United States Air Force

Air Force Aerial Targets
October 2008
NDIA Brief
San Antonio, TX

Ms. Michele Brazel
Director
691st Armament Systems Squadron
Eglin AFB, FL

Overall Classification of This Briefing is Unclassified and Cleared by AAC/PA No. 09-26-08-429
Overview

• System Description
• Organizational Structure
• Product Groups
  – Subscale Aerial Targets
  – Fullscale Aerial Targets
• Summary
Aerial Targets

... IT'S JUST LIKE BUYING A CAR!
Select and Remove Retired Vehicles From Storage

Add Engines

Government Integrates Engine and Refurbishes Vehicle

Provide Refurbished Vehicles to the Contractor

Add Remote Control Capability!

Must be Compatible with Ground Based Infrastructure

Provide Maximum Vehicle Performance in the Intended Operational Environment

Representative of 4th Generation Threat

Integrate Multiple Use Payload Capability

Affordable Operation

Deliver User Expectations

Allow for Imaginative Next Generation Growth Potential

Safety Approved

Provide Imaginative Next Generation Growth Potential
... AND WHEN IT'S PERFECT...

... LET'S BLOW IT UP!
Operational View

Eglin AFB

Tyndall AFB

Ground Clocking Stations

High Flyer Relays And Clocking Stations

W-151

Drones

W-470

Shooters

Missiles

One-Way Data Link

Two-Way Data Link

AAC/PA 09-26-08-429
Where We Fit In

Air Force Headquarters

Air Force Materiel Command

Maj Gen David Eidsaune, Commander
Air Armament Center

Dr. Bruce Simpson, Director
308th Armament Systems Wing

Col Cyril Socha, Commander
728th Armament Systems Group

Ms. Michele Brazel, Director
691 Armament Systems Squadron
Who Are Our Customers?

MISSILE DEVELOPMENT PROGRAMS AND TESTERS

AIM-9X

AMRAAM

SHOOTERS  •  OPERATORS  •  MAINTAINERS

AAC/PA 09-26-08-429
AFSAT Sub Scale Aerial Target
Program Manager: Mr. Jim Cornwell

Description
- An Affordable, All-Composite Airframe
- Flies Faster/Slower, Higher/Lower, and Provides 3x+ More Presentations Than Legacy Subscale Targets
- Program in Initial Production Phase
- Prime Contractor is CEi, Sacramento, CA

Key Features
- Supports Title 10 "Live Fire/Lethality"
- Operates via Ground Based Target Control System
- Subsonic, Relatively Heavy Payload Capability
**AFSAT Master Schedule**

<table>
<thead>
<tr>
<th>FY2006</th>
<th>FY2007</th>
<th>FY2008</th>
<th>FY2009</th>
<th>FY2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
<td>Q4</td>
<td>Q1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAAT</td>
<td>Pre-OT Flight Test</td>
<td>LRIP (Lot 4) Award</td>
<td>APB Signed</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Familiarization Flights</td>
<td>Operational Test</td>
<td>FRP (Lot 5) Award</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study/Model</td>
<td>Launch Improvement</td>
<td>Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initiate Product Improvements (RCS, Alt. Launch, Internal EA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Symbols**:
- ▲ = Completed
- △ = Scheduled

**Abbreviations**:
- FPD = Flight Product Demonstration
- FDE = Flight Demonstration Evaluation
- LRIP = Low Rate Initial Production
- FAAT = First Article Acceptance Test
- RAA = Required Assets Available
- UTTR = Flight Demonstration
AFSAT FY08 Accomplishments

- Completed Operational Testing
- Received ACC Fielding Decision
- Obtained Full Rate Production Decision
  - Lot 5 Contract Awarded
- 100th Target Delivered
- 42 WEG Operational “Hot” Missions Supported
  - 73 Launches
  - 243 Presentations
  - 177 Missile shots
- UTTR Demo Planned Nov 08
**QF-4 Full Scale Aerial Target**

**Program Manager:** Ms. Lee A. Neugin

**Description**
- Full Scale Aerial Target for Threat-Representative Weapon System Evaluation
- Meets USAF, Army, Navy, Allied Test Requirements
- Droned Refurbished F-4 Aircraft Out of AMARG
- Program in Full Rate Production
- Prime Contractor is BAE Systems, Mojave, CA

**Key Features**
- Supports Title 10 "Live Fire/Lethality"
- Operates via Ground-Based Target Control System
- Supersonic, High-G, Heavy Payload Capability
- Provides 3rd Generation Threat Representation
### QF-4 Master Schedule

<table>
<thead>
<tr>
<th></th>
<th>FY05</th>
<th>FY06</th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lot 11 (22)</td>
<td>Dec 04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lot 12 (20)</td>
<td></td>
<td>Feb 06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lot 13 (20)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lot 14 (17)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lot 15 (14)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Schedules shown above are based on actual contract schedules. Schedules below are planned schedules.

- **Lot 11 (22)**: Delivers: Aug 06 – Aug 07
- **Lot 12 (20)**: Delivers: Sep 07 – Jul 08
- **Lot 13 (20)**: Delivers: Aug 08- Jul 09
- **Lot 14 (17)**: Delivers: Aug 09- Jul 10
- **Lot 15 (14)**: Delivers: Aug 10-Jul 11
QF-4 FY08 Accomplishments

- Completed Lot 12 -- Started Lot 13 Deliveries Oct 08
  - Total of 244 QF-4s Delivered to Date
- Awarded Lot 14 Contract Jan 08
- Transitioned from F-4E to RF-4C Production in Jul 08
  - Provides Three Additional Years Of Full Scale Capability
- Lots 1-14 on Contract with 1 Option Available (Jan 09)
  - Two Additional Lots (16 & 17 are planned)
- Supported 43 NULLO Test Missions in FY08
  - 93 Missiles Fired / 18 Kills
QF-16 Air Superiority Target
Program Manager: Mr. Ken Hislop

Description

- Full Scale Target for Threat-Representative Weapon System Evaluation
- Meets USAF, Army, Navy, Allied Test Requirements
- Program in Pre-System Development and Demonstration Phase
- Droned Refurbished F-16 Aircraft
- Risk Reduction in Progress: Airframes, Engines & Target Control System

Key Features

- Follow on for QF-4 Program: Supersonic, High-G, Heavy Payload Capability
- Supports Title 10 "Live Fire/Lethality"
- Provides 4th Generation Threat Representation
QF-16 AST System

Airframe
- F-16 A / F-16 C

Engine
- F100 – PW Engines

Support / Test Equip
- Common F-16 SE
- Common F100-PW SE
- GRDCS Datalink Tester
- GRDCS Trailer

Ground Systems
- GRDCS/DFCS (Tyndall/WSMR)
- GRDCS Fixed Sites
- Scoring Ground Station

Airborne System
- Automatic Flight Control System
- Command Telemetry Sys
- Payload Control System
- Flight Termination System
- Airborne Scoring System
- Warhead/ Fuze
- Encryption Chip
- Automated Sys Test Sets

QF-16 System Integration:
Contractor Drone Peculiar Equip w/ GFP

Government Furnished  Contractor Developed
Program Schedule

<table>
<thead>
<tr>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

**Pre-SDD**
- Contract Award
- AC Deliveries
- RFP
- SFR
- PDR
- CDR
- Revalidate CDD

**SDD**
- Milestone B
- Tyndall GRDCS Integration
- Tyndall DT/IOT&E Flight Test
- OT&E

**LRIP**
- Milestone C (LRIP)
- WSMR DFCS/Range Integration Flt Test
- 20 FSATs
- FRP
- Lot 2
- IOC (18)
- FOC (35)

**Production**
- 25 per yr

**Government Risk Reduction**
- Source Selection
- AC Refurbishment

AAC/PA 09AAC/PA 09-26-08-429 20
QF-16: Path to Contract Award

Contract Award Planned 1QFY10

Direct Inquiries to:  Ms. Leanne Green, QF-16 Contracting Officer
(850) 883-3382, leanne.green@eglin.af.mil
QF-16 Regeneration

- Aerospace Maintenance and Regeneration Group (AMARG)
  - Regeneration at Davis Monthan AFB, AZ

- Refurbish Aircraft to Applicable Standards
  - All Aircraft will be Man-Rated
  - Will have Between 50 and 300 Hours of Serviceable Life
  - No Service Life Extension or Subsequent PDM Planned
  - TCTOs to be Accomplished by Tail Number

- Will Establish Functional Baseline for Each Block
QF-16 Risk Reduction Activities

- F-16 Airframe Study Ongoing
  - Assessing Condition & Availability of Block 15 and 25s
  - Gauging Cost of Refurbishment

- Engine Study Completed
  - Unmanned Configuration:
    - F100-PW-200D w/out Back-up Fuel Control (BUC)
  - Manned Configuration:
    - F100-PW-220F
QF-16 Risk Reduction Activities

- Target Control System (TCS) Risk Reduction Ongoing
  - GRDCS Data Link Tester Development
    - Integrate Government Furnished Ground S/W with Contractor-Developed Airborne S/W
  - Portable TCS
    - Supports Contractor Development Testing
- Petting Zoo (Contractor Aircraft Survey)
  - Allowed Potential Primes Access to Block 15/25 Aircraft
  - Phase I Conducted Jul – Aug 08
  - Potential Phase II in 2QFY09
QF-16 Status

• CDD Approved 21 Apr 08
  – Currently Assessing Feasibility of Adding Block 30 to SDD

• Program Fully Funded

• 2\textsuperscript{nd} Industry Day Completed Week of 8 Sep 08
  – 70+ Industry Attendees, Representing 17 Companies

• Acquisition Strategy Panel Planned for Nov 08

• Draft RFP Release Planned for Dec 08

• Formal RFP Release Planned in 3QFY09

• Contract Award in 1QFY10
Summary

• AFSAT Program Meeting User’s Need
  – UTTR Demonstration on Track for Nov 08
  – Lot 6-10 Contract Award Planned for 2QFY09

• QF-4 Program Progressing Well
  – New QRF-4C Deliveries Beginning 2QFY09
  – Production Planned Through FY13; Depleted in FY15

• QF-16 Program in Full Swing
  – Contract Award Planned for 1QFY10
  – Asset Deliveries Planned to Start FY14; IOC FY15
Questions?