A Structured Approach to Fuze Technology Refresh

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Today’s Challenge

• Fuzing is a niche industry and the volume is relatively small.
• Fuze designs, particularly those with electronics, are typically obsolete before they are fielded.
• Because of shelf life requirements and the challenge of requalifying designs, fuze designs are relatively static for up to 20 years or more.
• DoD is no longer the driver for the supply of components. For electronics, we are far behind the buying power of companies like Apple, Ford, GM, Nintendo, etc.
• Rigid acquisition processes discourage design changes.
Today’s Opportunity

• Acquire fuzes so that changes in technology and manufacturing methods can be quickly, easily and proactively incorporated into ongoing production.
  • Systematically identify and replace aging technology.
  • Exploit new technology advances sooner.
  • Pre-plan qualification activity.
  • React more quickly to threat based requirements.

Adopt Industry Approach of Planning the Next Version while Fielding the Current Version

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Fuze Technology Insertion Challenges

• Do we need a formal requirements change?
• Will the Nomenclature change and affect Logistics?
• How do we proactively identify obsolescence?
• Is the item a continuous buy or batch buy?
• How do we connect the technology community with the acquisition community and the funding community?
• How do we pay for the cost of requalifying?
• Who’s the decision maker?
More Challenges...

- Re-qualification can be costly and time consuming. Pre-planning can streamline and reduce the scope of re-qualification.

- Gov’t engineers need to be much more aware of commercial electronic development as it relates to fuzes, so that stronger consideration is given to adapt commercial components.

- More active management is required to identify and prioritize specific technology insertions for each refresh cycle, ensuring all stakeholders are aligned.

- We also need to formally address (and waive as appropriate) certain requirements, such as the “20 year shelf life” requirement.

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The Good News

• New production contracts (typically every 5 years) are a built in opportunity to update designs and specs to insert new technology.

• Many fuzes are modular – the fuze can be updated without changing the munition.

• There is significant ongoing fuze design activity: Gov’t S&T, Joint Fuze Technology Program (JFTP), IRAD, etc.

• There is a lot of R&D work in modelling, which will speed the pace of development.

• The DoD Fuze IPT provides a great structure to align stakeholders and execute a strategy!
The New Approach

• **Annual cycle** - identify and prioritize technology refresh opportunities every year

• **Pre-planned upgrades** - while we are producing the current version

• **Coordinated approach** - Gov’t technology developers, Gov’t PMs, Gov’t requirements developers, Industry developers and producers.

• **Flexible** - ability to insert “out-of-cycle” priority changes
Go Forward Plan

Leverage existing DoD Fuze IPT and NAC Fuze Advisory Panel:

• Meet at least once per year to **focus on refresh** strategy.
• Gain a **common understanding** of gaps and needs.
• **Coordinate** technology development efforts.
• Identify **solid transition** opportunities.
• Establish an **acquisition approach to accept** the new technology.
• **Coordinate IP strategies**.
• **Track progress** on development and transition.

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If you want to be involved...

Contact me!

THANK YOU