

ESAD based Fuze for Mini Depth Charge (MDC)

DRDO lab TBRL, Chandigarh developed Mini depth charge is a hand emplaced weapon used against enemy troops entering coastal areas. The charge needs to be detonated at a pre-programmed depth and generate a destructive hydraulic shock. The existing MDC uses a pyro delay-based fuze uses primary explosive based detonator which are sensitive to heat, friction, shock and EMI. To overcome these limitations TBRL has designed and developed a fourth generation electronic safe and arm fuze. In this design an intrinsically safe secondary explosive based inline explosive train is used which enhances the safety of the weapon during transportation, storage and operational scenario. The developed fuze has following features:-

1. Fourth generation ESAD based fuzing technology.
2. Compatible with existing fuze interface of MDC.
3. Accurate electronic time-delay-based depth mapping.
4. Fuze arming through hydrostatic pressure switch.
5. Manual knob for depth setting.
6. Inline explosive train.
7. MIL-STD 1316F Compliance.

The design is the combination of rugged and reliable mechanical safeties and accurate electronic delay. A COTS primary battery having long shelf life is used as power source. An indigenously developed hydrostatic pressure switch is used for arming the fuze after reaching the required depth. The developed fuze has been qualified as per user specifications and successfully cleared under water trials in the laboratory. The ToT partner is expected to produce required number of fuzes and get involved with the design team during final qualification tests followed by user trials. Detonator will be provided by TBRL at the prevailing cost at the time as the same is not part of ToT.

Interested Industries are requested to forward their Expression of Interest (EoI) to Director TBRL, Chandigarh with a copy of Director DIITM, DRDO HQ on following address:-

To,

Director

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Copy to

Director

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Industries are requested to enclose supporting document in EoI as per Appendix 'D' of DRDO Policy and Procedure for ToT available at **<https://www.drdo.gov.in/sites/default/files/inline-files/drdo%20Policy%20%26%20Procedure%20%20for%20ToT.pdf>**