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

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.

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.

If you want to be involved…

Contact me!

THANK YOU