

**Technology for Production of High Explosive Composition and its filling in 40mm x  
46mm HEAP & HEDP Grenades for UBGL/ MGL**

**Description of Technology:**

Two types of 40 mm Grenade ammunitions namely HEAP and HEDP are required to destroy targets using kill mechanisms viz armour penetration and blast & fragmentation respectively. To achieve respective QRs (The pressed composition PBXPW-2 developed possesses VOD of 8200 m/s and density of 1.64 g/cc for HEAP grenade and the pressed composition PBXPW-3 developed for HEDP grenade possesses VOD of 8400 m/s and density of 1.68 g/cc), high explosive compositions and their filling methodology in these ammunitions have been designed and developed by DRDO. The high explosive system in both the ammunitions consists of main charge and booster. Main charge consists of RDX based HE composition in case of HEAP and HMX based in case of HEDP. Booster is based on PETN in both cases.

HE compositions and their filling methodologies in these munitions have been finalized to realize the performance lethality at the given distances in terms of blast, fragmentation and penetration in MS targets respectively. The pressing technology has been developed for the main charges of the ammunitions and for boosters. Present ToT is for both the ammunitions namely HEAP (**PBXPW-2**) and HEDP (**PBXPW-3**).

All the development activities such as establishment of high explosive preparation technology, filling methodologies, all the performance evaluation trials, dynamic trials of both the ammunitions have been fully completed meeting all the QRs.

All the raw materials and equipment required are available indigenously.

1. Interested companies/industries are requested to apply against this EoI to following address:-

**To,**

**The Director**

**High Energy Materials Research Laboratory (HEMRL),**

**DRDO, Govt. of India, Ministry of Defence,**

**Sutarwadi, Pune-411 021**

**[Email-director.hemrl@gov.in](mailto:Email-director.hemrl@gov.in)**

2. A copy of interest may be sent to the following address without any attachment:-

**To,**

**The Director,**

**Directorate of Industry Interface & Technology Management (DIITM),**

**Room No. 447, DRDO Bhawan, Rajaji Marg, New Delhi-110 011**

**[Email-diitm.hqr@gov.in](mailto:Email-diitm.hqr@gov.in)**

**List of Support documents to be attached with EoI**

- (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 equipment's
- (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 form 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.
- (r) Details of the industrials license for defence manufacturing be provided by the industry seeking ToTs.