

Headquarters U. S. Air Force

F l y - F i g h t - W i n

*Air Force Test and Evaluation
brief to
Institute for Defense and
Government Advancement (IDGA)*



**Col Sam Kyle
Directorate of Test and Evaluation
Policy and Programs Division**

U.S. AIR FORCE



Organizational Structure (AF/TE)

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Directorate of Test and Evaluation
 AF/TE

 Director, Mr. Jack Manclark
 Pentagon Room 5E839
 Deputy Director, Mr. Dave Hamilton

Policy and Programs
 AF/TEP

Special Programs
 AF/TEZ

AF JT&E Office (AFJO)

- Officer – 5
- Enlisted – 3
- Civilian – 3

Resources and Infrastructure
 AF/TER

58 Managed Billets
 » Military – 52
 » Civilian – 16

- TE Authorizations – 29
- Officer – 14
 - Enlisted – 1
 - Civilian – 14

- Additional Assistance:
- Staff Assistant – 1
 - Intern – 1
 - Contractor – 9



AF/TE Duties and Responsibilities

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- Designated Air Force T&E Executive
- Establish AF T&E policy and process (DT, OT, Live Fire)
- Plan, program, administer AF T&E Infrastructure Budget
- Manage the AF Foreign Material Program (FMP)
- Manage the AF Joint T&E program
- Oversee major AF T&E programs
 - Serve as TEMP approval authority
- Interface with OSD and Congress on test issues
- Advise AF senior leadership on T&E matters and issues



2008 Challenges

- **How Can Testers Help Improve AF OT&E Results?**
- **Right-sizing and managing AF T&E infrastructure**
- **F-35 JSF – Setting the stage for T&E success**
- **Supporting unique, high-payoff AF T&E related prgms**



Major AF Programs FY 06 – 07 OT&E Results

- FY 06 - 12 major AF OT&E events
 - 11 rated “Effective” (92%)
 - 1 “Not mission capable” (8%)
 - 7 “Partially Mission Capable” (58%)
 - 4 “Mission Capable” (33%)
 - 9 rated “Suitable” (75%)

- FY 07 - 9 major AF OT&E events
 - 9 rated “Effective” (100%)
 - 6 “Partially Mission Capable” (66%)
 - 3 “Mission Capable” (33%)
 - 5 rated “Suitable” (56%)

Challenge: How can testers help improve results?

Source: FY 06-07 AFOTEC Test Reports



Current AF T&E Process Improvement Initiatives

- AFSO 21 Initiatives
 - Early Tester Involvement
 - Integrated DT/OT
 - Knowledge Management
 - Late Defect Discovery
 - Optimizing Data Requirements
- Develop and Sustain Warfighting Systems (DSWS) T&E Initiatives
 - TES Template
 - TEMP Process and Templates
 - Improved Early T&E Involvement
 - Defining tester roles in JCIDS process
- “RAT Pack” Friction Point Action Items
 - Early Integrated Test Team Standup; expanded DT/OT efforts
 - User-acquirer cooperative effort for requirement and spec development
 - T&E Expectation Management
 - Timely CONOPS development/updates
 - Leverage OT for TTP development

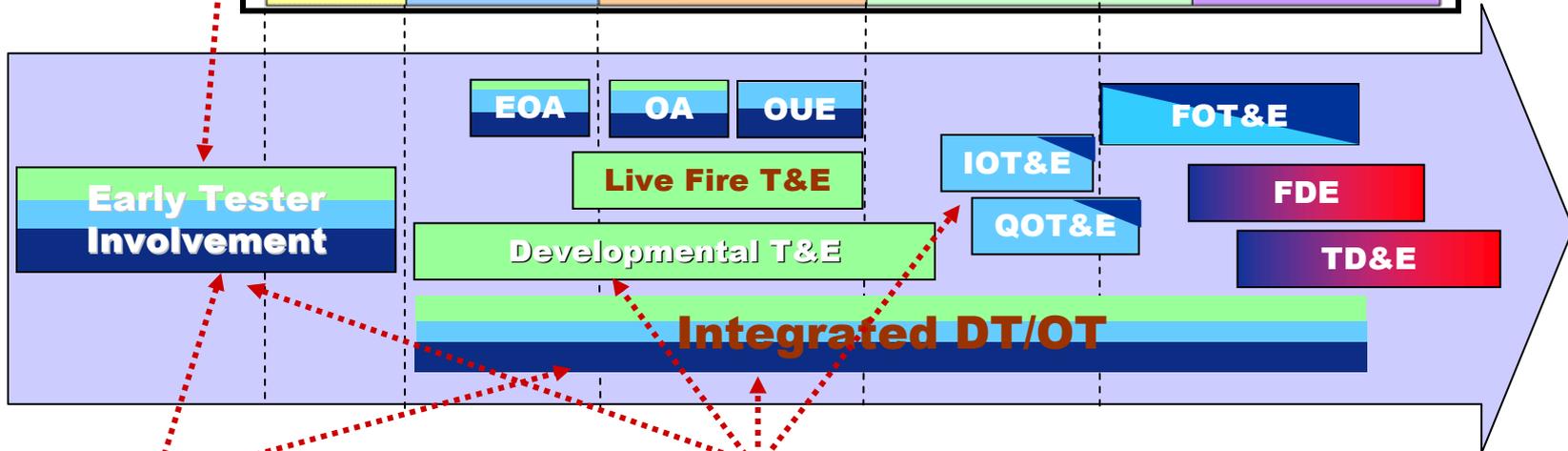
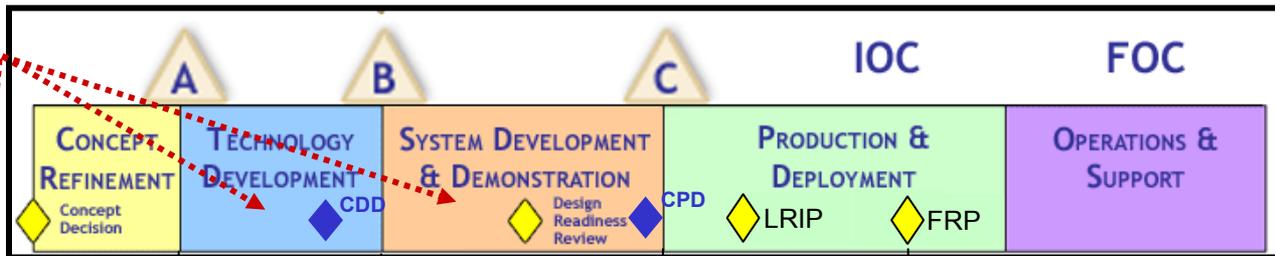


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AF T&E Process Improvement Initiatives – Target Areas

D&SWS Initiatives

**TES/TEMPs
JCIDS Process
Early Tester Roles**



RAT Friction Pts

**Early ITT Standup
Expanded CTF use
Timely CONOPS**

AFSO 21 Initiatives

**Integrated DT/OT
T&E Knowledge Mgmt
Late Defect Discovery
Early Tester Roles
Data Req'ments**

AFMC and AFSPC DT Orgs

AFOTEC

MAJCOM OT Orgs

MAJCOM OT Orgs with TD&E



Other 2008 AF T&E Process Initiatives

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- 2008 AFI 99-103 “Capabilities-Based T&E” policy priorities
 - Improving T&E process options for IT and software intensive systems
 - T&E in support of Warfighter Urgent Need (WUN) programs and/or prototype “early fielding” decisions

- CSAF-Chartered RAND AF T&E Study (Jan/Feb 08)
 - Organizational roles
 - Requirements, capabilities and capacity
 - Resource management

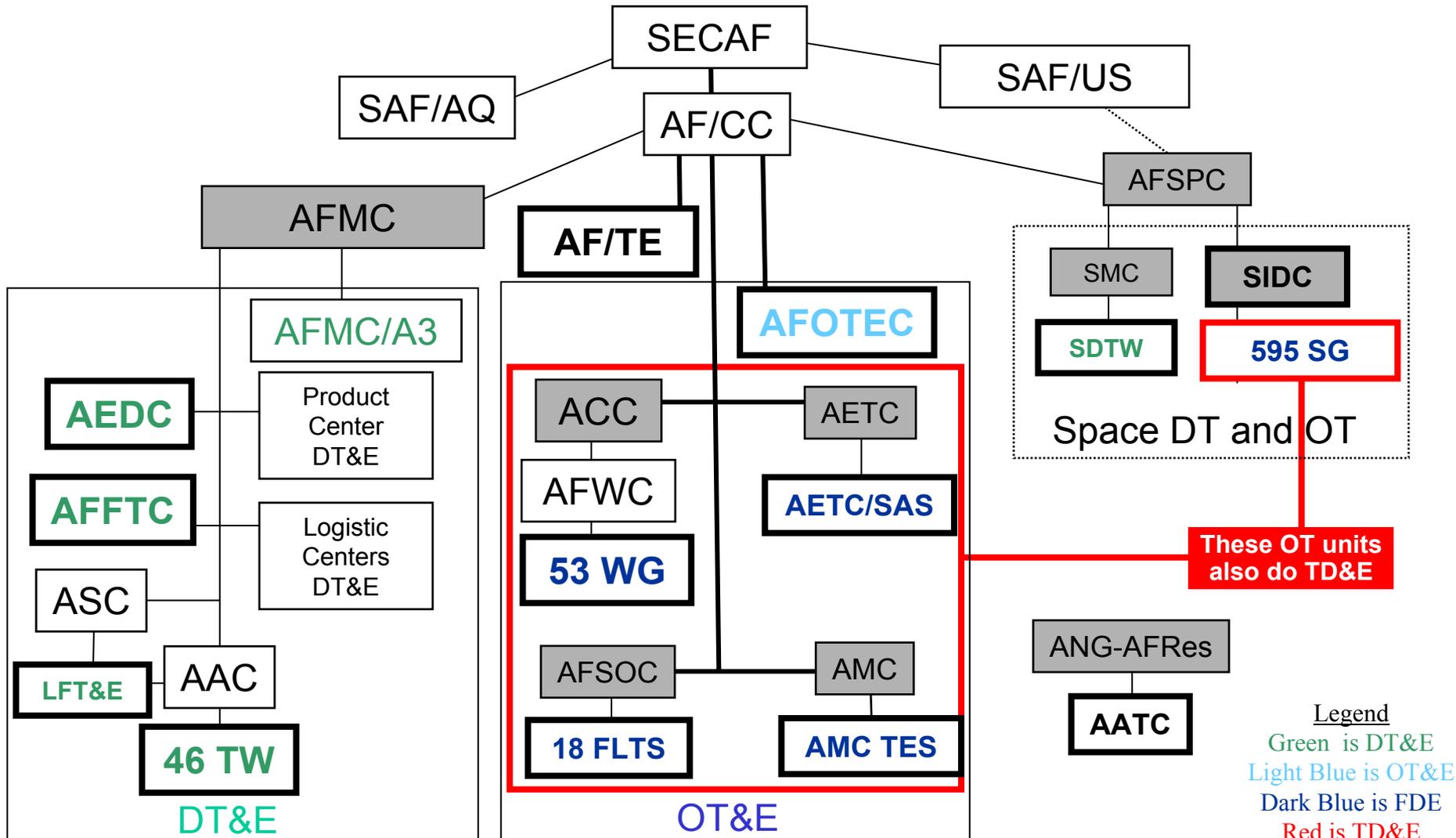
- OSD T&E process reviews and policy changes
 - Defense Science Board - DT&E process and Suitability
 - OSD NDAA Sect 231 Policy Memo (Dec 07)



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AF T&E Players - Organizationally





Integrated T&E Organizations – Examples



- **F-22 Fighter CTF at Edwards/Nellis**
 - 411FLTS–412TW–AFFTC–AFMC
 - AFOTEC, Det 6 AFOTEC–CSAF
 - 31TES/422 TES–53WG–USAFWC–ACC

- **OFP CTF (F-15) at Eglin**
 - 40FLTS–46TW–AAC–AFMC
 - 85TES–53TEG–53WG–USAFWC–ACC
 - 28TS–53TMG–53WG–USAFWC–ACC

Legend
 Green is DT&E
 Light Blue is OT&E
 Dark Blue is FDE

*Multiple Organizations Involved in Every Program—And It Works
 Challenge: Can we organize better?*



AF T&E Organization Studies

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- 2007 RAND “Cost-Benefit Analysis”
 - Analyzed AFMC '08 POM Edwards – Eglin consolidation proposal
 - Conclusions:
 - Some savings over the FYDP
 - Would result in increased and unquantifiable risks to programs
 - No cost-benefit for divesting of facilities identified by proposal
- 2008 RAND AF T&E Study – release pending
 - CSAF-requested analysis of entire AF T&E enterprise
 - Expecting some recommendations on AF T&E org structure
- AF internal review of T&E organizational options – ongoing



AF Test and Training Ranges Institutional Management

- Current AF range management is fragmented
 - 40 A-G/A-A Ranges, 3 Space Ranges, 2 IO Ranges
 - Leadership by 11 different MAJCOMs or other organizations
- Key questions:
 - Is there a better range “enterprise management” approach?
 - What organization should be AF range “executive agent”?
 - How do we ensure efficient management, investment and equitable support for test and training requirements?
- AF analysis and discussion in progress...



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F-35 JSF

Setting the Stage for T&E Success

- Biggest T&E challenge - Security, tech protection, access hurdles
 - Aggressively working these issues now—AF, USN, OSD, UK, NL, IT
 - Up to 7 international partners possible = very complex task
- F-35 US/UK integrated testing is already underway
 - US/UK IOT&E MOU signed Dec 06
 - First combined US/UK Operational Assessment complete
- Italy and Netherland T&E participation – details in work
 - Amendment to US/UK IOT&E MOU in staffing
 - IT and NL will participate in IOT&E
 - Adding “CONOPS Verification Test”
 - What is it? – CONOPS Verification White Paper in work
 - Who runs it? – Coordinating USAF sponsors
 - Adding IT/NL “Independent OT&E”
 - Early discussions/planning already underway





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AF Aerial Targets Program

Full-Scale Aerial Targets (FSAT)

- QF-4 FSAT
 - 82 F4 E/G Drones on the ramp at Tyndall
 - 12 RF-4C conversions/yr until FY-14 (last lot)
 - FY08: Reduced FSAT Kills—now 15/yr
 - Cover gap until QF-16 IOC (~ FY15)
- Air Superiority Target (AST) Phase I, QF-16
 - Capability Development Document (CDD) in work
 - Total program - 220 targets (tentatively Blocks 15/25)
 - Not totally 5th Gen target--but good capability FY15+
- AST Phase II:
 - OSD 5th Generation Target Study – reviewing capabilities for 2020+
 - AOAs to look at industry, new procurement, foreign materiel options



*AF/TE Challenge: Manage QF-4 inventory smartly
We must meet test and training needs until QF-16 arrives*



AF Aerial Targets Program Sub-Scale Aerial Targets (SSAT)

- BQM-167 – New AF SSAT
 - IOT&E complete
 - In full-rate production ~ 35-40/year
 - Launch facilities
 - Tyndall AFB
 - Expanding to UTTR

- AF BQM-34
 - Mission complete
 - Last AF mission – 12 Dec 07

- AF MQM-107
 - Mission complete



BQM-167



BQM-34



MQM-107



AF Weapon System Evaluation Program (WSEP)

- USAFWC Combat Archer (A-A) / Combat Hammer (A-G) program
 - Training – realistic live fire training vs drones and ground targets
 - Test – systematic life-cycle testing for fielded/legacy weapons
- 2007 WSEP Results
 - Training – combat crews fired 339 A-A missiles / 336 A-G PGMs
 - 53% by “first-time” shooters
 - Included increased aerial gunnery evaluations
 - Test Results
 - Air-to-Air Missiles - 10 actionable findings
 - Air-to-Ground weapons - 5 actionable findings
- Future WSEP Improvements
 - Build NTTR multi-role capability--both A-A and A-G wpns on single msn



*AF/TE Challenge:
Make resources for high-payoff WSEP programs a priority*



AF Joint Test and Evaluation (JT&E) Program

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- 2007 – Re-organized AF JT&E program
 - Established AF JT&E Office (AFJO) – component of AF/TE
 - AFJO based at Nellis AFB; co-located with USAFWC
- AFJO Responsibilities
 - Develop AF JT&E nominations focused on joint warfighter issues of importance to USAF—lead development of new joint TTPs
 - Effectively compete AF nominations for OSD JT&E funding
- Current OSD-funded AF JT&E programs
 - Joint Electronic Protection Air Combat (JEPAC)
 - Joint Command and Control Net Enabled Weapon (JC2NEW)
 - Joint Fires Control Measures (JFCM)
 - Joint Integration of Nationally Derived Information (JINDI)
 - Joint Integration of Directed Energy for Force Protection (JIDEF)

AF/TE Challenge:

Continue to resource and advocate for value-added AF JT&E programs



Foreign Material Program (FMP)

- AF Foreign Materiel Program (AF/TEZ)
 - Charter: Provide the most realistic answers to system lethality, vulnerability, and our ability to defeat foreign threats

- Utilizes AF/Joint/OSD/Sister Service funds
 - AF long-term investment in ongoing FM T&E is unique
 - Payoff is huge for AF test and training communities

AF/TE Challenge:

Ensure that warfighter requirements drive FMP priorities and continue to expedite key FM data to our combat forces



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EDO Advanced Capability Pod (ACaP) Realistic Electronic Attack (EA) Training



- Purchased 6 ACaP Jammers, Support Equipment, and Spares in FY05 for \$11.65M from EDO Corporation
- Improved Electronic Attack threat representation for Aggressors to better support CAF training requirements
- 2540+ Total Aircrew exposed to DRFM EA, 810+ Fighter crews
- “Best EA training ever experienced” Red Flag Aircrew



Looking Ahead

The 2008 Operating Environment

- Election year turbulence
 - Resourcing challenges—FY 10 POM
 - Senior leadership changes
- F-35 T&E will start to overshadow many things...
- Other high-visibility AF T&E programs on deck...
 - KC-X, CSAR-X, JCA
- Evolution of AF Cyber Command

2008 Will Be Interesting....