sub-Assemblies

1. Primary detail components Manufacturing;
 - a. Laser Cut/CNC Plasma (or) Flame cut all the detail parts with BEML approved nesting plan and shall carryout edge preparation only by Machining.
 - b. Plasma (or) Flame cutting shall be carried out with standard CNC cutting machines, prevent taper, over & under cutting at the edges along the flame path and grind, de-burrs all the edges.
 - c. The details components shall be shot blasted & free from scales, pit marks, slags, distortion, shrinkages/wreckages etc. before processing for Machining/Forming Operations.
 - d. Forming/Bending Operation shall be restricted to Single Operation. If more than one stroke is required for a Component, necessary care to be taken to avoid Tool Marks during forming processes.
2. Fabrication of Sub-Assy & Assembly shall be carried out with Gas metal arc welding (GMAW) with Wire dia of 1.2 grade AWS A5.18 ER 70S-6 with 80% Argon and 20% CO2 as shielding gas in accordance to approved WPS and as per EN 15085.
3.
 - a. Jigs, Fixtures, Spinners, Manipulators, Process flow, Process sheets, welding sequence etc to be furnished to BEML for approval before starting first Proto Sub-Assemblies and Bogie Frame main assembly
 - b. Bulk Production after Proto Clearance and approval from BEML.

4. Welding shall be carried out uniformly along the length and avoid tri-axial welding & distortion. Weld spatters, heat marks due to welding during fabrication shall be removed before taking up for next Assy Stage.
5. Robotic Welding for Fabrication is preferred.
6. Side Frame Assy & Lateral Buffer Assy should be shot blasted before covering the top plate, including the inner bottom surface of closing top plate and Heat Resistant painting (Grade-1 of IS 13183 -1991) to carry out before closing of Top plate as indicated in the Assembly drawings and as per Painting specifications.
7. Pre-Heating of Dissimilar Materials viz Plates, Forgings & Castings Parts by Oxy Acetylene Flame before full welding of components, Sub Assembly/Assembly as specified in the WPS/Drawings.
8. Visual Test Checks, UT, MPT, DPT and Radiography Tests to be carried out on joints, where radiographic quality of weld is specified in the drawings/Inspection Test Plan and reports shall be submitted along with X-ray films in accordance with the Inspection Test Plan & Welding Specifications provided by BEML Ltd.
9. All radiography and other test reports shall be certified by NDT personal having level-II or higher certification issued by ASNT or ISNT only.
10. Complete Bogie frame shall be Stress relieved and Temperature-Time (T-T) graph report to be submitted for all Bogie Frames. Stress relieving shall be carried out as per documents provided by BEML Ltd.
11. Dimensional check in accordance with the check sheet shall be carried before Machining of the Bogie frame and report to be submitted to BEML.
12. After Stress relieving, Shot Blasting & Primer Painting should be carried before taking up for Bogie Frame Machining as per the Painting Specification provided by BEML Ltd.
13. Machining & CMM Inspection
 - a. Bogie Frame to be positioned (Horizontal/Vertical) in such a way that Machining should be carried out in Single setting (or) a Maximum of two Settings.
 - b. Machining of Bogie Frame to be done on a 5-Axis Machining Center, the dimensions to be checked in 3D CMM Bridge/Gantry Type preferred/FARO arm type.
 - c. Machined surfaces, tapped holes to be coated with rust preventive coating as per IS: 1154-2000 and ensure tapped holes should be checked with thread gauge & to be covered with dummy/plastic plugs.
 - d. Finish painting of Bogie Frame should be carried out after CMM inspection and as per the Painting Spec provided by BEML Ltd (Paints are under BEML Scope).

Notes to Comply

1. Bogie frames shall be properly packed and dispatched to avoid transit damage, paint peel off, scratches, dents etc.
2. Firm to depute representative at BEML, BC to carry all reworks, modifications if any raised by BEML Quality/ Customer inspection, transit damages of Bogie Frame if any and also to assist issues related to Manufacturing error.
3. The Materials required for Manufacturing of Bogie Frame will be in BEML Scope and strictly adhering to drawing requirement/specifications. Damages/wastages due to poor & improper storage of items, workmanship etc. shall be the responsibility of Firm.
4. The Bogie Frame structure is subjected to continuous improvement in design modifications, the Firm executing shall be responsible to carry out modifications/design improvements and to obtain clearance from inspection/quality team as and when required/necessitated.
5. The Firm shall be responsible for Bogie Frames supplied during warranty for any Manufacturing defects.
6. The Firm shall be responsible for deputing his Engineers/representatives to BEML (or) Place designated for Technical meeting required by BEML.

Inspection & Clearance:

1. All Inspection Templates for Detail Components shall be certified with CMM and to be offered to BEML.
2. An Inspection team (BEML & Customer) will be deputed at Firm's premises during Proto Bogie frame manufacturing for Process validation and also during regular production.
3. The Bogie Frames shall be offered to BEML inspection/BEML Customer inspection. The firm shall associate with BEML quality team for final inspection & clearance from end user and should carry out any modifications suggested by inspection/quality team.
4. Only Qualified/Certified welders shall be allotted for Bogie Frame welding.
5. BEML will carry out tests for Welders & the Welders have to pass the test, Max. 3 iterations are permitted.
6. Visual Test Checks, DPT, UT, MPT & Radiography Tests shall be carried as specified in the drawings.
7. The Vendor shall maintain & provide a copy of test reports, radiography tests, Stress relieving/inspection reports & Check sheets to BEML.
8. Fatigue Test will be done for Bogie Frame in BEML, R&D structural lab, KGF for the **Part A** scope. In the event of failure of the Frame attributable to Fabrication Quality, the entire test Cost has to be borne by the Firm.

Firm's Scope

- a. All tests reports should be submitted to BEML from NABL accredited labs only.
- b. All Material viz Plates, Castings, Forgings, Tubes & Rods, Paints will be in BEML Scope and shall supply to Firm as per the approved Nesting Plan and Firm shall supply the Finished Bogie Frames at BEML (FOB).
- c. Transit Insurance for despatch of Free Issue Materials will be arranged by BEML and Transit Insurance for delivery of finished Bogie frame shall be arranged by Firm at their cost.
- d. The firm shall ensure safety of the free issue materials issued by BEML. The Firm shall cover insurance for the free issue materials issued by BEML. Damage or loss if any on the material shall be borne by the Firm.
- e. All welding consumables, Oils, Lubricants, Coolants, Grease etc.

Material Specification for Welding consumables, Heat Resistant Paint, Rust Preventive Oils and its expiry details should be furnished to BEML for approval before manufacturing of Bogie Frame

Para .1.1: Facility Criteria for Qualification

1. Laser/Plasma Cutting Machine with capability to cut Plates, upto at least 20mm and flame cutting upto at-least 100mm. Size of plates will be about 1.25m to 1.5m width x 5m to 9m length.
2. Shot Blasting Machine with Booth to handle Components, Sub-Assy & Main Assy (Dimensions of Bogie Frame H: 2 Mtrs x L: 5 Mtrs x W: 4 Mtrs).
3. Stress relieving Furnace capable of generating Temperature-Time (T-T) graph reports which shall be Owned/Arranged.
4. Visual Test Checks, DPT, UT, MPT and Radiography Tests to be Carried out on joints where radiographic quality of weld is specified (All radiography reports shall be certified by NDT personal having level – II or higher certification issued by ASNT or ISNT only).
5. High Capacity CNC Hydraulic Press Brakes to Form Components upto 20mm Thk in Single Operation. If necessary custom made dies to be arranged to meet the critical dimensional parameters of components.
6. Plates Straightening Machines for Components Viz. Rollers, Presses etc
7. Hydraulic Check & Straightening Machine for Sub-Assys upto at least 500 Ton.
8. Surface Tables of min. size 4mtrs x 6mtrs for layout of Side Frames, Transom and Bogie Frame.
9. Machining Center Viz. CNC Milling, Turning, Boring, Drilling for Components & Sub-Assemblies etc.

10. Gas Metal Arc welding (GMAW) Machines with Wire Dia of 1.2 Grade AWS A5.18 ER 70S-6 with 80% Argon and 20% CO2 as shielding gas. Calibration & MAKE details to be submitted to BEML.
11. Design capability for Jigs & Fixtures for Sub-Assy, Main Integration Assys etc
12. Machining Center 5-Axis for Bogie Frame and inspection using 3D CMM. The CMM facility may be Owned/Arranged, reports to be submitted to BEML.
13. Painting Booth (Environmental Clearance Certificate from Statutory authorities to be produced).

Para .1.2: Other Criteria for Qualification

1. Capable of delivering Part A, B as per Purchase Order every alternate day irrespective of Sunday or Holiday totaling to 24 Frames/Month minimum.
2. Firm will be provided all time 3 months inventory of BEML Raw Materials and to be returned within 3 months.
3. Scope may be increased (Part A, B) during process based on mutual acceptance and based on performance like Quality and Delivery Schedule. BEML reserves the right to reduce/cancel the scope in case of failure by firm to meet delivery schedule.
4. Firm to make presentation at BEML premises with above and additional details to show case their capability. Further, BEML will depute a team for assessment. Subsequently the customer also will assess the firm.
5. Short listed firms will be included in the Tender only after Customer Approval.
6. Firms which have failed to execute contract as per schedule regarding the Bogie Frames as per earlier Purchase Order of any Metro project; within past 5 years need not participate in this EoI or forthcoming tender.
7. Firm black listed within past 5 years by any Metro, Govt., Pvt Organizations due to any reason need not participate in this EoI.
8. Firm has to execute Integrity Pact, NDA before Order execution, Copy attached. Firms confirming will be eligible to participate in this EoI & forthcoming tender.
9. Reference drawings of Part A, B attached.
10. Firm to share their **Product Acceptance details by Customer** for last 5 years.
11. Submission of Quality Certificates such as ISO 9001, ISO 14000, OHSAS 18001 and other Certificates issued by member of International Association for Classification Societies related to Company as applicable.
12. The Firm activities, location, relationship with respect to Bogie Frame/Machining shall not have any business interest conflict with BEML.
13. During the pendency of the Contract, the BEML Certified/ Trained Manpower should not be diverted to other Projects.

COMPANY PROFILE

Company Profile and other details to be submitted as per the format below with appropriate supporting documents:

SL No	General Information
1	Name of company:
2	Nature of the Company: (Public Ltd/ Private Ltd/ Partnership / Proprietary concern)
3	Country of Origin:
4	Year of establishment:
5	Whether Listed in any Stock Exchange in India : If Yes (Provide details)
6	Chief executive: Address: Telephone: Fax: E-mail: Mob: Website:
7	Details of head office: Address: Telephone: Fax: E-mail: Mob: Website:
8	Details of manufacturing facilities in India and abroad: Address : Telephone: Fax: E-mail: Mob: Website:
9	Head Contact person(s) Name(s): Designation: Address: Telephone: Fax: Mob: E-mail:
10	Product Range (Attach brochures and catalogues)
11	Details of Marketing/Liaison contact: Name(s): Designation: Address: Telephone: Fax: Mob: E-mail:

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Para .2.0 : Financial Capacity: (To be furnished)

1. The prospective Firm shall have positive Net Worth (the "Financial Capacity") as on the date of end of preceding financial year.

(In Rs Crores)

Sl No	Particulars	FY 1	FY 2	FY 3	FY 4	FY 5
T1	Net worth					
T2	Turnover					

Notes:

- a) The Firm shall have minimum Average Annual Turn Over **of INR 50 Crores** for the last five financial years **as per Audited accounts** (in term of Rupees equivalent adjusted to the last date of the financial year that ended on or before **31.03.2019**).
- b) The financial year as applicable in the country of origin of the Firms would be considered. The "last audited financial year" will be the latest financial year that ended on or before **31.03.2019**.
- c) The Firm shall attach copies of the Audited financial statements for 5 (five) years preceding the EoI publish date. The financial statements shall:
- Reflect the financial credentials of the Firm
 - Be audited by a statutory auditor;
 - be complete, including all notes to the financial statements
 - Correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).
2. Year 1 will be the latest completed financial year, preceding EoI date. Year 2 shall be the year immediately preceding Year 1 and so on.
3. The Firm shall provide an Statutory/Company Auditor's Certificate specifying the Net Worth of the Firm and also specifying the methodology adopted for calculating such Net Worth as illustrated below:

The Net Worth shall mean the sum of subscribed and paid up equity and reserves which shall be reduced by sum of revaluation reserves, miscellaneous expenditure not written off and reserves not available for distribution to equity share holders.

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INITIAL FILTER CRITERIA

S. No	Criteria	Yes	No
1	Is the Firm been barred by the Indian Central/ State Government, or any entity controlled by it, from participating in any project/Tender/Contract.		
2	Technical Capacity		
	Does the applicant have the facilities as per Para 1.1 of the EoI.		
3	Financial Capacity		
	Does the applicant meet the Financial Capacity as per para 2.0 of the EoI.		
4	Has the Firm been declared bankrupt / insolvent in the last Five (5) years?		

Notes:

- i. A "YES" answer to any of the above at Sl. No. (1), (4) will disqualify the Firm.
- ii. A "NO" answer to any of the above at Sl. No (2), (3) will disqualify the Firm.
- iii. For any false/misleading information furnished by the applicant against the Initial Filter Criteria, BEML reserves the right to undertake any actions as per the procedure/Internal guidelines including banning the Firm from participating in future tenders.

I solemnly declare that, to the best of my knowledge and belief, the information given in the above is correct and complete and is in accordance with the requirements of EoI.

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Details of Projects Executed: (Documentary Evidence to be furnished)

Firm shall furnish the following.

1. PAN Card issued by the Income Tax Department.
2. GST registration certificate.
3. ESI & PF registration certificate.
4. Furnish copies of Work Order/Experience certificate/Satisfactory Performance.
5. Business of providing similar services to various organizations including Govt. and Public Sector units.

DETAILS OF ELIGIBLE PROJECTS (To be furnished)

The Information shall be submitted in following format:							
S. No	Mass Rapid Transit System where proposed Bogie Frames has been used	Country	Quantity Supplied (Year-Wise)	Period in satisfactory Service [from/to]	Manufacturing Unit	Location of Purchaser / Client	Date of commencement & Completion of contract
	a	b	c	d	e	f	g
1							
2							

Notes:

1. Firms have to provide information in respect of each Eligible Project. The projects cited must comply with the eligibility criteria specified in the EoI, as the case may be information provided in this section is intended to serve as a backup for information provided in the EoI.
2. Applicant shall furnish a separate sheet for each Eligible Project.
3. The total number of Fabricated Bogie Frames supplied for each Eligible Project to be indicated above and the Qty to be provided here should indicate the break-up for the past 5 (five) financial years. Year 1 refers to the financial year immediately preceding the Application Due Date; Year 2 refers to the year before Year 1, Year 3 refers to the year before Year 2, and so on.
4. Experience for any activity relating to an Eligible Project shall not be claimed by two or more Members of the Consortium. In other words, no double counting by a consortium in respect of the same experience shall be permitted in any manner whatsoever.
5. Firms shall furnish documentary proof (Client Certificates) of execution of each of the eligible projects.

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COMPANY UNDERTAKING

Dated: _____

This is to confirm that to the best of our knowledge and belief that the information furnished in our Expression of Interest documents submitted to BEML Limited correctly describes the credentials and experience of our Company and individuals. We understand that any misrepresentation in the documents submitted may lead to our disqualification for associating with BEML Limited for the EMU project.

1. We hereby declare that we have fully and carefully read and understood all the contents of the documents of the EoI forwarded vide BEML letter
2. We hereby undertake that the Company has not been debarred / blacklisted by Government of India / any State Government in India / Central or State Government undertaking as on date.
3. We hereby declare that the number of arbitration cases pending against the company at the time of submitting this EoI is _____.
4. We agree that, if any false/misleading information was found to be furnished in the EoI documents submitted by us, BEML reserves the right to undertake any actions as per the procedure.
5. We agree that the data/commitment provided in the EoI documents by us, is completely binding on our company and may be made part/elaborated in future agreements to entered between our company and BEML.

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INFORMATION TO FIRMS

A) Information on BEML:

BEML Limited (<http://www.bemlindia.in>), a Government of India Undertaking (established in 1964) has three major Business verticals – viz. Mining & Construction, Defence and Rail & Metro for both the Indian and export markets. It is one of the largest engineering and manufacturing enterprises in India with annual Gross Revenue of over INR 3,300Crores for 2017-18.

BEML Limited offers a wide spectrum of products and services for core sectors like Mining, Railways & Defence, etc. with manufacturing units in the states of Karnataka and Kerala and a network of sales offices across India that enables customers with ready access to its wide range of products. Further, the full-fledged service centres and parts depots offer total equipment care, maintenance contracts and rehabilitation services. BEML Limited is accredited with ISO 9001 and ISO 14001 standard certifications. Some of the manufacturing divisions are accredited with OHSAS 18001 standard certification. BEML Limited has a good standing in international market by way of export of its equipments to Middle-East, South America, South-East Asian markets and African countries.

Rail & Metro business of BEML Limited, established to cater to the manufacturing needs of rolling stocks has successfully rolled out varied range of products like Rail Coaches, AC EMUs, DC EMUs, Stainless Steel EMUs, Rail Buses, 4 & 8 Wheeler OHE cars, Track Laying Equipments, Spoil Disposal Units, Utility Vehicle, BWTB Wagons, BFAT Wagons, BRSTN Wagons and BOMN Wagons. BEML Limited is the first rail coach-manufacturing unit in India to get ISO 9001 accreditation. This division is accredited with ISO9001-2015, ISO 14001-2015 & BS OHSAS 18001-2007 certifications. As of date over 17500 coaches have been supplied to Indian Railways. Diversifying into manufacturing the state-of-the-art technology stainless steel Metro Cars of both Broad Gauge & Standard Gauge, BEML has been a pioneer in this area in India and has delivered over 1500 coaches till date.

B) All the documents submitted by the applicants as response to this BEML letter including but not limited the Annexure as listed in BEML letter, are treated as Expression of Interest (EOI) documents

C) Expression of Interest documents shall be sent through email/post/courier or handed over in person to the following addresses within **15th Feb 2020 @ IST 1500 Hrs:**

Dy. General Manager (Materials),
BEML Limited,
New Thippasandra Post,
Bangalore-560075
Karnataka
INDIA
Ph: 08025022631

E-mails: rm@beml.co.in

Asst General Manager(Out sourcing)
BEML Limited,
New Thippasandra Post,
Bangalore-560075
Karnataka
INDIA
Mob: 9945779350

e-mail: rms.service@beml.co.in
rms.srm@beml.co.in

- D) All the pages of the EOI submission shall bear the sign and seal of the authorized signatory of the company.
- E) BEML reserves the right to withdraw/cancel the EoI proceedings without assigning any reasons whatsoever.

F) Check lists

SL No	Description on the Document	Clause Ref.	Yes/No
1	Company Profile	To be enclosed as per Annexure-1	
2	Brochures and Catalogues of Company	To be enclosed	
3	Financial Capacity	To be enclosed as per Para 2.0	
4	Copies of audited financial statements for the last 5 Years	To be enclosed as per Para 2.0	
5	Auditor Certificate specifying the Net Worth	To be enclosed as per Para 2.0	
6	Initial Filter Criteria	To be enclosed as per Annexure-2	
7	Documentary proof of Executed Projects	To be enclosed as per Annexure-3	
8	Firm participated in Scope	Part A	
		Part B	
9	Proof of Authority Document	-	
10	Whether each page of the EoI submitted have been signed and sealed by authorized signatory of the company	-	