

**BRIEF ON MAKE - II PROJECT FOR
20 MM AIRCRAFT GUN AMMUNITION**

Brief about the Project

1. It is proposed to explore feasibility for indigenous design, development and manufacture of 20 mm ammunition for ALH (Advanced Light Helicopter) by the indigenous industry, through the Make II procedure of DPP 2016.

2. The equipment intended for development is as under:-

20 mm ammunition compatible with guns of ALH. The ammunition will be required in different types viz Target Practice (TP), Target Practice –Tracer (TP-T), High Explosive Inert (HEI) and Armour Piercing – Tracer (AP-T).

3. Indian vendors (term to include, public limited company, private limited company, partnership firms, limited liability partnership, one person company, sole proprietorship registered as per applicable Indian laws) desirous of undertaking the design/development/manufacture may submit their response, as per format placed at Appendix B, through letter, fax or email to:-

Make PMU (IAF)
Room No 490 (E),
Air HQ (Vayu Bhavan)
New Delhi – 110106
Telefax: (011) 23013225
Email: makeind.iaf@gov.in

4. Estimated time lines are as follows:-

(a)	Time period for response from industry	Six weeks (may extend)
(b)	Interaction with vendors and feasibility study	Eight weeks
(c)	If project found feasible, internal approvals and issue of EoI	Eight weeks (may extend)

5. **Technical Aspects.** Technical data related to item at para 3 above is attached as Appendix A.

6. **Questionnaire.** A generic format for examination of the project by the vendors is placed at Appendix B.

TECHNICAL ASPECTS

1. Desired performance characteristics:-

Shell weight	:	102 – 106 gm
Average Muzzle Velocity	:	975 – 1005 m/s
Cartridge weight	:	260 gm (Approx)
Cartridge length	:	168 mm
Tracing duration	:	≥ 2 s

2. Primer : Electrical Primer as per MIL P 1394F.

3. Length & Weight of Shell : 102 mm and 120 g

4. Temperature Limits : Safe for storage between -54°C to 74°C
Safe for functioning between -32°C to 51°C

5. Lifting Characteristics

(a) Shelf Life (In storage)	:	15 yrs
(b) Exposed Life	:	Not less than 01 year

6. Desired Fuse Characteristics

- (a) Impact Fuse
- (b) Self-destruction device
- (c) Safety during handling & use