



DoD Joint Fuze Technology Program (JFTP)

60th Annual NDIA Fuze Conference

Cincinnati, OH

10 May 2017

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Naval Surface Warfare Center
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Outline

- **BLUF and Background**
- **JFTP Process**
- **JFTP Project Highlights**
- **Key JFTP and Fuze IPT Events**



Bottom Line Up Front

- This program addresses, from a Joint Service perspective, advanced Fuze technology development associated with improving the lethality, reliability, and survivability of munitions and weapon systems.
 - Main JFTP Thrusts: Cluster munitions replacement fuzing, hard target fuzing M&S and characterization, next generation proximity fuzing
 - GOTChA process technology planning conducted and ongoing for all four FATGs
 - Fuze Technology transitions to weapon applications – insertion into weapon R&D roadmaps/plans, secure PM/PEO endorsements, collaborative efforts with Industry

Strategic Thrusts > Technology Planning > Technology Application

- FY17: 6.2 - \$5.9M, 6.3 - \$6.2M

**JFTP FY18 Proposal Process ongoing
FY19 Call for White Papers will come out in 1QFY18**



Joint Fuze Technology Program Management Structure



**OUUSD(AT&L)/(A)/
TWS/LW&M**

**Technical Advisory
Committee**



JOINT FUZE TECH PANEL OVERSIGHT COMMITTEE

PROGRAM MANAGERS (OSD, Army Air Force, Navy)

JFTP Support Staff

FUZE AREA TECHNOLOGY GROUPS

**FATGI – Hard Target
/ Survivable Fuzing**

Army, Navy, Air Force
Co-Chairs

SME Participants

**FATGII – Tailorable
Effects &
Initiation**

Army, Navy, Air Force
Co-Chairs

SME Participants

**FATGIII – High
Reliability Fuzing**

Army, Navy, Air
Force Co-Chairs

SME Participants

**FATGIV – Enabling
Fuze Technologies**

Army, Navy, Air Force
Co-Chairs

SME Participants

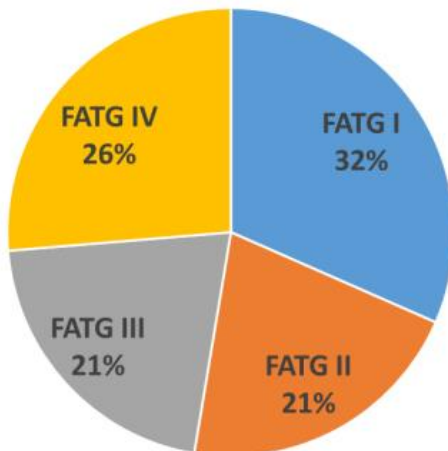


Budget History and Projections

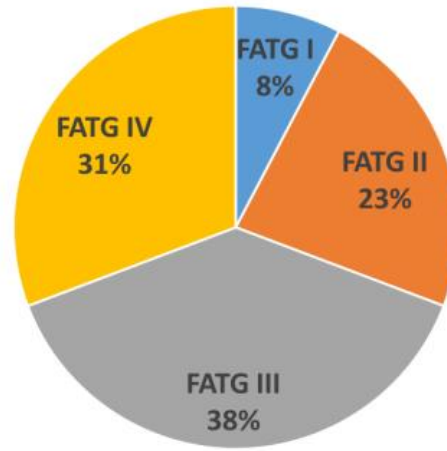
Budget by Year (\$M)

	FY16	FY17	FY18	FY19	FY20	FY21
6.2	6.270	5.794	6.248	6.319	6.405	6.531
6.3	6.686	6.202	6.658	6.706	6.797	6.930

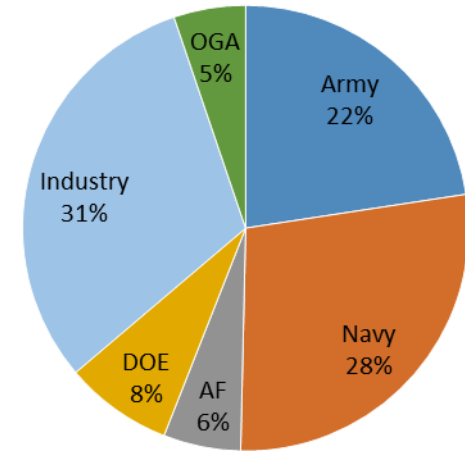
FY16 6.2 Funding Split by FATG



FY16 6.3 Funding Split by FATG

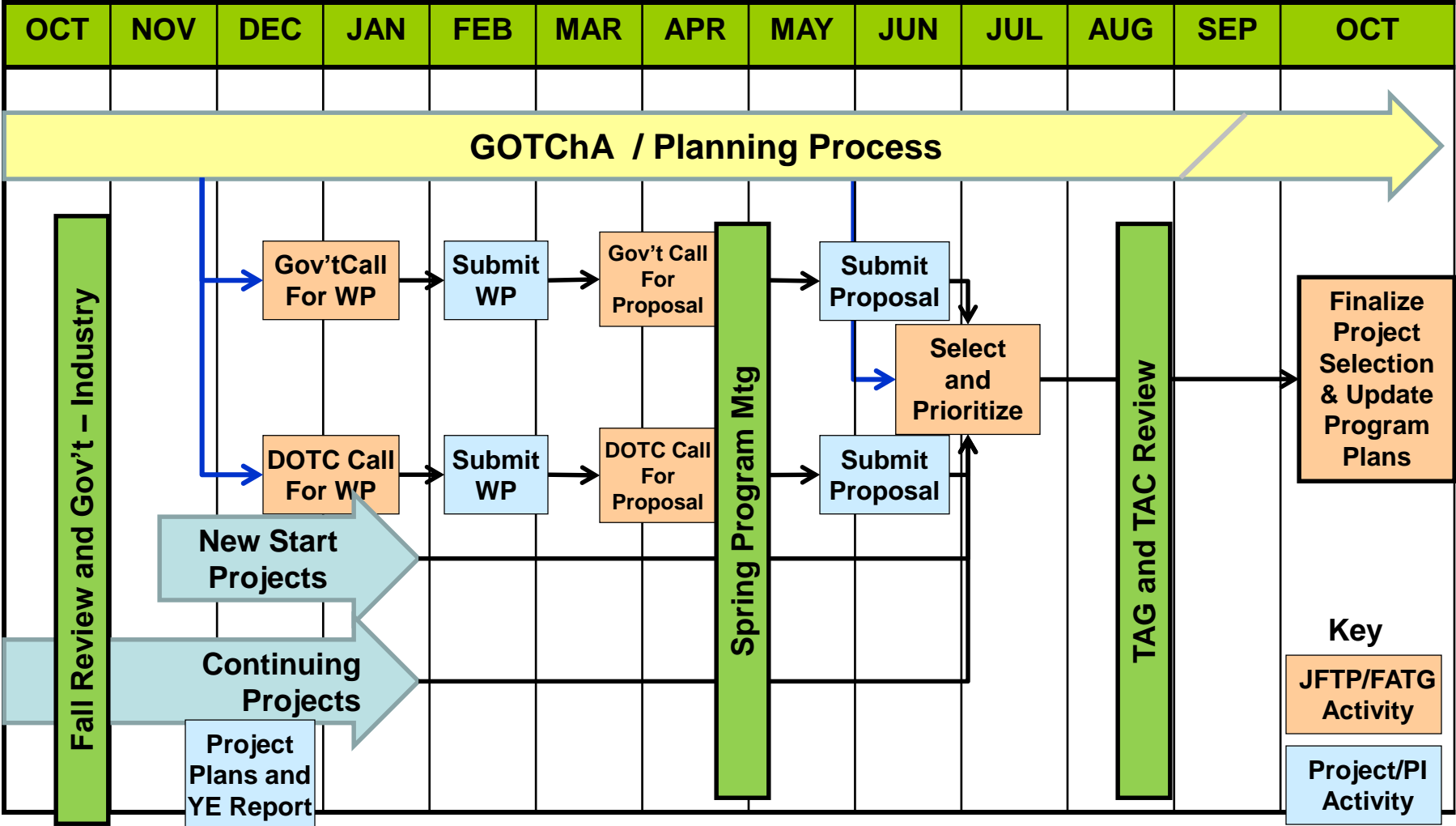


FY16 Funding By Executing Service or Activity





JFTP Annual Cycle





JFTP Service Requirements Flow-Down

GOTChA Process – Fuze Technology Plans

Air Force Weapon
Gaps

Army Weapon
Gaps

Navy Weapon
Gaps

JFTP Project Evaluation Criteria

1. Technology Innovation, Feasibility and Maturity
2. Technical Approach
3. Addresses FATG Goals & Objectives
4. Success Metric: Deliverables/Mil
5. Transition & Transfer
6. Leveraging/Cost
7. Cost Realism
8. Experience & C
9. Jointness & Ad Services' Need:

- Leveraging and Cost Sharing
- Meeting Joint Needs/Gaps
- Transition Strength

DOTC Annual Technology Plan - FY15 (7)
UNCLASSIFIED
DEPARTMENT OF DEFENSE
ORDNANCE
TECHNOLOGY CONSORTIUM



ANNUAL TECHNOLOGY PLAN - FY15

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Fuze Area Technology Groups

FATG I – Hard Target / Survivable Fuzing

Improved M&S

Measure Fuze Environment

Replicate Fuze Environment

Next Generation Fuzing Hardware

FATG II – Tailorable Effects & Initiation

Robust fuze technologies (architecture and components) to increase the spectrum of targets while decreasing collateral damage

Fuze initiation energetics/energetic component technologies

FATG III – High Reliability Fuzing

Area Effects Fuzing:

Measure and Replicate Fuze Environment

Model Fuze in chaotic environment

Critical Fuzing Components

FATG IV – Enabling Fuze Technologies

Common / Modular Fuze Architecture

Component and Sensor Technologies

Proximity Sensors



JFTP Project Highlights (FATG I)

JFTP Project, Fuze Modeling Grand Challenge: Computational Comparisons Round 3 (Session VA)

- Provides a baseline comparison of computational modeling tools in predicting fuze response using common test platform

JFTP Project 15-G-015: Hard Target Detection Algorithm Using Multi-Threshold G-Switches (Session IIIB)

JFTP Project: Using Modeled Impact Response of 3-D Printed Materials for High-G Survivability (Session IVB)

JFTP Project: Fatigue and High Strain Rate Behavior of SAC305 Solder (Session VA)



JFTP Project Highlights (FATG II)

JFTP Project: Vertically Integrating Switching Technology Progress and Test Results (Session IIIB)

JFTP Project: Hardened Selectable Multipoint Fuzing (Session IVB)

JFTP Project: Wireless Power Transmission for Remote Fuzing Applications (Session IVB)

JFTP Project: DoD MEMS Fuze Explosive Train Evaluation and Enhancement (Session VA)



JFTP Project Highlights (FATG III)

**JFTP Project : Energy Harvesting and Event Detection for ESFA in Gravity
Dropped Weapons (Session VB)**

**JFTP Project: Computational Evaluation of MEMS Latching Technologies
(Session VA)**

**JFTP and ONR Project : High Reliability DPICM Replacement (HRDR)
(Session IIIB)**

JFTP and ARDEC Project: DPICM-XL High Reliability Fuzing (Session IIIB)

**JFTP Project: Micro Scale Materials and Energetic Effects Characterization
(Session IVB)**

JFTP Project: DoD MEMS Fuze Reliability Evaluation (Session IVA)



JFTP Project Highlights (FATG IV)

JFTP Project: Advanced Analysis Techniques for the Implementation of Flash Devices In Safety-Critical Applications (Session IVB)

- Provides knowledge and issue guidance to DoD fuze and weapon community about Field Programmable Logic Devices for standardized, safe and effective use of F-PLDs in fuzing & weapons

JFTP Project: Imaging Fuze Experimentation for Weapon Terminal Burstpoint Control (Session IIIB)

JFTP Project: Fuze Setting Technologies for Rockets & Missiles (Session VB)

JFTP Project: Stacked MOSFET/IGBT Pulse Discharge Switch (Session IIIB)

JFTP Project: Joint Fuze Technology's Next Generation Proximity Sensors (Session IIIB)

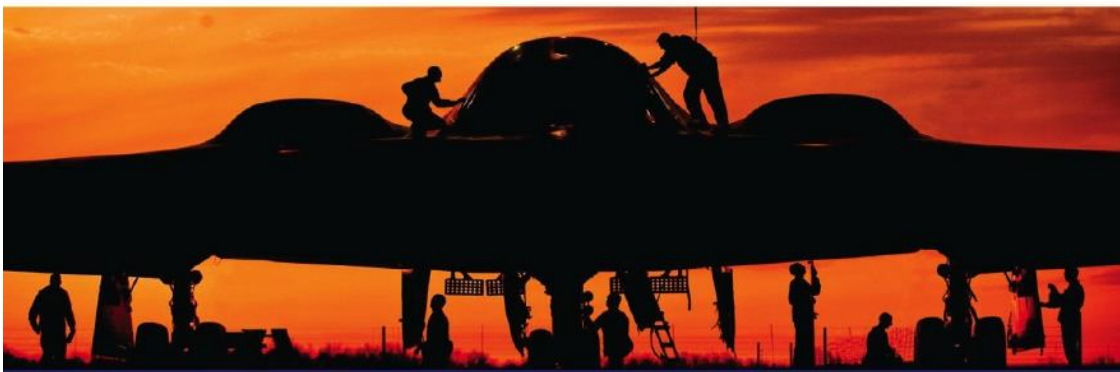


DoD JFTP and Fuze IPT Key Dates

- **16 May 2017 – FY18 Govt Proposals due**
- **16 May 2017 – Industry / DOTC FY18 Proposals due**
- **Sept-Oct 2017 – JFTP proposers notified of acceptance/nonacceptance**
- **14-16 Nov 2017 – 49th DoD Fuze IPT / JFTP Fall Review (DoD, DOE and NAC attendees)**
- **1Q FY18 Call for FY19 JFTP White Papers**



Questions ?



Developing Fuzing Solutions for the Warfighter

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