

GOVERNMENT OF INDIA, MINISTRY OF DEFENCE
DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION
TERMINAL BALLISTICS RESEARCH ORGANISATION
SECTOR - 30, CHANDIGARH - 160 030

Introduction:

TBRL has developed a continuous process for production of propellant grade fine β -HMX /fine RDX of mean particle size less than 6 micron (surface mean) with narrow distribution and has scaled up the process to required production capacity. The fine β -HMX is free from undesirable polymorphs of HMX such as α , γ and δ which are unstable and sensitive in nature. The process is safe and environment friendly due to recycle of solvent. By use of this HMX/RDX, the I_{SP} of the propellant has increased by 7- 8%. Due to this performance improvement, the materials have been extensively used in the development of high performance rocket propellants. The materials have met all technical specifications of propellant grade fine Nitra amine and presently are in use for production of import substitute Rocket propellant. Therefore, the requirement of this propellant grade fine β -HMX/RDX has increased many folds in missile and space programs.

To find suitable industrial partners for mass production of this propellant grade fine β -HMX/RDX.

This is a novel process which gives a narrow range of particle size distribution of fine β -HMX/RDX that is free from undesirable polymorphs of HMX such as α , γ and δ . The process is safe and environment friendly and economical due to recycle of solvents. During the complete process cycle, the cost of the product is also low.

PRE QUALIFICATION CRITERIA

1. Only Indian company or consortia of Indian companies wholly owned by Indian individuals/companies are allowed to participate in this EOI. The consortium of Indian companies has to execute an MoU/Agreement between them and define the lead company who shall be responsible for all other constituent companies of the consortium for the purpose of this EOI. A constituent firm cannot be a part of two consortia participating in this EOI.

2. Company/consortia of companies should hold valid licenses for processing of explosives, ammunition filling (Detonators, PETN/RDX etc.).
3. The company / lead company of consortium of Indian companies should have an annual turnover of Rs.50 Crores for the last three years. Fundamentals of the company, like company profile, balance sheets and income tax returns etc. for last three years will be mandatory to assess the capability of the firm to undertake the order for subsequent bulk production.
4. On receipt of EOIs, the same will be scrutinized by a committee of experts duly constituted by the Director, TBRL who shall assess the suitability of the firms for this task. If required, the committee may visit premises of the industry seeking ToT for assessment.
5. DRDO at its discretion can transfer the technology to more than one vendor.

FORMAT FOR APPLICATION FOR EXPRESSION OF INTEREST

1.	Name and full address of the Organization	
2.	Management Structure	
3.	Contact Person with designation	
4.	Contact telephone numbers and fax No. and Email address	
5.	Current operational areas of work	
6.	Turnover for last three years	
7.	Approval/registration with any Govt./Agency	
8.	Details of expertise available in the production of explosive materials	
9.	Regular manpower available on roll	
10.	Available in house analysis facility, quality assurance/quality control facility	
11.	Areas of work where expertise available, pl. elaborate (Explosive processing/Mechanical/ Electrical/Chemical/ etc.)	
12.	Similar work done for any government agency such as DRDO/ISRO/DAE etc	
13.	Any other credentials in the subject area	
14.	Acceptance of TBRL terms and conditions	

In addition to above details, industries seeking ToT are requested to submit following details with supporting documents:

- (a) Memorandum and Articles of Association (Should be incorporated as per Indian Companies Act, as amended time to time)
- (b) Certificates of registration as a manufacturing unit, if any.
- (c) Audited Balance Sheet for the preceding three years.
- (d) Income Tax returns for the preceding three year period.
- (e) Details of shareholding/ownership pattern especially foreign partners/ shareholders, foreign employees, directors, etc. The company must adhere to the

prevailing Govt of India policies and regulations on Foreign Direct Investment (FDI)/DIPP norms as applicable.

- (f) Annual budget for R&D during last three years.
- (g) Numbers and details of IPR or patents, etc., held by the company.
- (h) Number of technically or professionally qualified personnel.
- (i) Record of past performance (e.g., Supply orders executed against of Ministry of Defence orders, Public Sectors and Paramilitary Forces, if any).
- (j) Availability of adequate infrastructure (List of machines and their production capacities) and technical expertise.
- (k) List of Testing and Support equipments.
- (l) ISO/ ISI certification or any other certification
- (m) Relevant clearances form the authorities/ ministries (if any)
- (n) Capacity and capability to undertake developmental work and to accept attendant financial and commercial risks.
- (o) Capacity/capability to market the product through the marketing network, sales and service network, reliability to maintain confidentiality.
- (p) PESO and DPIIT license for explosive handling if ToT is for high energy Material, explosives, propellants, and component/ system dealing with it etc.
- (q) Under taking from company seeking ToT that none of its Directors, Independent Directors, non-executive Directors, Key management personnel are involved in any corrupt practices, unfair means and illegal activities.