



UNITED STATES AIR FORCE



Air Force Aerial Targets

October 2010 NDIA Brief

New Orleans, LA

Ms. Holly Reedy
Chief, Full-Scale Targets
Aerial Targets Branch (AAC/EBYA)
Eglin AFB, FL



Overview



- **Purpose**
- System Description
- Organizational Structure
- Product Groups
 - Subscale Aerial Targets
 - Full-Scale Aerial Targets
 - Target Control Systems (TCS)
- Summary



Purpose



- **Provide “Presentations” of Realistic Threat Representative Systems in Support of the Following Joint Requirements:**
 - **Lethality Testing Required for New or Improved Weapon Systems Prior to Production (10 USC 2366)**
 - **USAF Air-to-Air Weapon System Evaluation Program**
- **Validate Performance Of DoD Surface-to-Air and Air-to-Air Missiles and Aircraft Systems**
 - **Emulates Performance, Signatures and Countermeasures (Infrared and Electronic Attack)**



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System Description



- **Aerial Target “Presentations” Include:**
 - **The Target Itself**
 - **Threat Representative EA/IR Payloads**
 - **Target Control System (TCS)**
 - **Gulf Range Drone Control System (GRDCS)**
 - **Missile Scoring**
 - **Launch, Recovery, Maintenance & Repair of Target**



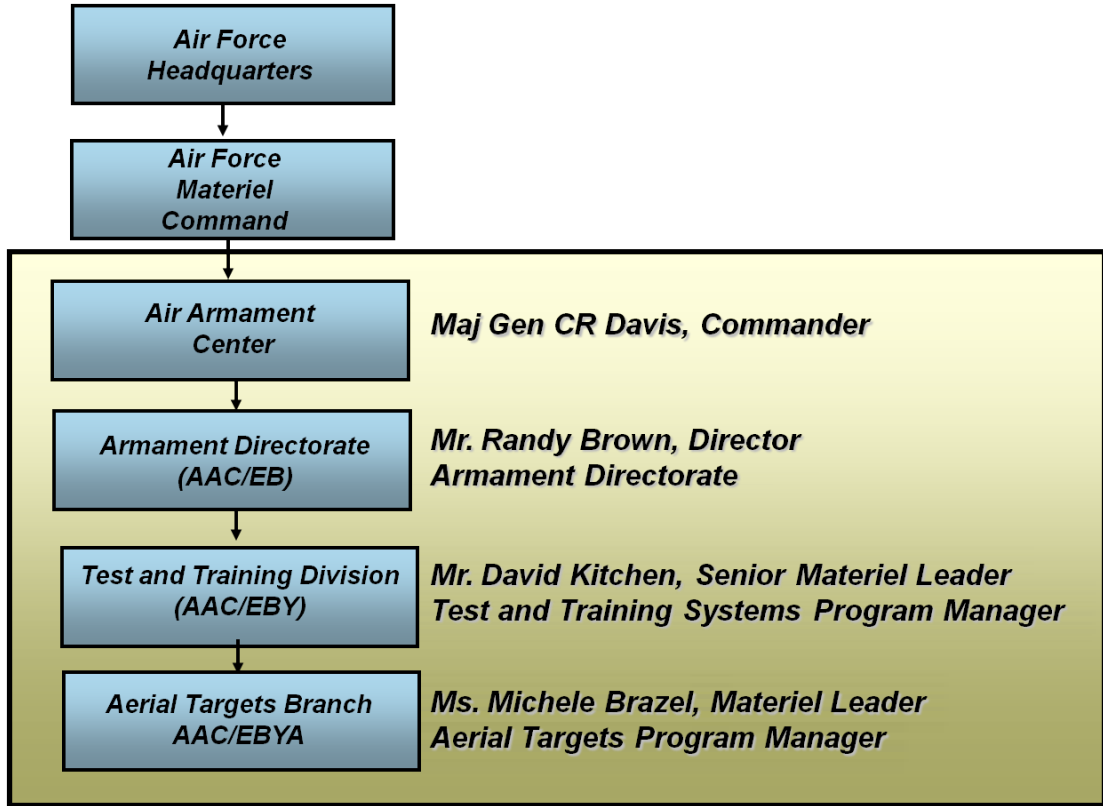
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Aerial Targets Branch (AAC/EBYA)



*Ms. Michele Brazel
Materiel Leader*



*Mr. Greg Pixley
Chief Engineer*



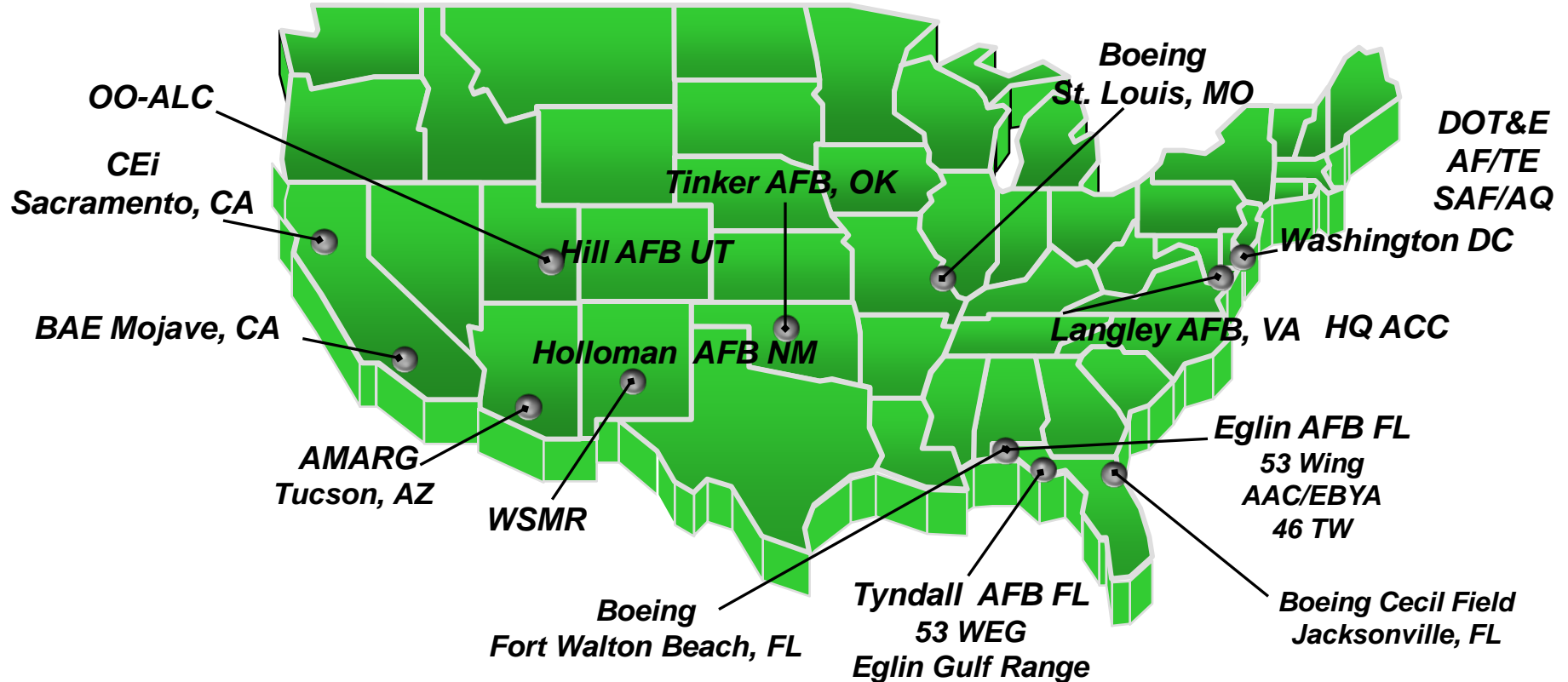
*Mr. Jim Cornwell
Chief, Subscale Targets
& TCS Section*



*Ms. Holly Reedy
Chief, Full-Scale Targets
Section*

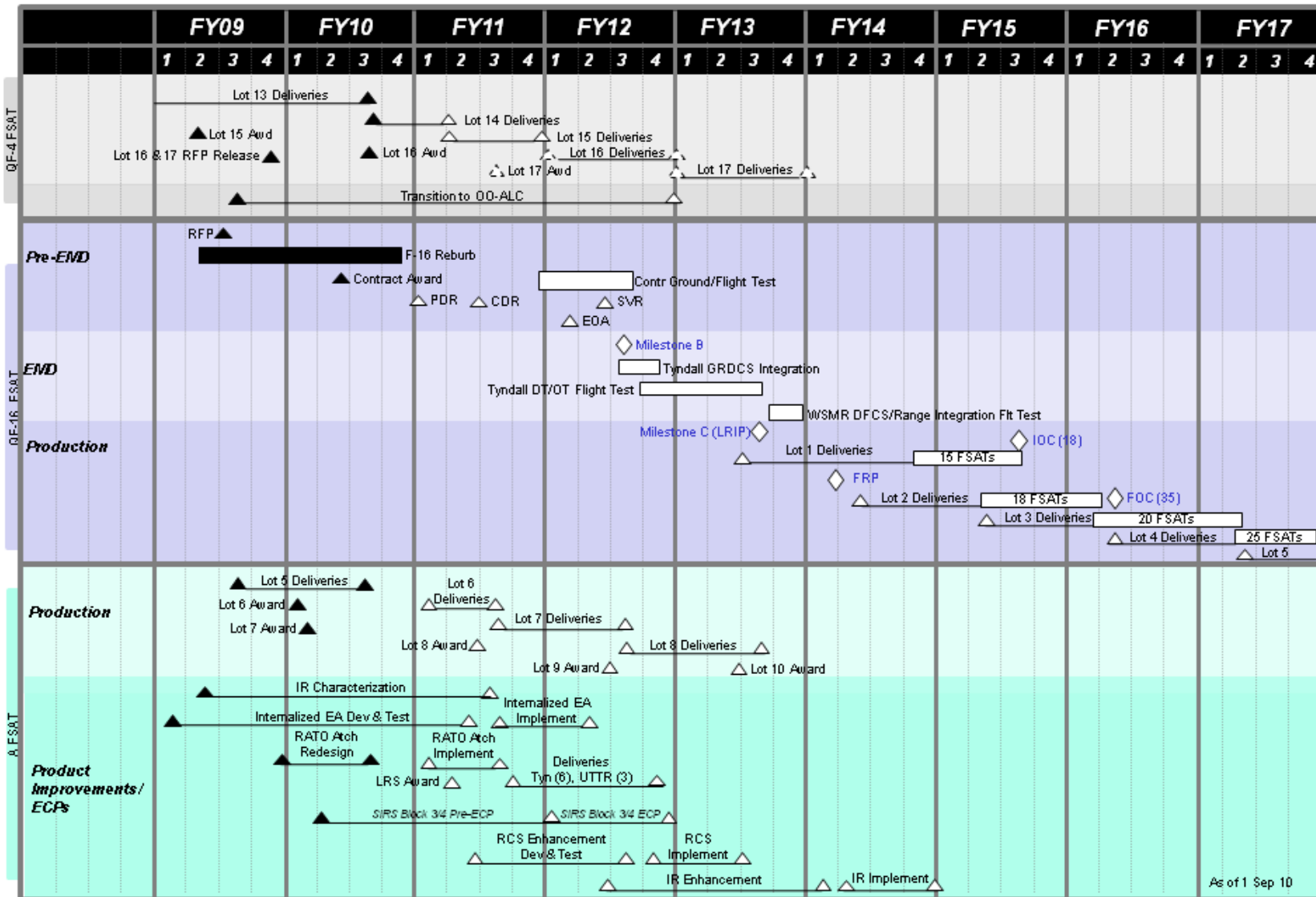


USAF Aerial Targets Stakeholders





Aerial Targets Schedule



As of 1 Sep 10



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AFSAT Subscale Aerial Target

Ms. Linda Culliton, Program Manager



Prime Contractor: Composite Engineering, Inc. (CEi)

Description

- **An Affordable, All-Composite Airframe**
- **Flies Faster/Slower, Higher/Lower, and Provides 3x+ More Presentations Than Legacy Subscale Targets**
- **Program in Production Phase**
- **Operates via Ground Based Target Control System**
- **Subsonic, Relatively Heavy Payload Capability**





AFSAT FY10 Accomplishments



- **Current Program Focus**
 - Resume Production Deliveries in Nov 10
 - System Improvements (e.g., Internal EA, Selectable Munitions)
 - Sustainment Planning Through 2020
- **164 Targets Delivered to Date**
- **150 WEG Operational “Hot” Missions Supported Since Fielding**

	<u>FY10</u>	<u>Since Fielding (FY08)</u>
Launches	114	285
Presentations	457	1054
Missile Shots	356	797

- **Procuring Nine New Launch Rails**
 - Six for Tyndall
 - Three for Utah Test & Training Range (UTTR)
- **Supported 1st Operational Archer/Hammer at UTTR Aug 10**
 - Follow-on to Successful Nov 08 & Aug 09 UTTR Demonstrations



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QF-4 Full-Scale Aerial Target

Capt Briana Mack, Program Manager



Prime Contractor: BAE Systems, CA

Description

- **Full-Scale Aerial Target for Threat- Representative Weapon System Evaluation**
- **Meets USAF, USA, USN, Allied Test Requirements**
- **Droned, Refurbished F-4 Aircraft Out of AMARG**
- **Program in Full Rate Production**
- **Operates via Ground-Based Target Control System**
- **Supersonic, High-G, Heavy Payload Capability**
- **Provides 3rd Generation Threat Representation**





QF-4 2010 Accomplishments



- **Key Focus – Bridging the Gap Until QF-16 IOC**
 - **Completing Production**
 - **Sustainment Planning Through 2017**
- **Awarded Lot 16; Lot 17 Award Planned 2QFY11**
 - **Total of 273 QF-4s Delivered to Date**
- **Regen/Repair Challenges With Older QRF-4C Aircraft**
- **FY10 Operations**
 - **790 Missions**
 - **27 NULLO**
 - **10 Kills**



The Future of QF-4



- **Last QF-4 Delivery Planned FY13**
- **Sufficient Inventory Through FY15**
 - **Assumes 16 to 20 QF-4 Kills Per Year**
 - **Assumes Current Production Plan**
 - **Maintains Full-Scale Operational Capability Until Planned QF-16 Deliveries**



QF-16 Full-Scale Aerial Target

Mr. Kenneth Hislop, Program Manager



Prime Contractor: Boeing Company, St. Louis, MO

Description

- **Next Generation Full-Scale Target for Threat-Representative Testing & Weapon System Evaluation**
- **Provides 4th Generation Threat Representation**
- **Meets USAF, USA, USN, Allied Test Requirements**
- **Refurbished F-16 Aircraft With Drone Mod Installed**
- **Supersonic, High-G, Heavy Payload Capability**
- **Operations Via Ground Based Target Control System**
- **Program in Pre-MS B Phase**



QF-16 Program Snapshot

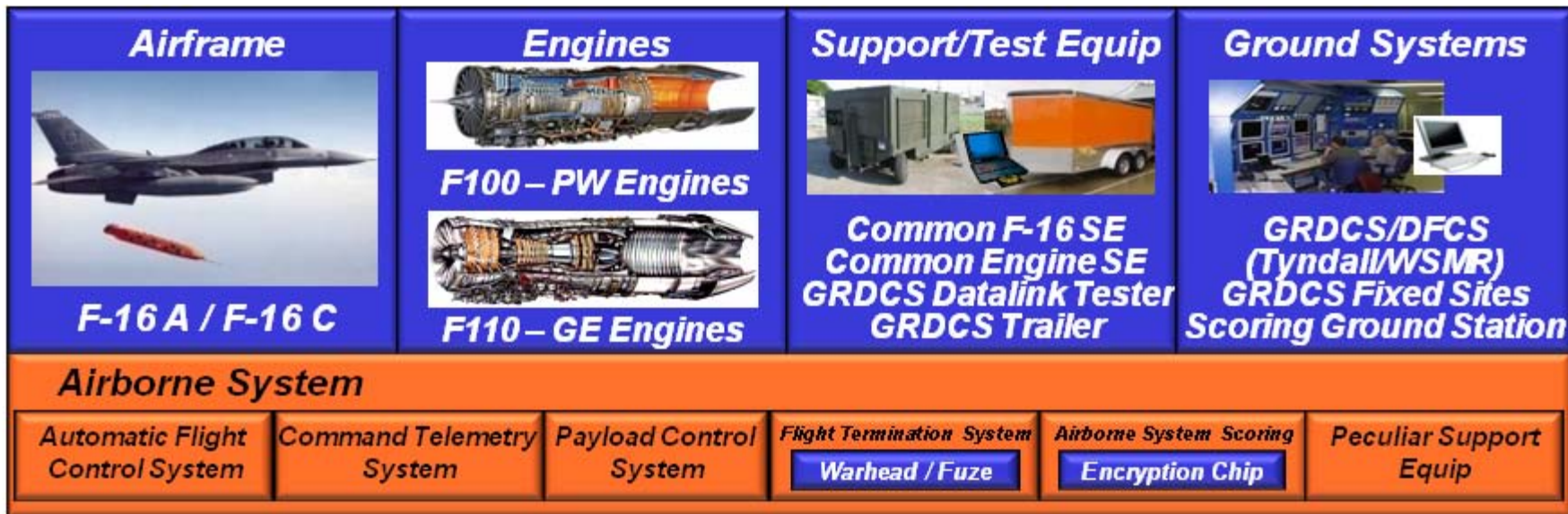



- **ACAT Level: II**
- **Production Quantity - 210 QF-16s**
- **Completed Source Selection 8 Mar 10**
 - **Awarded Pre-EMD Contract: The Boeing Co, St Louis MO**
 - **Contract Type - FPIF/FFP**
 - **Pre-EMD Period of Performance Through 21 Jun 12**
 - **Options for EMD, LRIP and 4 FRP Lots**
- **Major Milestones**
 - **MS B – 3QFY12**
 - **MS C – 3QFY13**
 - **IOC – 3QFY13**


First Cecil Field Delivery – Blk 25 84-1260



QF-16 System



 **Government Furnished (67% of \$)**

 **Contractor Developed (33% of \$)**

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



QF-16 Support Equipment





From Desert Floor to Contractor



A/C DELIVERIES TO CECIL FIELD



AMARG REGENERATION



STATIC DESTRUCT TEST



PRE-TEST



QF-16 TEAM



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Gulf Range Drone Control System (GRDCS)

Ms. Kathy Fuszner, TCS Program Manager

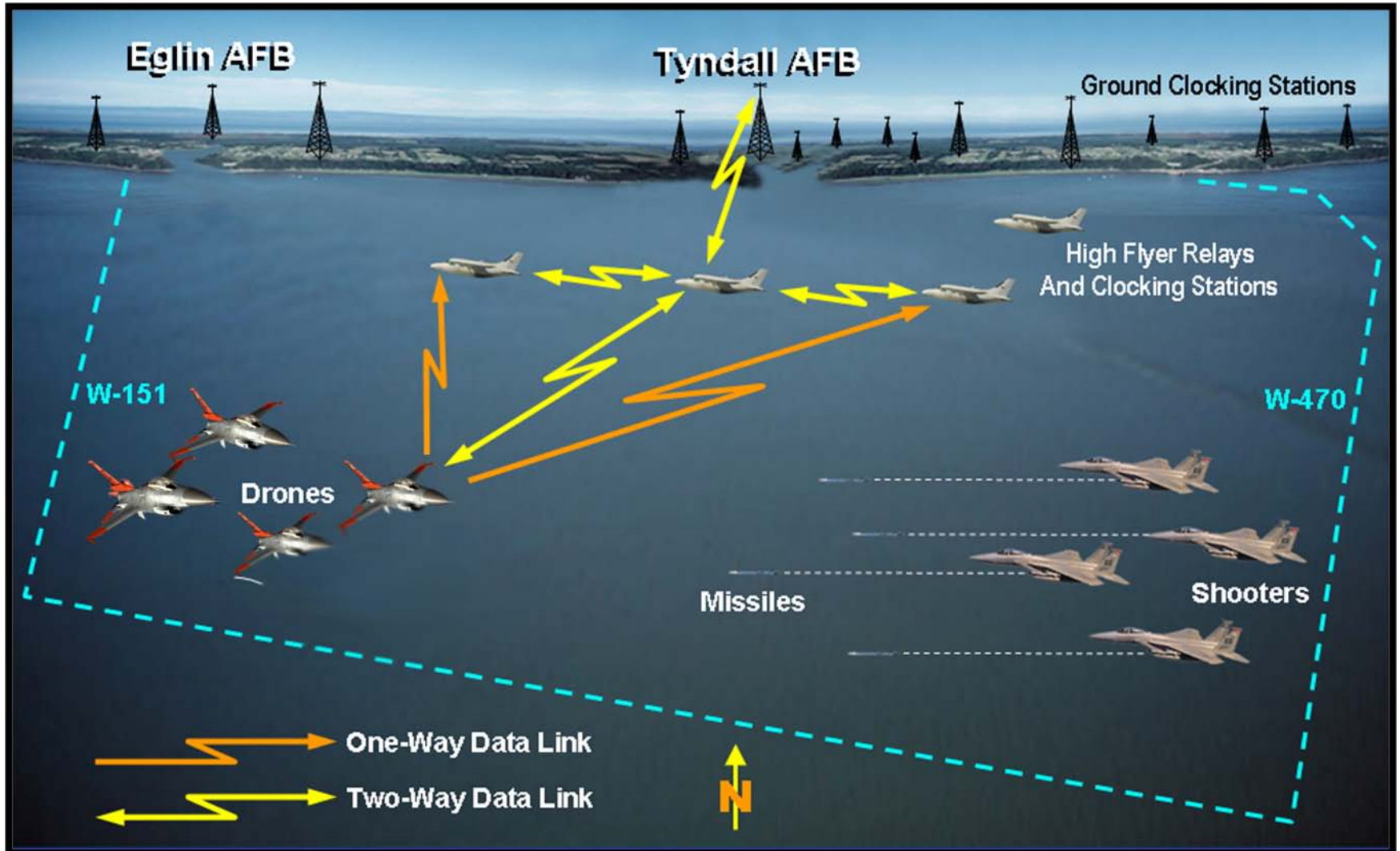


Description

- Developed in Early 1980s to Support AMRAAM
- System Developed with “In-House” Technical Expertise
- Eglin CCF Real Time System
- Track/Control Any Mix of Drones
- Track Shooters, Track and Terminate Missiles
- Track High Fliers, Track Other Aircraft
- DME TSPI , Z-Aiding – Aircraft Telemetry
- Over the Horizon Tracking

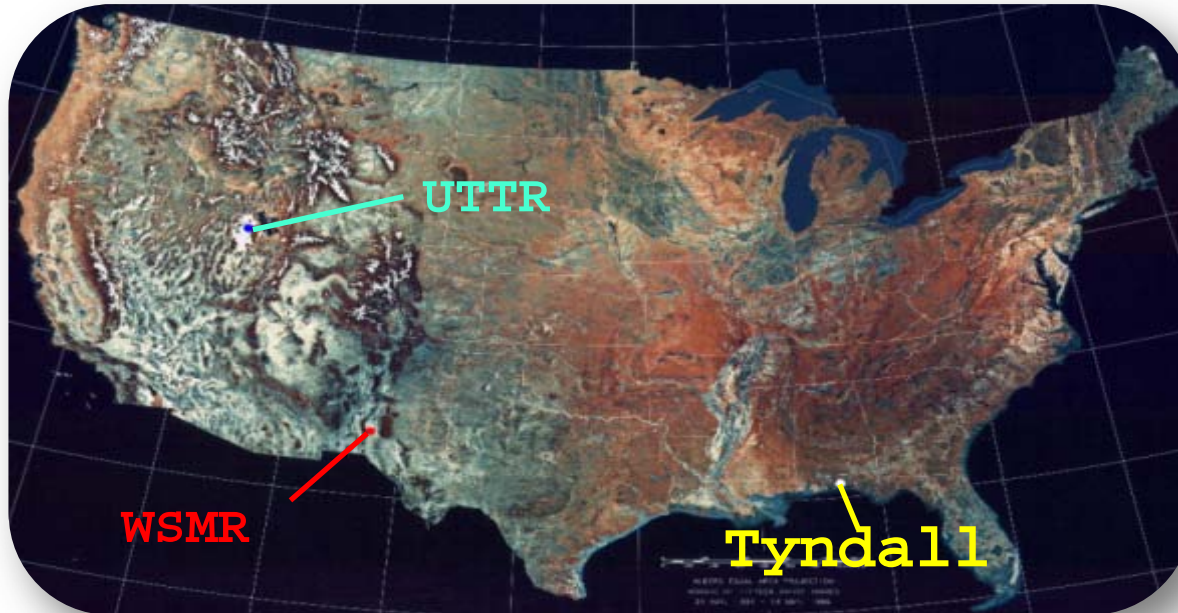


QF-16 Operational View





Ranges



Tyndall AFB / Eglin AFB

- Main Mission Ops (53 WEG)
- GRDCS Sustainment & Dev (46 TW)
- Target & Target Control Acq (AAC/EBYA)

Holloman AFB / WSMR, NM

- Support FSAT Ops (53 DET)

Utah Test & Training

- Support Combined Combat Archer and Combat Hammer Evaluation (53 WEG)



GRDCS Improvements



Console

- Widescreen Monitors
- COTS Touch Screen
- Integrated Connection Programmable LCD Pushbuttons with Standard Serial Interface
- USB Joystick



Display

- Modern Open Standard OpenGL
- COTS PCs
- Linux Based OS
- Modern Display Technology



Linux Server



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- **AFSAT – Workhorse for Warfighter**
 - Supported a Record 60 Operational Missions in FY10
 - Next Step to Award Lot 8 in FY11
- **QF-4 Production Planned Through FY13**
 - FSAT Inventory to Bridge Gap Until QF-16 IOC
- **QF-16 Pre-EMD Underway**
 - Contract Awarded to Boeing
 - First Production Delivery Late FY14
- **TCS**
 - HW & SW Modernization

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