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भारत सरकार
Government of India
एकीकृत मुख्यालय रक्षा मंत्रालय (आर्मी)
Integrated HQ of MoD (Army)
सामान्य स्टाफ शाखा
General Staff Branch
तोपखाना महानिदेशालय (तोपखाना-5)
Directorate General of Artillery (Arty-5)
नई दिल्ली - 110011
New Delhi – 110 011

A/75471/ATB/Modular/GS/57 /Arty-5 29 Jun 2020

IIT Delhi – deanrnd@admin.iitd.ac.in & adcorprel@admin.iitd.ac.in
MCGI, Delhi – kcchtphd@gmail.com & kctiwari@dtu.ac.in
IIIT Delhi – anand@iiitd.ac.in & dird@iiitd.ac.in
IIT Chennai – deanar@iitm.ac.in & deanadmn@iitm.ac.in
IIT Bombay – dean.rnd@iitm.ac.in
IIT Kanpur – dord@iitk.ac.in & doaa@iitk.ac.in
IIT Ropar – deanfaa@iitrpr.ac.in & deanar@iitrpr.ac.in & deanresearch@iitrpr.ac.in
IIT Mandi – deanacad@iitmandi.ac.in
IIT Bhubaneswar – deanrd@iitbbs.ac.in & deanaa@iitbbs.ac.in
IIT Gandhinagar – ap@iitgn.ac.in & pm@iitgn.ac.in
IIT Kharagpur – deanaa@hijli.iitkgp.ernet.in
IIT Roorkee – daa@iitr.ac.in & daiitr@iitr.ac.in & dsric@iitr.ac.in
IIT Hyderabad – office_rd@iith.ac.in & dean_rd@iith.ac.in
IIT Patna – adean_academic@iitp.ac.in & adean_rnd@iitp.ac.in
IIT Guwahati – dornd@iitg.ernet.in & adornd2@iitg.ernet.in
IIT Jodhpur – office_academic@iitj.ac.in
IIT Indore – dean.rnd@iiti.ac.in & adord2@iiti.ac.in
IIT Palakkad – Sebastian@iitpkd.ac.in & kurian@iitpkd.ac.in
IISc, Bangalore – dean.engg@iisc.ac.in & dean.sci@iisc.ac.in
IIM, Indore – dean-academic@iimidr.ac.in & dean-research@iimidr.ac.in

MODULAR ELECTRONIC FUZE FOR 155MM SHELLS WITH MODULAR POWER SOURCE AND EXPLOSIVE COMPONENTS

1. Indian Army has undertaken a project under the ATB (Army Technology Board) for development of a Modular Fuze for Artillery which will have replaceable batteries, so that the shelf life of the fuzes can be enhanced.

2. ATB projects aim at development of critical capabilities within the nation which can be utilised further on a commercial scale for mass production. Towards this end, a collaborative effort is required with the stakeholders being the Indian Army (User), Academia (Designer) and the Development Agency (Producer).

3. Hence, in order to harness the expertise with the academia, all IITs are being approached to assess the suitability of progressing the case. It is, therefore, requested that response may please be provided for further planning and execution. Brief of the case is attached at Appendix for your reference.

4. Please treat our last letter A/75471/ATB/Modular/GS/52/Arty-5 dated 12 June 2020 as cancelled.

(सौगत मुखर्जी)
(Saugata Mukherjee)
कर्नल
Col
कर्नल तोपखाना-5
Col Arty-5
(योजना और नई उपकरण)
(Plans & New Eqpt)

*Paul**

Enclosures : As above

Copy to

DGPP (Academia) - for information and necessary action please.

Appendix
(Refer Para 3 of Directorate General of Artillery letter number A/75471/ATB/Modular/ GS/ST/Arty-5 dated 29 June 2020)

MODULAR ELECTRONIC FUZE FOR 155MM SHELLS WITH MODULAR POWER SOURCE AND EXPLOSIVE COMPONENTS

1. **Aim**. Development of Modular Electronic fuze for 155mm shells with Power Source and explosive components to increase the shelf life of the fuze.

2. **Scope**.

(a) Development of Modular Electronic Fuze for 155mm shells with the following components:-

(i) Modular Power Source to provide 7 to 10 minutes of power.

(ii) Explosive components.

(b) Development of an induction based Common Fuze Setting device for Multi-Function Fuze and Time Fuze for Carrier Shells.

3. **Requirement**.

(a) Fuzes are a critical component of artillery ammunition. Dependence on foreign supplies of components is not desirable. In view of the large requirement of fuzes, due to indigenisation there is a need for self-reliance. While doing so there is a need to reduce the overall cost of holding the inventory by indigenisation and extension of shelf life.

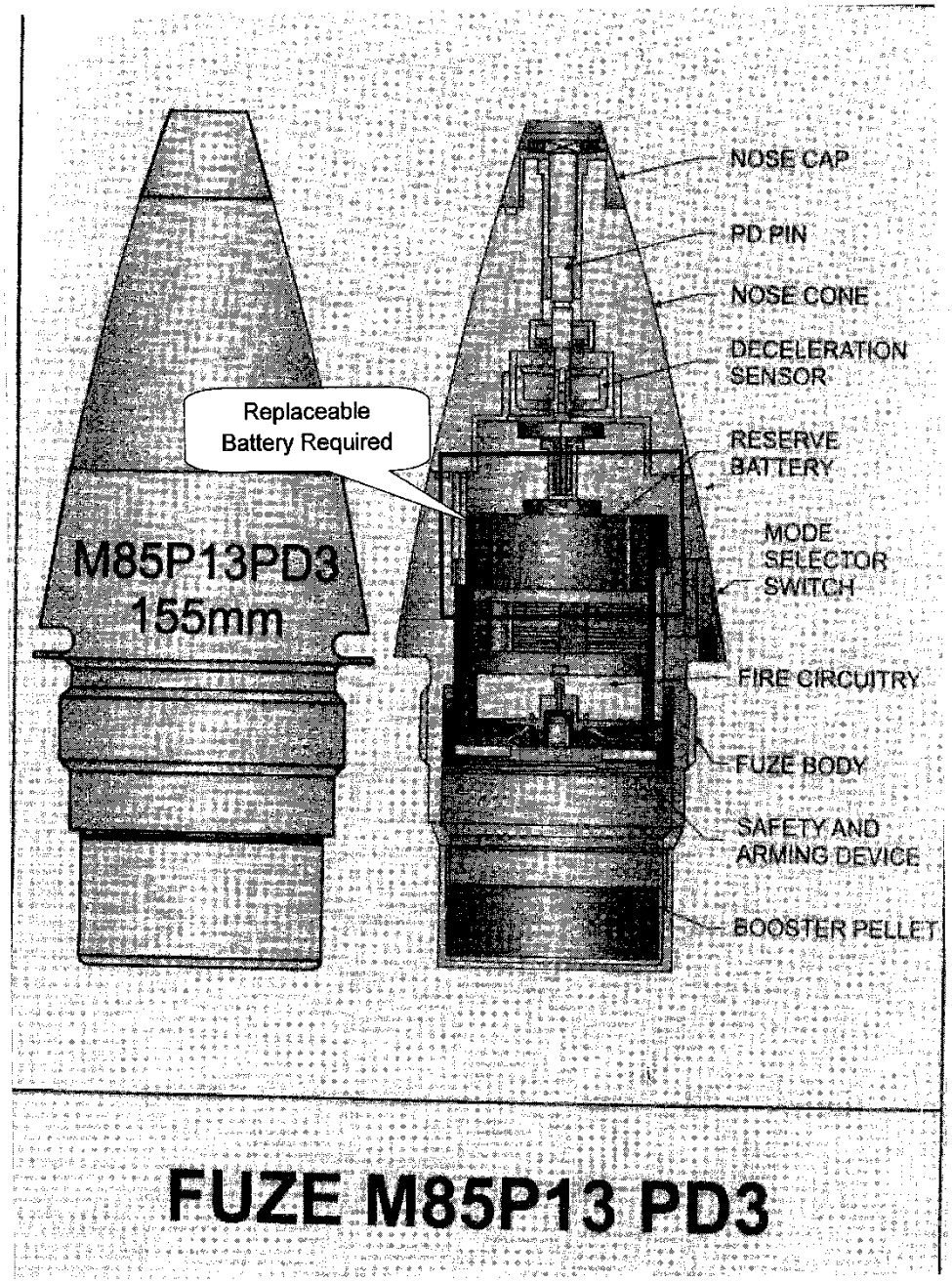
(b) The shelf life of the electronic fuzes for 155mm shells is limited by the shelf life of the battery and explosive components. Development of Modular Electronic Fuze for 155mm shells will increase the shelf life of the fuzes by two to three times (depending on the number of times it can be replaced).

(c) At present only three types of fuzes are held in inventory viz, Impact (Point Detonation), Proximity and Time Fuze for each mode of operation respectively. This increases the logistics and storage requirements. A multi-function fuze which could function on Impact (Point Detonation), Proximity Mode and Time Mode will ease the issue of logistics by reducing inventory to a single fuze with increased shelf life.

4. Cut Out diagram of an existing Electronic Fuze (Point Detonation) is given in Annexure A and a picture of Fuze Hand Setter is given in Annexure B.

Annexure A
(Refer Para 3(e) of Appendix A)

CUT OUT DIAGRAM OF EXISTING ELECTRONIC FUZE



Annexure B
(Refer Para 3(e) of Appendix A)

PHOTO OF EXISTING FUZE HAND SETTER USED WITH ELECTRONIC FUZES