679th Armament Systems Squadron

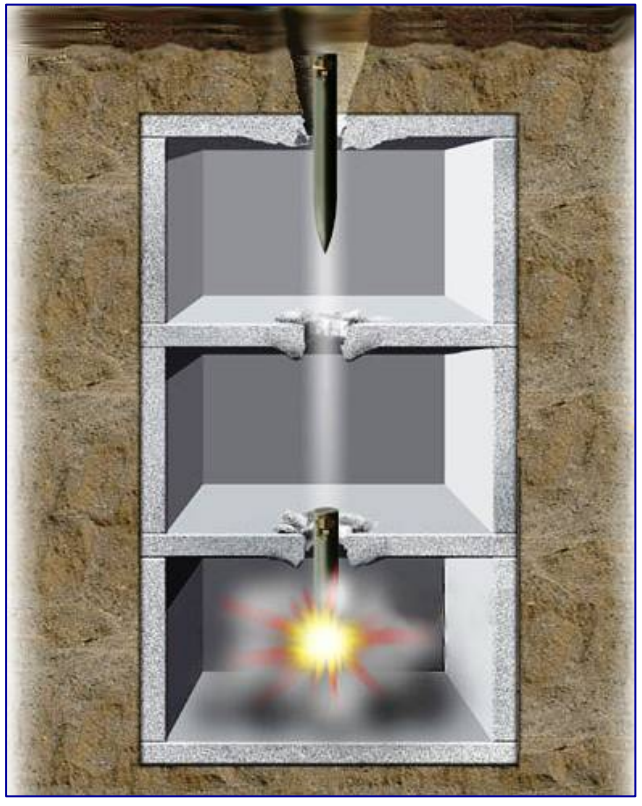
52nd NDIA Fuze Conference

"Smart Fuzing – Adding Intelligence to Fuzing Solutions"

Air Force Acquisition Strategy

13-15 May 2008

U.S. AIR FORCE



Michael W. Campbell
Director, 679th ARSS
Eglin AFB, FL
DSN 872-8787, ext 2328

U.S. AIR FORCE

Purpose

- Provide information on what we are doing at the Air Armament Center to improve our program results
- Foster alignment of expectations between our Government teams and our Industry counterparts
- Get creative juices flowing on “both sides of the table” to develop better ways to establish and execute our programs
- Integrate and rationalize improvement efforts

On-Time, On Cost… CRADLE-TO-GRAVE!
For Our Warfighters

Air Armament Center

U.S. AIR FORCE

Program Executive Officer for Weapons and Commander
Maj Gen Eidsaune

Deputy PEO and Executive Director
Ms Stokley

Vice Commander Deputy For Support
Brig Gen Wilson

308th ARSW
Dr Simpson

46th Test Wing
Col Plumb

96th Air Base Wing
Col Pohland

IG (Inspector Gen)
Col Denison

XR (Capabilities Integ)
Dr Corley

CS (Chief of Staff)
Col Buell

XP (Planning)
Mr Arnold

EN (Engineering & AE)
Mr Israel

SE (Safety)
Mr Phillips

PK (Contracting)
Ms Jay

JA (Judge Advocate)
Col Caggiano

FM (Financial)
Col Shaw

DP (Manpower)
Ms McGehee

308th Armament Systems Wing

Col Michelle Miller Peck
Vice Director
850-883-0687 (DSN 875)

Dr. L. Bruce Simpson, SES
Director
850-883-0673 (DSN 875)

John S. Batog
Vice Director Navy
850-882-8623 (DSN 872)

Christopher L. Clay
Technical Director
850-883-3083 (DSN 875)

Gary A. Williams
Chief of Contracting
850-883-0688 (DSN 875)

Della R. McPhail
Chief Financial Officer
850-883-0304 (DSN 875)

Margaret R. Villagran
Chief of Logistics
850-883-0674 (DSN 875)

Col John R. Griggs
Commander
308th ARSG
850-883-5340 (DSN 875)

Col Scott Rumph
Commander
328th ARSG
850-883-0343 (DSN 875)

Terrence May
Director
408th ARSG
850-883-3801 (DSN 875)

Lynda Rutledge
Director
708th ARSG
850-882-3525 x3311
(DSN 872)

Col Cyril Socha
Commander
728th ARSG
850-883-1088 (DSN 875)

Brian Rutledge
Director
808th ARSG
850-883-3531 (DSN 875)

Col Richard D. Justice
Commander
918th ARSG
850-882-7321 x2253
DSN (872)

708th Armament Systems Group

U.S. AIR FORCE

Director

Lynda Rutledge

Acting Deputy Dir

Lt Col Mike Kelly

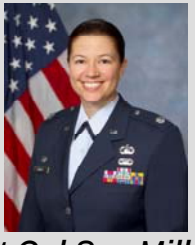
Technical Director

Ann Jenkins

Business Director

Sallye Belton

JDAM SQ/CC



Lt Col Sue Miller

FUZES SQ/CL

Michael W Campbell

Agile Combat Sup SQ/CC

Lt Col Mike Kelly

INT'L SQ/CL

Joana Negron

HTVSF Flt/CC

Vacant

JPF Flt/CC

Maj Jason Schafer

Our Journey to Excellence

U.S. AIR FORCE

AIR ARMAMENT CENTER

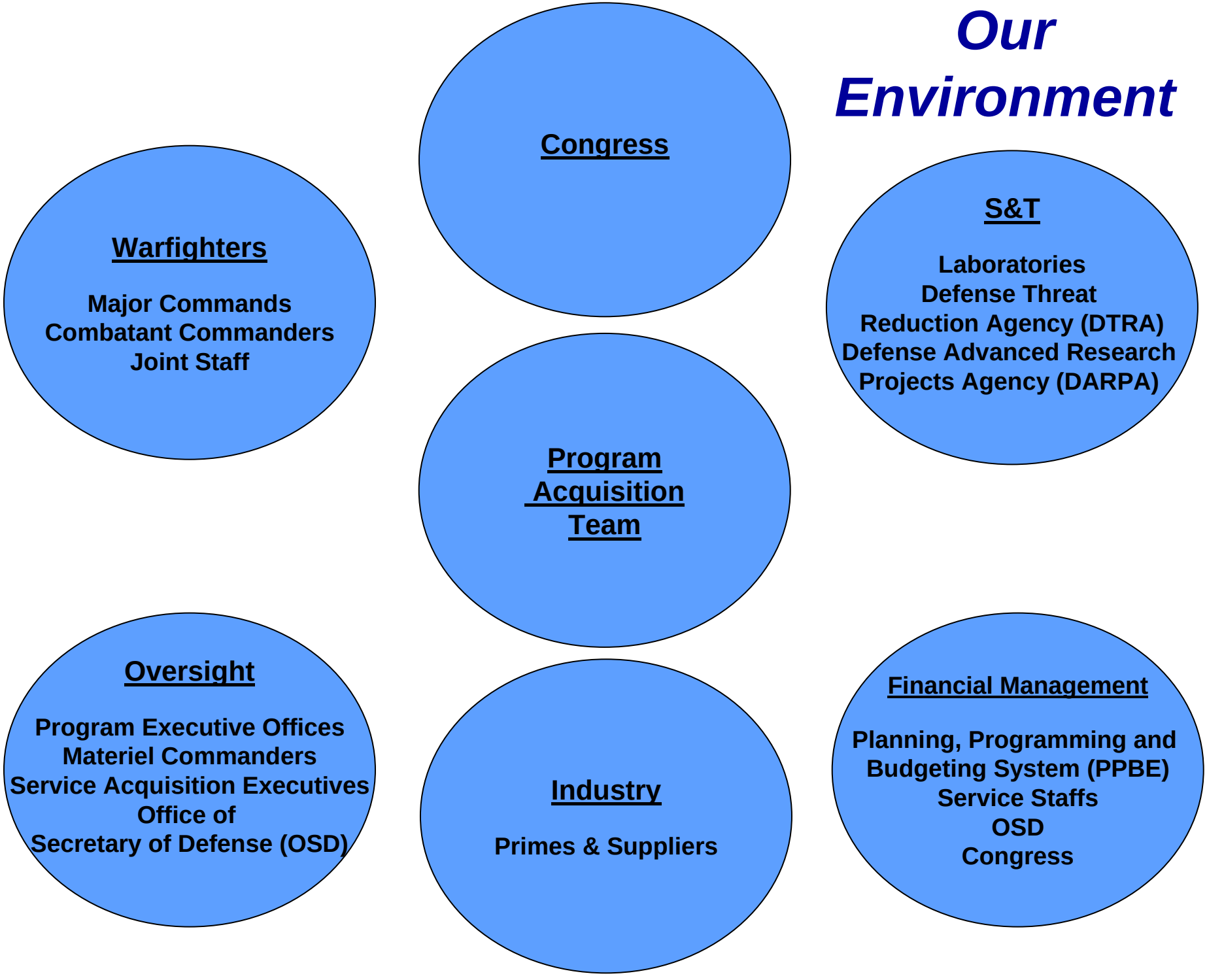
LtGen Hoffman

On restoring credibility in Air Force acquisition:

. . . I mentioned the widespread view that our weapon systems cost too much and take longer than predicted. We need to ensure "false optimism" does not cloud our judgment. I am a natural optimist, but we need to be firmly grounded in reality as we assess program risk. *Wanting something badly does not make it happen.* ***This is especially important as we start a program…do we have a solid lock on the requirements, have we included all the elements of the program, do we have our best estimate of cost and schedule?*** *Once we define the start of the program, we will be forever measured by that definition so take the time to do it right.*

We are on a quest to launch more realistic programs and bolster existing programs.

Our Environment



U.S. AIR FORCE

What are the Expectations?

- **Safe, effective,** reliable**, affordable products on time and** within budget
- **Ownership of product health** without **legal wrangling**
- Realistic **marketing and budget entries**
- **Technical competencies to leverage** leading edge **technologies**
- Agility **to surge or decrease production and respond to changing rule-sets**

Integrating & Rationalizing Improvement Efforts

Sub-Functional Pillars

- Systems Engineering
- Cost Estimating
- Reliability
- Technology & Integration Readiness
- Manufacturing Readiness
- Logistics Health Assessment
- Risk Assessment & Management
- Programming
- Financial Execution
- Earned Value Management System
- Award & Incentive Fees
- Contractor Performance Assessment Report

Integrate and Rationalize for Workable Program Constructs

Red Flags for Weapons Programs*

1) Relying on COTS/NDI to meet Robust Military Requirements
   - Systems Engineering – Staffing and Tasks
2) Going into SDD without RR or "SDD-readiness" phase
3) Lack of early wind tunnel and instrumented captive carry
4) Program Plans, Budget, IBR missing key elements
   - Explicit requirements/verification of captive carry and in-flight reliabilities and service life
   - Transition to Production
   - Reliability Growth program
   - Safety-of-flight analyses at design reviews
5) Contractors decline to make an offer
6) Back-loaded development budget

*From Study of Troubled Weapon Programs 1997-2007

High-Confidence Programs Key Characteristics*

- Good “Should-Cost” Estimate
- Budget/Cost Estimate alignment
- Approved time-phased CDD requirements
- Program office resourcing
- Requirements stability
- Budget stability mechanism
- Incremental program plan
- Short-duration capability release/production schedules
- SDD phase no greater than 6 years
- Technical maturity assessment thresholds met
- Integrated sustainment and depot strategy
- Realistic test planning; Approved IOT&E plan
- Life-cycle acquisition strategy – time certain success incentive
- Executing according to “plan”
- Probability of Program Success (PoPS) measures

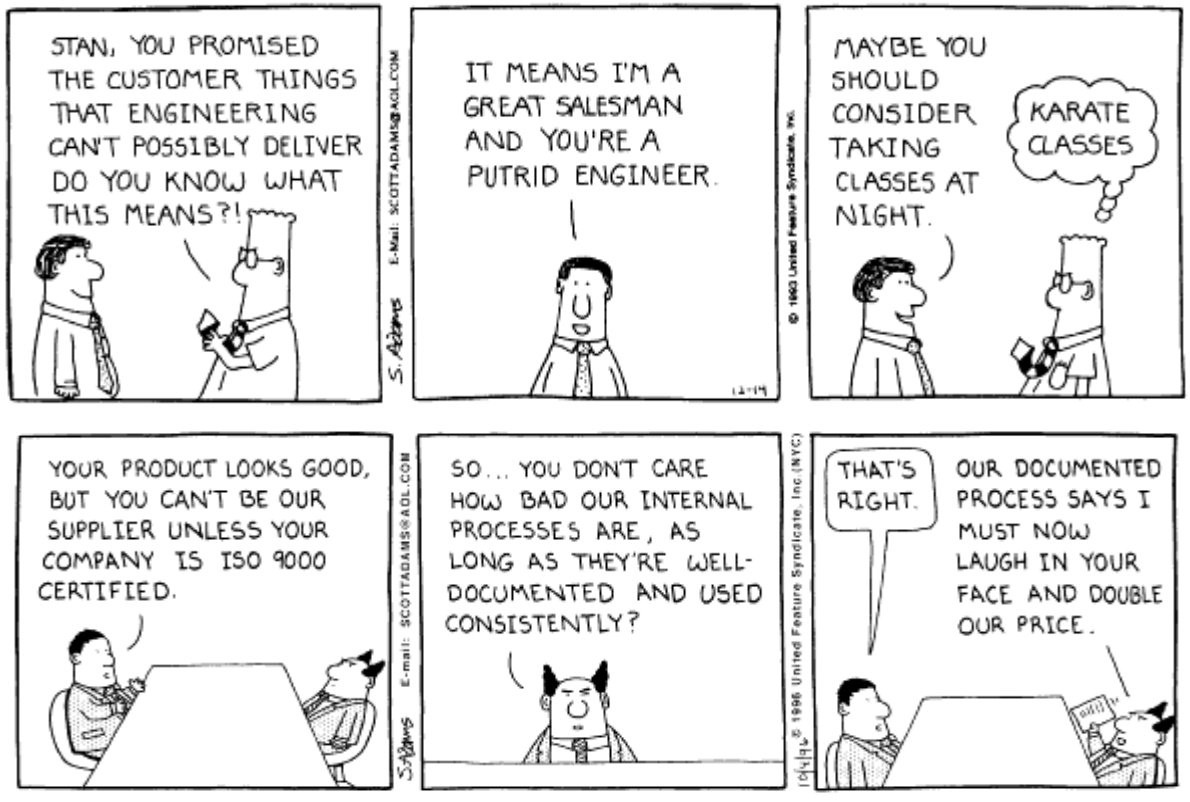
**** As Defined by Develop & Sustain Weapon Systems (D&SWS) design teams***

It's the Engineering!

U.S. AIR FORCE

AIR ARMAMENT CENTER

Engineering: Design, verification, manufacturing, and quality, throughout voluminous supplier base -- determines fate of programs.



Team Dynamics

U.S. AIR FORCE

Mixed messages from the Bosses & the "System"

How do we use the Information?

Is the Information Compelling?

Warfighters

Capability Needs

Budget Choices

Program Execution Team

What's In, What's Out

How Much Risk?

Industry

I CAN DO IT!

DO YOU HEAR ME?

Engineers

COMPETITION FOR BUDGET

FRAGMENTED AUTHORITIES

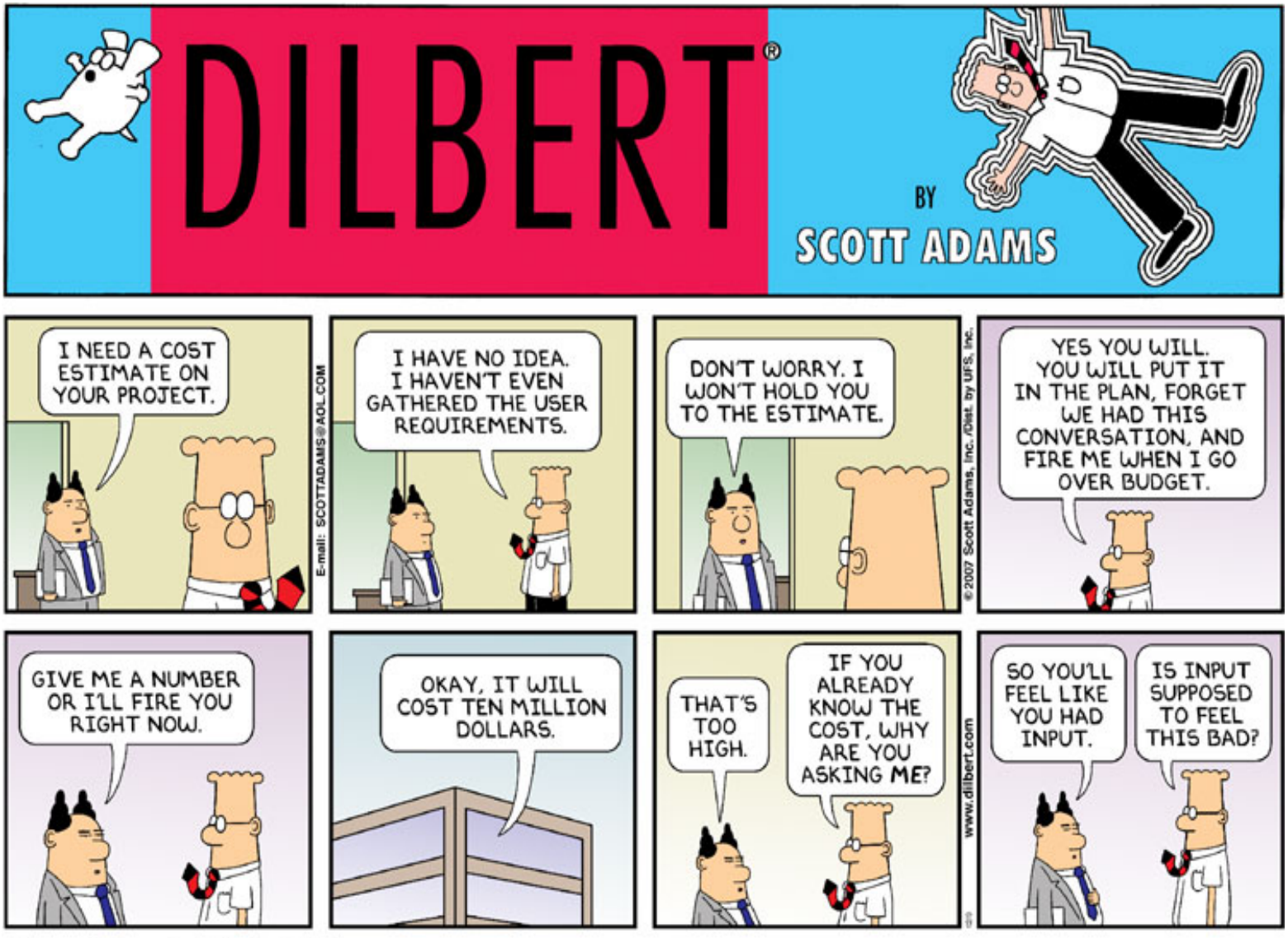
(REQUIREMENTS, PROGRAMMING, ACQUISITION)

START AGGRESSIVE SDD ASAP

Accurate Cost Estimates

U.S. AIR FORCE

AIR ARMAMENT CENTER



U.S. AIR FORCE

Proven Acquisition Approach

SDD is where we spend most of the development dollars, and determine most of the production and sustainment costs for Weapons.

- Structure ROBUST SDD-Readiness Phase to size a realistic SDD phase
  - Block requirements into increments - Deliver in 3-6 year SDD phases
  - Execute SDD-Readiness contract(s) for each increment
  - Demonstrate technologies in robust environment
  - Mature design to PDR or later
  - Build SDD plan including Integrated Baseline Review (Design, V&V, OT, Transition to production and support) during readiness phase
  - Program funds to realistic cost estimate based on detailed SDD Plan and rigorous benchmarking
- Conduct Rigorous Milestone A & B Reviews whether required or not

Launch incremental and realistic SDD phases that position programs for long term success

Win-Win Business Arrangement

U.S. AIR FORCE

U.S. Taxpayer, Congress, OSD, Service(s), Best Value

Affordable, Combat Ready Products to Warfighters

Stockholders, Corporate Construct, Suppliers, Marketing, Profits

ACCOUNTABLE

Accountable

Requirements
Resources
Reports

Government and Industry Team

Accountable

Profits
New Business
Reputation

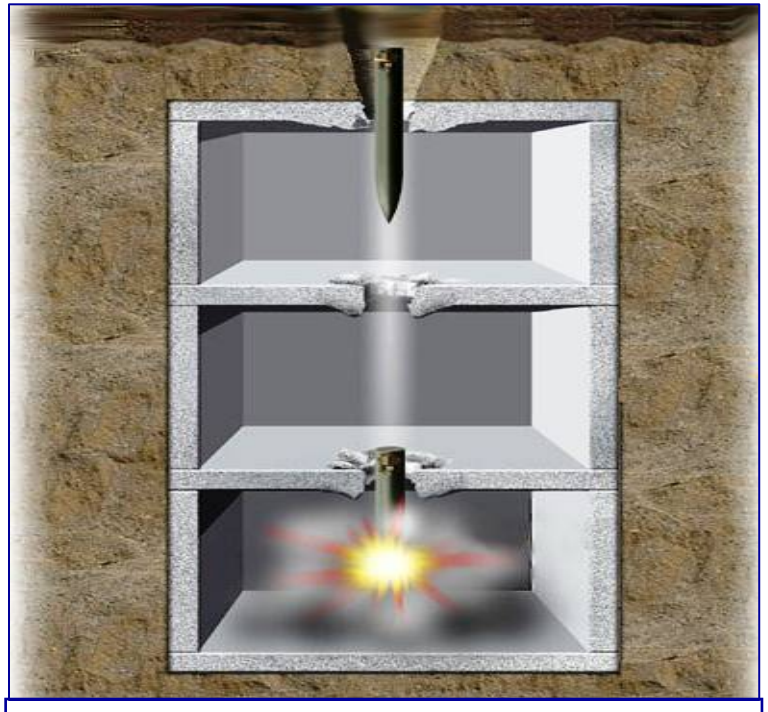
Develop and Execute Win-Win Strategies in an Atmosphere of Teamwork and Trust

Acquisition Strategy Example


HTVSF

Hard Target Void Sensing Fuze

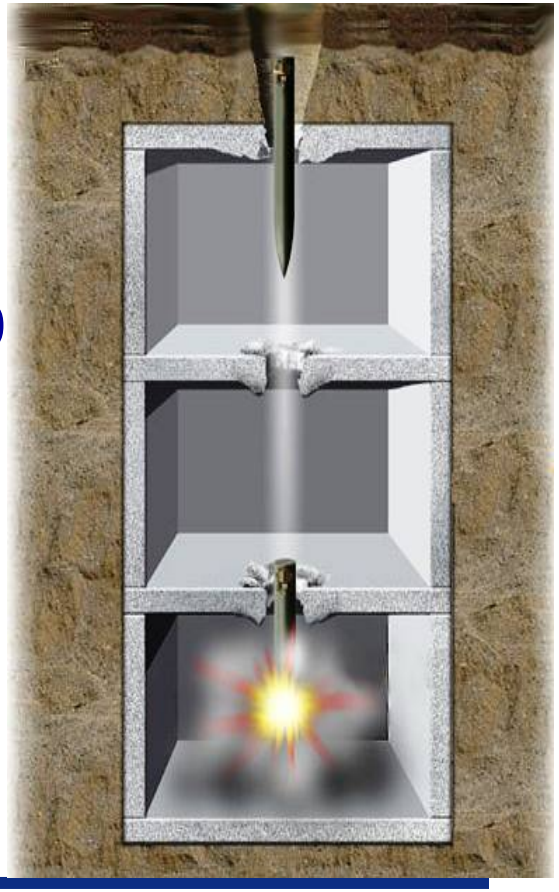
679 ARMAMENT SYSTEMS SQUADRON


HTVSF

U.S. AIR FORCE

Hard Target Void Sensing Fuze

- **System Description: Potential Joint Program (AF/Navy/FMS)**
  - Capable of defeating hardened and deeply buried targets
  - Increased survivability over inventory hard target fuzes
  - Capable of sensing multiple voids
  - Used with legacy penetrators BLU-109 and BLU-113/122



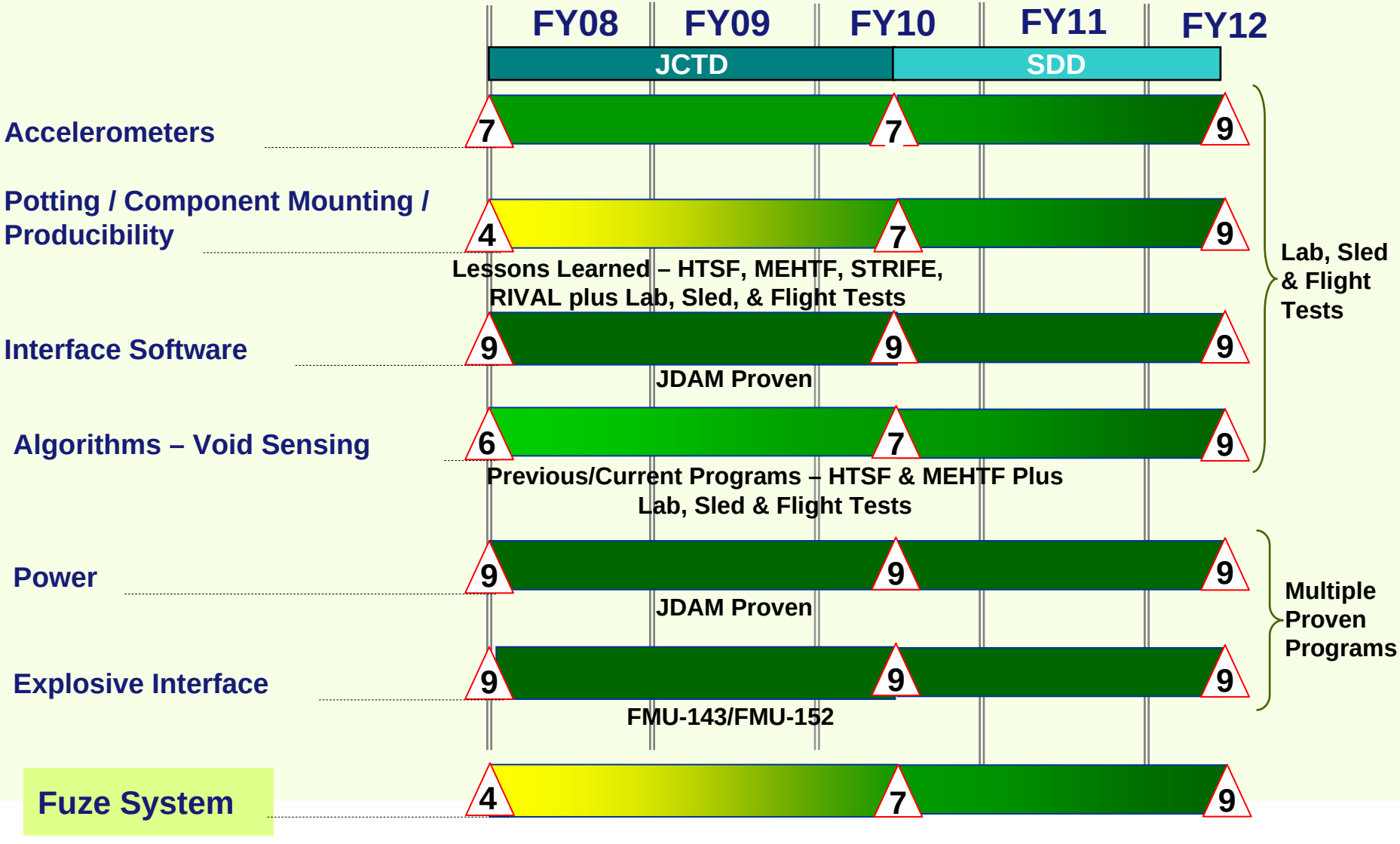
- **Program Priorities**
  - #1 – Maturity (Risk)
  - #2 – Performance
  - #3 - Cost

Technology Readiness Levels

Program Planning

U.S. AIR FORCE

HTVSF

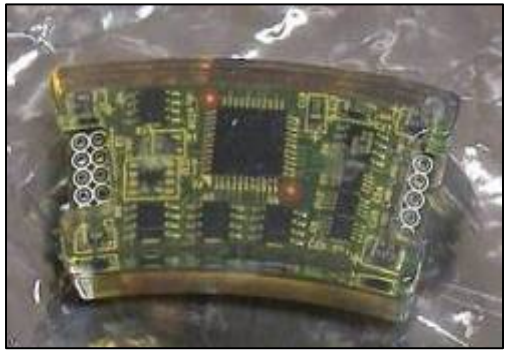


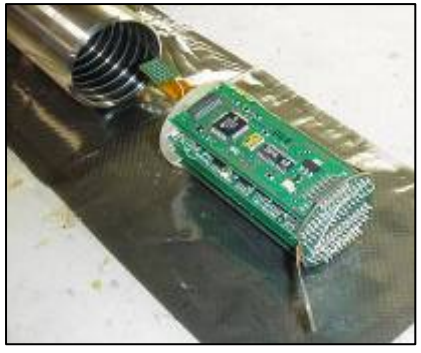
Manufacturing Readiness Levels

Program Planning

U.S. AIR FORCE

- Producibility/Manufacturing key to acq strategy
  - Initial MRL assessments made w/in 60 days after contract award
  - Leverage ManTech Support
  - Iterative Contractor MRRs & Government PRRs in JCTD and SDD
  - Critical Process Elements
    - Identified for each offeror in the JCTD Phase
    - Maturity of elements considered in the down-select process
- Planning to achieve MRL 6 during JCTD





U.S. AIR FORCE

Acquisition Strategy

Acquisition Approach

HTVSF

- **JCTD – Full and Open Competition**
  - Carry two contractors through JCTD for 27 months
  - Firm Fixed Price Contract – $8.85M per contractor plus option for 20 residuals
  - Rolling down-select for SDD and Production
- **SDD – Sole Source Contract to JCTD Winner**
  - Cost Plus Fixed Fee with Incentives for Cost, Schedule, and Performance (small FF, larger incentive at end)
  - Estimated Contract Value – $42.4M for 33 months

U.S. AIR FORCE

Acquisition Strategy

Acquisition Approach (cont'd)

HTVSF

- **Production – Sole Source Contract to SDD Contractor**
  - Firm Fixed Price
  - Estimated Contract Value – $195M (1 Basic plus 4 Options)
- **Sustainment**
  - Warranty – 10-year service life/20 year shelf life included in production price
  - Limited maintenance requirements
    - No spares, training, or additional manpower required
  - Life Cycle Surveillance Testing every 3 years
  - Transition to ALC by 2018
  - Estimated Sustainment: $29M thru 2035
    - Includes LCSTS, Software Upgrades, Labor for Periodic Maintenance, and Support Equipment

U.S. AIR FORCE

Acquisition Strategy
JCTD Evaluation Criteria

HTVSF

- **Proposal Risk**
  - PR-1 Capability Risk – Technical Maturity
  - PR-2 Capability Risk – Manufacturing Maturity
  - PR-3 IMP/IMS Risk
- **Mission Capability**
  - MC-1 Mission Systems Capability
  - MC-2 Manufacturing Capability
  - MC-3 Small Business Participation
- **Past Performance**
  - PP-1 Adherence to Cost and Schedule
  - PP-2 Systems Engineering
- **Cost/Price**
  - CP-1 Cost/Price Realism Risk
  - CP-2 Price Reasonableness

Proposal Risk is more important than Past Performance, Mission Capability, and Cost/Price. Past Performance and Mission Capability are of equal importance with Cost/Price being significantly less important.

U.S. AIR FORCE

Factor Order of Precedence

HTVSF

- Proposal Risk – Most Important
- Mission Capability
- Past Performance

Equal Importance

- Cost/Price – Least Important

Proposal Risk is more important than Past Performance, Mission Capability, and Cost/Price. Past Performance and Mission Capability are of equal importance with Cost/Price being significantly less important than any other factor. All evaluation factors other than cost or price, when combined, are significantly more important than Cost/Price; however, Cost/Price will contribute substantially to the selection decision.

U.S. AIR FORCE

Factor/Sub-factor Order of Precedence

HTVSF

- Proposal Risk -- Most Important
  - PR-1 Capability Risk - Technical Maturity
  - PR-2 Capability Risk - Manufacturing Maturity
  - PR-3 IMP/IMS Risk

  → Equal Importance
- Mission Capability -- Equally Important to Past Performance
  - MC-1 Mission Systems Capability
  - MC-2 Manufacturing Capability

  → Equal Importance
  - MC-3 Small Business Participation – Least Important
- Past Performance -- Equally Important to Mission Capability
  - PP-1 Adherence to Cost and Schedule
  - PP-2 Systems Engineering

  → Equal Importance
- Cost/Price -- Least Important, but Contributes Substantially
  - CP-1 Cost/Price Realism Risk
  - CP-2 Price Reasonableness

  → Equal Importance

U.S. AIR FORCE

Acquisition Strategy

Exit Criteria for JCTD

HTVSF

- Fuze must survive and function during fuze demo while penetrating 5-15K+ psi targets
- Fuze must demonstrate successful capability for detecting and counting more than one void during target penetration
- Fuze must demonstrate time-delay capabilities
- Fuze must demonstrate cockpit programmability
- Fuze must demonstrate trend toward affordability goal
- Assess manufacturing capability to produce up to 100 fuzes per month

U.S. AIR FORCE

Hard Target Void Sensing Fuze
Summary

HTVSF

- **Source Selection for JCTD Phase Complete**
  - Awarded two JCTD contracts 31 Mar 08
    - Alliant Techsystems (ATK), Plymouth MN
    - Thales Missile Electronics, Basingstoke Hampshire UK
- **JCTD is a Risk Reduction or Pre-SDD Phase**
  - Heavy focus on Technical & Manufacturing Maturity prior to entering SDD
- **First Time Using Dual Source Risk Reduction Phase on Air Force Fuze Program to Mitigate Program Risk**

U.S. AIR FORCE

It's a Journey

AIR ARMAMENT CENTER

Move our culture to one that Warfighters and Stakeholders can depend on for realistic expectations, high quality, high performing, and affordable products.

Vision: War Winning Capabilities…On Time, On Cost!

U.S. AIR FORCE

It's a Journey

Judy A. Stokley

Deputy PEO and Executive Director Air Armament Center

- *"Wouldn't it be wonderful if the DoD had to develop a process to allocate the margin we did not spend each year instead of determining which programs to terminate or stretch out due to cost and schedule overruns?"*

- *"Wouldn't it be wonderful if Combatant Commanders spoke of us, Industry and Government, as those Acquisition people – the ones we can always count on…"*

War Winning Capabilities … On Time, On Cost … Cradle-to-Grave