

## Activity Summary

DOT&E activity for FY12 involved oversight of 327 programs, including 41 Major Automated Information Systems (MAIS). Oversight activity begins with the early acquisition milestones, continues through approval for full-rate production and, in some instances, during full production until deleted from the DOT&E oversight list.

Our review of test planning activities for FY12 included approval of 43 Test and Evaluation Master Plans (TEMPs) and 1 Test and Evaluation Strategy, as well as 73 Operational Test Plans and 1 Live Fire Test and Evaluation (LFT&E) Management Plan. In FY12, DOT&E prepared for the Secretary of Defense and Congress 14 Beyond Low-Rate Initial Production (BLRIP) reports, 2 Early Fielding reports, 6 Follow-on Operational Test and Evaluation (FOT&E) reports, 2 LFT&E reports, 1 MAIS report, and 2 special reports, as well as the Ballistic Missile Defense (BMD) Programs FY11 Annual Report. Additional FY12 DOT&E reports that did not go to Congress included 25 Operational Assessment reports, 1 FOT&E report, 1 LFT&E report, 6 MAIS reports, and 3 special reports.

DOT&E also prepared and submitted numerous reports to the Defense Acquisition Board (DAB) principals for consideration in DAB deliberations.

During FY12, DOT&E met with Service operational test agencies, program officials, private sector organizations, and academia; monitored test activities; and provided information to the DAB committees as well as the DAB principals, the Secretary and Deputy Secretary of Defense, the Under Secretary of Defense (Acquisition, Technology and Logistics), the Service Secretaries, and Congress. Active onsite participation in, and observation of, tests and test-related activities are a primary source of information for DOT&E evaluations. In addition to onsite participation and local travel within the National Capital Region, approximately 925 trips supported the DOT&E mission.

Security considerations preclude identifying classified programs in this report. The objective, however, is to ensure operational effectiveness and suitability do not suffer due to extraordinary security constraints imposed on those programs.

### TEST AND EVALUATION MASTER PLANS / STRATEGIES APPROVED

Advanced Extremely High Frequency (AEHF) Satellite Communications System TEMP

Advanced Medium-Range Air-to-Air Missile (AMRAAM) Electronic Protection Improvement Program (EPIP) TEMP

Air and Space Operations Center – Weapon System (AOC-WS), Increment 10.1 TEMP

Air Force Integrated Personnel and Pay System (AF-IPPS) TEMP

Amphibious Assault Ship Replacement (LHA (R)) TEMP

AN/ALR-69A Radar Warning Receiver Program TEMP

Apache Block III (AB3) TEMP

Army Integrated Air and Missile Defense TEMP

Automatic Radar Periscope Detection and Discrimination (ARPDD) Upgrade TEMP

B-61 Life Extension Program Tailkit Assembly Test and Evaluation Strategy

Battle Control System – Fixed (BCS-F), Increment 3, Release 3.2 (R3.2) TEMP

Cooperative Engagement Capability (CEC) TEMP Revision 5

Defense Enterprise Accounting and Management System (DEAMS) TEMP

Distributed Common Ground System – Army (DCGS-A) Increment 1 TEMP

Distributed Common Ground System – Marine Corps (DCGS-MC) Milestone B TEMP

Enhanced AN/TPQ-36 (EQ-36) Milestone C Update TEMP

EProcurement (EProc) TEMP

EProcurement Addendum to Milestone C TEMP

F/A-18E/F and EA-18G Flight Plan TEMP No. 1787

Global Broadcast Service (GBS) TEMP

Global Positioning System (GPS) Enterprise TEMP (ETEMP)

Ground/Air Task Oriented Radar (G/ATOR) TEMP

Guided Multiple Launch Rocket System – Alternate Warhead (GMLRS – W) Milestone B TEMP

Integrated Defensive Electronic Countermeasures (IDECM) Suite Block 4 TEMP

Integrated Defensive Electronic Countermeasures (IDECM) Suite Block 4 TEMP No. 1490 Annex C Change

Integrated Submarine Imaging System (ISIS) Program TEMP

Joint High Speed Vessel (JHSV) TEMP

Joint Lightweight Tactical Vehicle (JLTV) Increment I Milestone B TEMP

Joint Warning and Reporting Network (JWARN) Increment I TEMP

Key Management Infrastructure (KMI) Increment 2 TEMP

M109 Family of Vehicles Paladin Integrated Management (PIM) TEMP

Mark XIIA Mode 5 Identification Friend or Foe (IFF) TEMP

Mk 48 Mod 7 Common Broadband Advanced Sonar System (CBASS) and the Mk 48 Mod 6 Advanced Common Torpedo with Advanced Processor Build (APB) Spiral 4 TEMP No. 0371

# DOT&E ACTIVITY AND OVERSIGHT

MQ-1C Increment 1 Gray Eagle (GE) Unmanned Aircraft System (UAS) TEMP

MQ-4C Broad Area Maritime Surveillance (BAMS) Unmanned Aircraft System (UAS) TEMP

MQ-9 Reaper Increment 1 Unmanned Aircraft System TEMP

MQ-9 Reaper Increment 1 Unmanned Aircraft System TEMP Update 1

RC-135 Multi-functional Information Distribution System (MIDS) Joint Tactical Radio System (JTRS) Integration TEMP

Remote Minehunting System (RMS) TEMP Revision D

Rolling Airframe Missile (RAM) Block 2 TEMP

Ship-to-Shore Connector (SSC) TEMP

Space-Based Infrared System (SBIRS) Enterprise TEMP (ETEMP)

Submarine Electronic Warfare Support (ES) System (AN/BLQ-10) TEMP

Surface Mine Countermeasures Unmanned Undersea Vehicle (SMCM UUV) TEMP (February 2012)

Surface Mine Countermeasures Unmanned Undersea Vehicle (SMCM UUV) TEMP (August 2012)

Teleport, Generation 3, Phase 2 (G3P2) TEMP Update

Virginia (SSN 774) TEMP with Design of Experiments (DOE) Appendix

Warfighter Information Network – Tactical (WIN-T) Increment 2 TEMP

## OPERATIONAL TEST PLANS APPROVED

Advanced Extremely High Frequency (AEHF) Operational Utility Evaluation (OUE) 2 Operational Test Agency (OTA) Test Plan

Aegis Baseline 7.1R and Cooperative Engagement Capability (CEC) FOT&E Test Plans

Air and Space Operations Center (AOC) – Weapon System (WS) Increment 10.1 Recurring Event (RE) 11 Force Development Evaluation (FDE) Plan

Air and Space Operations Center (AOC) – Weapon System (WS) Increment 10.1 Overarching OT&E Plan

Air Intercept Missile-9X Block II IOT&E Plan

Airborne Warning and Control System (AWACS) Block 40/50 Upgrade IOT&E Plan

AN/ALR-69A Radar Warning Receiver (RWR) IOT&E Test Plan

Apache Block III Force Development Test and Experimentation II (FDT&E II) and IOT&E Operational Test Agency (OTA) Test Plan

Automatic Radar Periscope Detection and Discrimination (ARPDD) Upgrade IOT&E Plan

B-2 EHF SATCOM Increment 1 IOT&E Plan

Battle Control System – Fixed Release 3.2 (BCS-F R3.2) IOT&E Plan

C-130 Avionics Modernization Program IOT&E Test Plan

C-130J Data Transfer and Diagnostics System (DTADS) FOT&E Plan

C-130J Station Keeping Equipment (SKE) Software Enhancement (SSE) FOT&E-2 Plan

C-5 Reliability Enhancement and Re-Engining Program Operational Flight Program 3.5 FDE Test Plan

CNO Project No. 1714, Enterprise Test (ET-03) Phase 2 of the Air Warfare/Ship Self-Defense (AW/SSD) Enterprise, CNO Project 1400, FOT&E (OT-IIIIF) of the Ship Self-Defense System (SSDS) Mark 2 Mod 1A and CNO Project 1471, FOT&E (OT-D2) of the Evolved SeaSparrow Missile (ESSM) Program

CNO Project No. 1787, FOT&E OT-D1 of the EA-18G Airborne Electronic Attack Aircraft System Configuration Set H8E Test Plan

CNO Project No. 3980 1552-OT-B2/1583-OT-B2, Operational Assessment (OA) (OT-B2) of the MH-60S Block 2 Airborne Mine Countermeasures System (AMCM) and the AN/AES-1 Airborne Laser Mine Detection System (ALMDS) Test Plan

CNO Project No. J1656, MOT&E (OT-D3) of the Mobile User Objective System (MUOS) Test Plan

Common Aviation Command and Control System (CAC2S), Increment 1, Phase 1 Limited User Evaluation Plan

Consolidated Afloat Networks and Enterprise Services (CANES) OA Test Plan

Cooperative Engagement Capability (CEC) FOT&E (OT-IIIIF) Test Plan

Distributed Common Ground System – Army (DCGS-A) Increment 1, DCGS-A Software Baseline (DSB) 1.0 IOT&E OTA Test Plan (TP)

Distributed Common Ground System – Navy (DCGS-N) FOT&E Plan

Dry Cargo and Ammunition Ship (T-AKE) Program Change Transmittal II to Test Plan

E-2D Advanced Hawkeye (AHE) IOT&E/CEC FOT&E Test Plan

EProcurement Release 1.2 IOT&E Plan

EProcurement Release 1.2 OA Test Plan

F/A-18/F System Configuration Set (SCS) H8E Software Qualification Test (SQT) And Active Electronically Scanned Array (AESA) Radar Upgrade Phase III OT&E Plan

Gerald R. Ford Class CVN-78 Aircraft Carrier Test Plan for OA OT-B3

Global Command and Control System – Joint (GCCS-J) Global Version 4.2.0.9 Release OT&E Plan

H-1 Upgrades Program FOT&E (OT-IIIIB) Test Plan

HC/MC-130J Recapitalization (RECAP) IOT&E Plan

Integrated Defensive Electronic Countermeasures (IDECM) Suite Block 4 OA Test Plan

Integrated Personnel and Pay System – Army (IPPS-A) Test and Evaluation Plan (TEP)

Integrated Strategic Planning and Analysis Network (ISPAN) Increment 2 IOT&E Plan

Joint Chemical Agent Detector (JCAD) Visit, Board, Search, Seizure (VBSS) OTA Test Plan for Developmental Test/Operational Test (DT/OT)

Joint Space Operations Center (JSpOC) Mission System (JMS) Increment 1 OUE OTA Test Plan

Joint Space Operations Center (JSpOC) Mission System (JMS) Increment 2 Early OA (EOA) Plan

# DOT&E ACTIVITY AND OVERSIGHT

Joint Tactical Radio System (JTRS) Enterprise Network Manager (JENM) for Soldier Radio Waveform (SRW) IOT&E Test Plan

Joint Tactical Radio System (JTRS) Handheld, Manpack, Small Form Fit (HMS) Manpack Radio MOT&E OTA Test Plan

Joint Tactical Radio System (JTRS) Handheld, Manpack, Small Form Fit (HMS) Rifleman Radio IOT&E OTA Test Plan

Joint Warning and Reporting Network (JWARN) Increment 1 FOT&E OTA Test Plan

Key Management Infrastructure (KMI) Increment 2, Spiral 1, IOT&E Plan

Littoral Combat Ship (LCS) Quick Reaction Assessment (QRA) Data Management and Analysis Plan (DMAP)

LPD-17 Data Management and Analysis Plan (DMAP) for Deficiency concerning reliability during the first five hours of Amphibious Assault (R5)

LPD-17 FOT&E Test Plan for Chemical, Biological, Radiological Defense (CBRD) and Magnetic Signature Check Range Run

Mark XIIA Identification Friend or Foe (IFF) Mode 5 Joint Operational Test Approach (JOTA) Test Plan

Mark XIIA Identification Friend or Foe (IFF) Mode 5 Joint Operational Test Approach (JOTA) Version 2.0

Miniature Air-Launched Decoy – Jammer (MALD-J) ADM-160C IOT&E Test Plan

Mk 48 Test Plan

Mk 48 Mod 6 Advanced Common Torpedo (ACOT) and Mk 48 Mod 7 Common Broadband Advanced Sonar System (CBASS) Torpedo FOT&E Test Plan

Mk 54 Test Plan Change 1

MQ-1C Gray Eagle Unmanned Aircraft System IOT&E OTA Test Plan

MQ-9 Operational Flight Program 904.2 FDE Plan

MV-22B Block C FOT&E Test Plan

*Ohio* Class Replacement Submarine EOA Test Plan (1771-OT-A1)

P-8A Poseidon Multi-mission Maritime Aircraft (MMA) IOT&E Test Plan

Patriot Limited User Test (LUT) OTA Test Plan

RC-135 Multi-functional Information Distribution System (MIDS) Joint Tactical Radio System (JTRS) Integration Test Plan

Small Diameter Bomb Increment II (SDB II) Multi-Service OA Plan

Space Fence EOA OTA Test Plan

Space-Based Infrared System Effectivity 5 OUE OTA Test Plan

Standard Missile-6 (SM-6) OT-IIB IOT&E Test Plan Annex A Model and Simulation Runs for the Record (RFR) (U)

Stryker Double-V Hull (DVH) Mortar Carrier Vehicle (MCSV) OTA Test Plan

Stryker Double-V Hull (DVH) Addendum to the LFT&E Phase 2/3 OTA Test Plan and the Detailed Test Plan (DTP)

Submarine Electronic Warfare Support (ES) System (AN/BLQ-10) Integrated Evaluation Framework (IEF)

Surveillance Towed Array Sensor System (SURTASS) Compact Low Frequency Active (CLFA) Test Plan for IOT&E (OT-IIG)

Teleport Generation 3, Phase 2 (G3P2) OA OTA Plan

U.S. Air Forces Central (AFCENT) Combined Air and Space Operations Center (CAOC) Information Assurance Assessment Plan

Vertical Take-off and Landing Tactical Unmanned Aerial Vehicle (VTUAV) System Quick Reaction Assessment (QRA) Data Management and Analysis Plan (DMAP)

Warfighter Exercise (WFX) 12-4 Information Assurance and Interoperability Assessment Plan

Warfighter Information Network – Tactical Increment 2 IOT&E OTA Test Plan

---

## LIVE FIRE TEST AND EVALUATION STRATEGIES, TEST PLANS, AND MANAGEMENT PLANS

57 mm Ammunition LFT&E Management Plan

# DOT&E ACTIVITY AND OVERSIGHT

FY12 DOT&E REPORTS TO CONGRESS		
Program	Report Type	Date
<b>BLRIP Reports</b>		
Stryker Nuclear, Biological, and Chemical Reconnaissance Vehicle (NBCRV)	Combined OT/LFT	November 2011
Navy Multiband Terminal (NMT) with Classified Annex	OT Report	November 2011
Large Aircraft Infrared Countermeasure (LAIRCM) Phase II System	OT Report	January 2012
Global Positioning System Selective Availability/Anti-Spoof Module (GPS SAASM)	Multi-Service OT Report	February 2012
Terminal High-Altitude Area Defense (THAAD) and AN/TPY-12 Radar	Combined OT/LFT	February 2012
Spider XM7 Network Command Munition with Confidential Annex	Combined OT/LFT	February 2012
Mine Resistant Ambush Protected (MRAP) Family of Vehicles: Dash with Independent Suspension System (ISS), MRAP Recovery Vehicle (MRV), Marine Corps Cougar Ambulance	Combined OT/LFT	March 2012
Global Combat Support System – Army (GCSS-Army)	OT Report	June 2012
Direct Attack Moving Target Capability (DAMTC)	OT Report	June 2012
Mark XIIA Mode 5 Identification Friend or Foe (IFF) System	OT Report	July 2012
AH-64D Apache Block III (AB3) Attack Helicopter with Classified Annex	Combined OT/LFT	August 2012
AGM-88E Advanced Anti-Radiation Guided Missile (AARGM)	OT Report	August 2012
Warfighter Information Network – Tactical (WIN-T) Increment 2 with Classified Annex	OT Report	September 2012
Common Remotely Operated Weapon Station (CROWS)	OT Report	September 2012
<b>Early Fielding Reports</b>		
Mk 54 Lightweight Torpedo with Block Upgrade (BUG) Software	OT Report	January 2012
Massive Ordnance Penetrator (MOP)	OT Report	April 2012
<b>FOT&amp;E Reports</b>		
Virginia Class Submarine Low Frequency Active (LFA) (ACCM)	OT Report	November 2011
Tomahawk Land Attack Missile	OT Report	February 2012
Verification of Correction of Deficiencies Report on the Multi-functional Information Distribution System (MIDS) Joint Tactical Radio System (JTRS)	OT Report	March 2012
EA-18G Airborne Electronic Attack (AEA) Aircraft	OT Report	March 2012
F/A-18E/F Super Hornet	OT Report	April 2012
Combined MH-60R Multi-Mission Helicopter and the MH-60S Multi-Mission Combat Support Helicopter Preplanned Product Improvement (P3I) Program	OT Report	April 2012
<b>LFT&amp;E Reports</b>		
Family of Medium Tactical Vehicles (FMTV) A1P2	LFT Report	October 2011
Enhanced Combat Helmet (ECH)	LFT Report	May 2012
<b>MAIS Reports</b>		
EProcurement System	OT Report	June 2012
<b>Special Reports</b>		
Active Protection Systems (APS) Live Fire Test and Evaluation	LFT Report	February 2012
Assessment of Department of Defense (DoD) Information Assurance during Major Combatant Command (CCMD) Service Exercises	Information Assurance	April 2012
<b>BMD Reports</b>		
FY11 Assessment of the Ballistic Missile Defense System (BMDS) (includes classified appendices A, B, C)	Annual Report	February 2012

# DOT&E ACTIVITY AND OVERSIGHT

OTHER FY12 DOT&E REPORTS		
Program	Report Type	Date
<b>Operational Assessment Reports</b>		
MQ-9 Unmanned Aerial System (UAS)	OT Report	October 2011
B-2 Extremely High Frequency (EHF) Satellite Communications (SATCOM) and Computer Upgrade Increment 1	OT Report	October 2011
AN/AAR-47 Missile Warning Set (MWS) Hostile Fire Indication (HFI) Software Upgrade, Operational Flight Program (OFF) 30.41	OT Report	October 2011
Key Management Infrastructure (KMI) Spiral 1	OT Report	October 2011
Surveillance Towed Array Sensor System (SURTASS) with Compact Low Frequency Active (CLFA)	OT Report	October 2011
Stryker Double-V Hull (DVH) Configuration of the Engineer Squad Vehicle (ESVV)	Combined OT/LFT	October 2011
Family of Medium Tactical Vehicles (FMTV) A1P2	Combined OT/LFT	October 2011
Stryker Double-V Hull (DVH) Configuration of the Infantry Carrier Vehicle (ICVV) Scout	Combined OT/LFT	January 2012
Network Integration Evaluation (NIE) 11.2 with Classified Annex	OT Report	January 2012
Distributed Common Ground System – Army (DCGS-A) Software Baseline (DSB) 1.0	OT Report	January 2012
Block Cycle Change 03 (BCC 03) for the C-5 Avionics Modernization Program (AMP)	OT Report	February 2012
C-17 Formation Flight System (FFS)	OT Report	February 2012
C-130J Station Keeping Equipment (SKE) Software Enhancement (SSE)	OT Report	February 2012
Integrated Strategic Planning and Analysis Network (ISPAN) Increment 2, Spiral 1	OT Report	March 2012
MQ-1C Gray Eagle Unmanned Aircraft System (UAS)	OT Report	April 2012
Department of Defense Teleport System, Generation Three Phase Two	OT Report	May 2012
Stryker Double-V Hull (DVH) Configuration of the Mortar Carrier Vehicle (MCVV)	Combined OT/LFT	May 2012
MH-60S Airborne Mine Countermeasures Helicopter and AN/AQS-20A Mine Detecting Sonar	Combined OT/LFT	June 2012
Visit, Board, Search, and Seizure (VBSS) Joint Chemical Agent Detector (JCAD)	OT Report	July 2012
Stryker Double-V Hull (DVH) Configuration of the Medical Evacuation Vehicle (MEVV)	Combined OT/LFT	July 2012
Joint Tactical Radio System (JTRS) Handheld, Manpack, Small Form Fit (HMS) Manpack Radio and Joint Enterprise Network Manager (JENM)	OT Report	July 2012
Joint Tactical Radio System (JTRS) AN/PRC-154 Rifleman Radio and Soldier Radio Waveform Network Manager (SRWNM)	OT Report	August 2012
Mine Resistant Ambush Protected (MRAP) Family of Vehicles: Navistar Dash Ambulance and MRAP All-Terrain Vehicle (M-ATV) Underbody Improvement Kit (UIK)	Combined OT/LFT	August 2012
MQ-9 Reaper Block 5 Remotely Piloted Aircraft	OT Report	September 2012
Defense Enterprise Accounting and Management System (DEAMS) Increment 1 Release 1	OT Report	September 2012
<b>FOT&amp;E Reports</b>		
BAE-Tactical Vehicle System (TVS) Caiman Mine Resistant Ambush Protected (MRAP) Vehicle	LFT&E Report	June 2012
<b>LFT&amp;E Reports</b>		
Stryker Double-V Hull (DVH) Configuration of the Commander's Vehicle (CVV)	LFT&E Report	January 2012
<b>MAIS Reports</b>		
Battle Control System – Fixed (BCS-F) Increment 3.1	OT Report Update 1	October 2011
Joint Mission Planning System – Expeditionary (JMPS-E)	IOT&E Report	October 2011
Public Key Infrastructure (PKI) Increment 2	IOT&E Report	January 2012
Global Command and Control System – Joint (GCCS-J) Version 4.2.0.9	OT Report	January 2012
Joint Mission Planning System (JMPS) E-8 Joint Surveillance Target Attack Radar System (JSTARS) Mission Planning Environment (MPE)	IOT&E Report	February 2012
Battle Control System – Fixed (BCS-F) Increment 3, Release 3.1 (R3.1)	OT Report Update 2	May 2012
<b>Special Reports</b>		
Hellfire Romeo Missile	LFT&E Report	November 2011
Stryker Mobile Gun System (MGS) Engineering Change Order (ECO) Block 3	Combined OT/LFT	January 2012
Surface-Launched Advanced Medium-Range Air-to-Air Missile (SLAMRAAM)	OT Report	May 2012

# DOT&E ACTIVITY AND OVERSIGHT

## Program Oversight

DOT&E is responsible for approving the adequacy of plans for operational test and evaluation and for reporting the operational test results for all major defense acquisition programs to the Secretary of Defense, Under Secretary of Defense (Acquisition, Technology and Logistics), Service Secretaries, and Congress. For DOT&E oversight purposes, major defense acquisition programs were defined in the law to mean those programs meeting the criteria for reporting under Section 2430, Title 10, United States Code (U.S.C.) (Selected Acquisition Reports (SARs)). The law (Section 139(a)(2)(B)) also stipulates that DOT&E may designate any other programs for the purpose of oversight, review, and reporting. With the addition of such “non-major” programs, DOT&E was responsible for oversight of a total of 327 acquisition programs during FY12.

Non-major programs are selected for DOT&E oversight after careful consideration of the relative importance of the individual program. In determining non-SAR systems for oversight, consideration is given to one or more of the following essential elements:

- Congress or OSD agencies have expressed a high level of interest in the program.
- Congress has directed that DOT&E assess or report on the program as a condition for progress or production.
- The program requires joint or multi-Service testing (the law (Section 139(b)(4)) requires DOT&E to coordinate “testing conducted jointly by more than one military department or defense agency”).
- The program exceeds or has the potential to exceed the dollar threshold definition of a major program according to DoD 5000.1, but does not appear on the current SAR list (e.g., highly classified systems).

- The program has a close relationship to or is a key component of a major program.
- The program is an existing system undergoing major modification.
- The program was previously a SAR program and operational testing is not yet complete.

This office is also responsible for the oversight of LFT&E programs, in accordance with 10 U.S.C 139. DoD regulation uses the term “covered system” to include all categories of systems or programs identified in 10 U.S.C. 2366 as requiring LFT&E. In addition, systems or programs that do not have acquisition points referenced in 10 U.S.C. 2366, but otherwise meet the statutory criteria, are considered “covered systems” for the purpose of DOT&E oversight.

A covered system, for the purpose of oversight for LFT&E, has been determined by DOT&E to meet one or more of the following criteria:

- A major system, within the meaning of that term in 10 U.S.C. 2302(5), that is:
  - User-occupied and designed to provide some degree of protection to the system or its occupants in combat
  - A conventional munitions program or missile program
- A conventional munitions program for which more than 1,000,000 rounds are planned to be acquired.
- A modification to a covered system that is likely to affect significantly the survivability or lethality of such a system.

DOT&E was responsible for the oversight of 127 LFT&E acquisition programs during FY12.

**Programs Under DOT&E Oversight  
Fiscal Year 2012  
(As taken from the September 2012 DOT&E Oversight List)**

**DoD PROGRAMS**

AC-130J	Joint Tactical Radio System (JTRS) Airborne and Maritime/Fixed Station (AMF)
Ballistic Missile Defense System (BMDS) Program	Joint Tactical Radio System (JTRS) Enterprise Network Manager (JENM)
Ballistic Missile Technical Collection (BMTC)	Joint Tactical Radio System (JTRS) Handheld, Manpack, and Small Form Fit (HMS) Radios
Chemical Demilitarization – Chemical Materials Agency (Army Executing Agent) (CHEM DEMIL-CMA)	Joint Tactical Radio System (JTRS) Network Enterprise Domain (NED)
Chemical Demilitarization Program – Assembled Chemical Weapons Alternatives (CHEM DEMIL-ACWA)	Joint Warning and Reporting Network (JWARN)
Conventional Prompt Global Strike	Key Management Infrastructure (KMI) Increment 2
Defense Agency Initiative (DAI)	Mid-Tier Networking Vehicle Radio
Defense Enterprise Accounting and Management System (DEAMS) Increment 1	Multi-Functional Information Distribution System (MIDS) (includes all current and planned integrations of MIDS JTRS into USAF and USN aircraft: F/A-18 E/F, E-2D, E-8, RC-135, EC-130 (all applicable series designations))
Defense Readiness Reporting System – Strategic	Next Generation Diagnostic System
Defense Security Assistance Management System (DSAMS) – Block 3 EProcurement	Public Key Infrastructure (PKI) Increment 2
Global Combat Support System – Joint (GCSS-J)	Soldier Radio Waveform (SRW) Network Manager
Global Command and Control System – Joint (GCCS-J)	Special Operations Command Dry Combat Submersible Medium (DCSM)
Integrated Electronic Health Record (iEHR)	Special Operations Command Next Generation Dry Deck Shelter
Joint Aerial Layer Network	Teleport, Generation III
Joint Biological Standoff Detection System (JBSDS)	Theater Medical Information Program – Joint (TMIP-J) Block 2
Joint Biological Tactical Detection System (JBTDSD)	Virtual Interactive Processing System (VIPS)
Joint Chemical Agent Detector (JCAD)	
Joint Command and Control Capabilities (JC2C) [Encompasses GCCS-FoS (GCCS-J, GCCS-A, GCCS-M), TBMCS-FL, DCAPEs, GCCS-AF, USMC JTCW, USMC TCO]	

**ARMY PROGRAMS**

.300 Winchester Magnum Mk248 Mod 1 ammunition	Armored Truck – M915A5 Line Hauler
25 mm Individual Semi-Automatic Airburst System (ISAAS)	Armored Truck – M939 General Purpose Truck
Abrams Tank Modernization (M1E3)	Armored Truck – Palletized Loading System (PLS)
Abrams Tank Upgrade (M1A1 SA / M1A2 SEP)	Army Integrated Air and Missile Defense (AIAMD)
Apache Block III (AB3)	Army Vertical Unmanned Aircraft System
Armed Aerial Scout (previously named ARH Armed Recon Helicopter)	Biometrics Enabling Capability (BEC) Increment 1
Armored Multi-Purpose Vehicle (AMPV)	Black Hawk Utility Helicopter (UH-60M) Upgrade Program
Armored Truck – Heavy Dump Truck (HDT)	Bradley Fighting Vehicle System Upgrade
Armored Truck – Heavy Equipment Transporter (HET)	Bradley Modernization (M2A3 V2)
Armored Truck – Heavy Expanded Mobility Tactical Truck (HEMTT)	Cartridge, 7.62 mm, M80A1

## ARMY PROGRAMS (continued)

CH-47F – Cargo Helicopter  
 Common Infrared Countermeasures (CIRCM)  
 Common Remotely Operated Weapon Station (CROWS) III  
 Distributed Common Ground System – Army (DCGS-A)  
 Enhanced AN/TPQ-36 Radar System (EQ-36)  
 Excalibur – Family of Precision, 155 mm Projectiles  
 FMTV – Family of Medium Tactical Vehicles  
 Force XXI Battle Command Brigade and Below – Joint Capability Release (FBCB2 – JCR)  
 Force XXI Battle Command Brigade and Below (FBCB2) Program  
 General Fund Enterprise Business System (GFEBS)  
 Global Combat Support System – Army (GCSS-Army)  
 Ground Combat Vehicle (GCV)  
 Guided Multiple Launch Rocket System (GMLRS) – Alternate Warhead (AW)  
 Guided Multiple Launch Rocket System (GMLRS) – Dual Purpose Improved Conventional Munitions (DPICM)  
 Guided Multiple Launch Rocket System (GMLRS) – Unitary  
 Hellfire Romeo  
 High Mobility Artillery Rocket System (HIMARS)  
 High Mobility Multi-purpose Wheeled Vehicle (HMMWV)  
 Hostile Fire Detection System  
 Individual Carbine  
 Integrated Personnel and Pay System – Army (Army IPPS)  
 Interceptor Body Armor  
 Javelin Anti-Tank Missile System – Medium  
 Joint Air-to-Ground Missile (JAGM)  
 Joint Assault Bridge  
 Joint Battle Command Platform (JBC-P)  
 Joint Cooperative Target Identification – Ground (JCTI-G)  
 Joint Future Theater Lift Concept (JFTLC)  
 Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) System  
 Joint Lightweight Tactical Vehicle (JLTV)  
 Joint Personnel Identification (JPIv2)  
 Kiowa Warrior Upgrade  
 Land Warrior – Integrated Soldier Fighting System for Infantrymen  
 Light Utility Helicopter (LUH)  
 Logistics Modernization Program (LMP)  
 Long Endurance Multi-Intelligence Vehicle (LEMV)  
 M1200 Knight Targeting Under Armor (TUA)  
 M270A1 Multiple Launch Rocket System (MLRS)  
 M829E4  
 Mark XIIA Identification Friend or Foe (IFF) Mode 5 (all development and integration programs)  
 Modernized Expanded Capacity Vehicle (MECV) – Survivability Demonstration  
 MQ-1C Unmanned Aircraft System Gray Eagle  
 Nett Warrior  
 One System Remote Video Terminal (OSRVT)  
 Paladin/Field Artillery Ammunition Supply Vehicle (FAASV) Integrated Management (PIM)  
 Patriot Advanced Capability 3 (PAC-3) (Missile only)  
 Patriot/Medium Extended Air Defense System (MEADS)  
 RQ-11B Raven – Small Unmanned Aircraft System  
 RQ-7B SHADOW – Tactical Unmanned Aircraft System  
 Spider XM7 Network Command Munition  
 Stryker M1126 Infantry Carrier Vehicle including Double-V Hull Variant  
 Stryker M1127 Reconnaissance Vehicle  
 Stryker M1128 Mobile Gun System  
 Stryker M1129 Mortar Carrier including the Double-V Hull Variant  
 Stryker M1130 Commander’s Vehicle including the Double-V Hull Variant  
 Stryker M1131 Fire Support Vehicle Including the Double-V Hull Variant  
 Stryker M1132 Engineer Squad Vehicle Including the Double-V Hull Variant  
 Stryker M1133 Medical Evacuation Vehicle Including the Double-V Hull Variant  
 Stryker M1134 Anti-Tank Guided Missile (ATGM) Vehicle Including the Double-V Hull Variant  
 Stryker M1135 Nuclear, Biological, and Chemical Reconnaissance Vehicle (NBCRV) Including the Double-V Hull Variant  
 Stryker Modernization Program  
 Surface-Launched Advanced Medium-Range Air-to-Air Missile (SLAMRAAM)  
 Tactical Edge Network – Extension  
 Warfighter Information Network – Tactical (WIN-T) Increment 1  
 Warfighter Information Network – Tactical (WIN-T) Increment 2  
 Warfighter Information Network – Tactical (WIN-T) Increment 3  
 Warfighter Information Network – Tactical (WIN-T) Increment 4  
 XM1156 Precision Guidance Kit (PGK)  
 XM395 Accelerated Precision Mortar Initiative (APMI)

## NAVY PROGRAMS

Acoustic Rapid Commercial Off-the-Shelf (COTS) Insertion (A-RCI) for SONAR

Advanced Airborne Sensor

Advanced Extremely High Frequency (AEHF) Navy Multiband Terminal (NMT) Satellite Program

Aegis Modernization

AGM-88E Advanced Anti-Radiation Guided Missile (AARGM)

AH-1Z

AIM-9X Air-to-Air Missile Upgrade Block II

Air and Missile Defense Radar (AMDR)

Air Warfare Ship Self-Defense Enterprise

Airborne Laser Mine Detection System (AN/AES-1) (ALMDS)

Airborne Mine Neutralization System (AN/ASW-235) (AMNS)

Amphibious Assault Vehicle Upgrade

Amphibious Combat Vehicle (ACV)

AN/APR-39 Radar Warning Receiver

AN/AQS-20A Minehunting Sonar

AN/BLQ-10 Submarine Electronics Support Measures

AN/BVY-1 Integrated Submarine Imaging System

AN/SQQ-89A(V) Integrated USW Combat Systems Suite

Anti-Torpedo Torpedo Defense System including all associated programs (Countermeasure Anti-Torpedo (CAT), Torpedo Warning System (TWS), and SLQ-25X (NIXIE))

AR/LSB – Airborne Resupply/Logistics for Seabasing

Assault Breaching System Coastal Battlefield Reconnaissance and Analysis System Block II

Broad Area Maritime Surveillance (BAMS) Unmanned Aircraft System

BYG-1 Fire Control (Weapon Control and TMA)

CH-53K – Heavy Lift Replacement Program

Close-In Weapon System (CIWS) including SEARAM

Cobra Judy Replacement – Ship-based Radar System

Common Aviation Command and Control System (CAC2S)

Consolidated Afloat Networks and Enterprise Services (CANES)

Cooperative Engagement Capability (CEC)

Countermeasure Anti-Torpedo

CVN-78 – *Gerald R. Ford* Class Nuclear Aircraft Carrier

CVN-78 – Electro-Magnetic Aircraft Launching System

DDG-1000 – *Zumwalt* Class Destroyer – includes all supporting PARMs and the lethality of the LRLAP, 57 mm and 30 mm ammunition

DDG-51 – *Arleigh Burke* Class Guided Missile Destroyer – includes all supporting PARMs

DDG-51 Flight III – *Arleigh Burke* Class Guided Missile Destroyer – includes all supporting PARMs

Department of Navy Large Aircraft Infrared Countermeasures (DoN LAIRCM) Program

Distributed Common Ground System – Marine Corps (DCGS-MC)

Distributed Common Ground System – Navy (DCGS-N)

E-2D Advanced Hawkeye

EA-18G – Airborne Electronic Attack Variant of the F/A-18 Aircraft

Enhanced Combat Helmet (ECH)

Evolved SeaSparrow Missile (ESSM)

Evolved SeaSparrow Missile Block 2

F/A-18E/F – Super Hornet Naval Strike Fighter

Future Pay and Personnel Management Solution (FPPS)

Global Combat Support System – Marine Corps (GCSS-MC)

Global Command and Control System – Maritime (GCCS-M)

Ground/Air Task Oriented Radar (G/ATOR)

Infrared Search and Track System

Integrated Defensive Electronic Countermeasures (IDECM) (All Blocks)

Joint and Allied Threat Awareness System (JATAS)

Joint Expeditionary Fires

Joint High Speed Vessel (JHSV)

Joint Precision Approach and Landing System (JPALS) Increment 1 (Ship system)

Joint Precision Approach and Landing System (JPALS) Increment 2 (Land system)

Joint Standoff Weapon C-1 Variant (JSOW C-1)

KC-130J with Harvest Hawk

Landing Ship Dock Replacement (LSD(X))

LHA 6 – *America* Class Amphibious Assault Ship – includes all supporting PARMs

LHD 8 Amphibious Assault Ship

Light Armored Vehicle (LAV)

Light Weight Tow Torpedo Countermeasure (part of LCS ASW Mission Module)

Littoral Combat Ship (LCS) – includes all supporting PARMs, and 57 mm lethality

Littoral Combat Ship (LCS) Mission Modules including 30 mm and missile lethality

Littoral Combat Ship (LCS) Surface-to-Surface Missile Module (follow-on to the interim Griffin Missile)

Littoral Combat Ship (LCS) Variable Depth Sonar (VDS)

Logistics Vehicle System Replacement

LPD-17 – *San Antonio* Class Amphibious Transport Dock Ship – includes all supporting PARMs and 30 mm lethality

Marine Personnel Carrier

Maritime Prepositioning Force (Future) Mobile Landing Platform

Mark XIIA Identification Friend or Foe (IFF) Mode 5 (all development and integration programs)

Medium Tactical Vehicle Replacement (MTV) Program (USMC)

## NAVY PROGRAMS (continued)

Medium-Range Maritime Unmanned Aircraft System  
 MH-60R Multi-Mission Helicopter Upgrade  
 MH-60S Multi-Mission Combat Support Helicopter  
 Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV) – including Special Operations Command vehicles  
 Mk 54 Torpedo/Mk 54 Vertical-Launch Anti-Submarine (VLA)/MK 54 Upgrades Including High-Altitude Anti-Submarine Warfare (ASW) Weapon Capability (HAAWC)  
 Mk 48 CBASS Torpedo  
 Mk 48 Torpedo Mods  
 Mobile User Objective System (MUOS)  
 Multi-static Active Coherent (MAC) System CNO project 1758  
 MV-22 Osprey – Joint Advanced Vertical Lift Aircraft  
 Naval Integrated Fire Control – Counter Air (NIFC-CA)  
 Navy Enterprise Resource Planning (ERP)  
 Navy Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System  
 Next Generation Enterprise Network (NGEN)  
 Next Generation Jammer (NGJ)  
 Offensive Anti-Surface Warfare  
 Offensive Anti-Surface Warfare Interim Capability (also called Tomahawk Offensive Anti-Surface Warfare Interim Capability)  
 Ohio Replacement Program (Sea-based Strategic Deterrence) – including all supporting PARMs  
 Organic Airborne and Surface Influence Sweep (OASIS)  
 P-8A Poseidon Program  
 Rapid Airborne Mine Clearance System (RAMICS)  
 Remote Minehunting System (RMS)  
 Replacement Oiler  
 Rolling Airframe Missile (RAM) including RAM Block 1A Helicopter Aircraft Surface (HAS) and RAM Block 2 Programs  
 Sea-Based Support to Special Forces  
 Ship Self-Defense System (SSDS)  
 Ship-to-Shore Connector (SSC)  
 Small Tactical Unmanned Aerial System (STUAS) – UAS Tier II  
 SSN 774 Virginia Class Submarine  
 SSN 784 Virginia Class Block III Submarine  
 Standard Missile-2 (SM-2) including all mods  
 Standard Missile-6 (SM-6)  
 Submarine Torpedo Defense System (Sub TDS) including countermeasures and Next Generation Countermeasure (NGCM) System  
 Surface Electronic Warfare Improvement Program (SEWIP) Block 2  
 Surface Electronic Warfare Improvement Program (SEWIP) Block 3  
 Surface Electronic Warfare Improvement Program (SEWIP) Block 4  
 Surface Mine Countermeasures Unmanned Undersea Vehicle (also called Knifefish UUV) (SMCM UUV)  
 Surveillance Towed Array Sonar System/Low Frequency Active (SURTASS/LFA) including Compact LFA (CLFA)  
 Tactical Tomahawk – Follow-on to Tomahawk Baseline Missile  
 T-AKE – Lewis & Clark Class of Auxiliary Dry Cargo Ships (T-AKE) – includes all supporting PARMs  
 Torpedo Warning System (Previously included with Surface Ship Torpedo Defense System) including all sensors and decision tools  
 Trident II Missile – Sea Launched Ballistic Missile  
 UH-1Y  
 Unmanned Influence Sweep System (UISS) include Unmanned Surface Vessel (USV) and Unmanned Surface Sweep System (US3)  
 Unmanned Undersea Vehicle Program  
 Vertical Take-off and Landing Tactical Unmanned Air Vehicle (VTUAV) (Fire Scout)  
 VXX – Presidential Helicopter Fleet Replacement Program

## AIR FORCE PROGRAMS

20 mm PGU-28/B Replacement Combat Round  
 Advanced Extremely High Frequency (AEHF) Satellite Program  
 Advanced Medium Range Air-to-Air Missile (AMRAAM)  
 Advanced Pilot Trainer  
 Air Force Distributed Common Ground System (AF-DCGS)  
 Air Force Integrated Personnel and Pay System (AF-IPPS)  
 Air Force Intranet (AFNet) Combat Information Transport System (CITS) Migration Urgent Operational Need  
 Air Force Intranet (AFNet) Increment 1  
 Air Force Intranet (AFNet) Increment 2  
 Air Force Intranet (AFNet) Modernization capabilities (Bitlocker, Data at Rest, Situational Awareness Modernization)  
 Air Operations Center – Weapon System (AOC-WS) Initiatives 10.0 and 10.1  
 Air Operations Center – Weapon System (AOC-WS) Initiative 10.2  
 Airborne Signals Intelligence Payload (ASIP) Family of Sensors  
 Airborne Warning and Control System (AWACS) Block 40/45 Upgrade  
 ALR-69A Radar Warning Receiver  
 B-2 Advanced Extremely High Frequency (EHF) Satellite Communications (SATCOM) and Computer Capability Increment I

## AIR FORCE PROGRAMS (continued)

B-2 Advanced Extremely High Frequency (EHF) Satellite Communications (SATCOM) and Computer Capability Increment II  
 B-2 Defensive Management System Modernization (DMS)  
 B-61 Mod 12 Life Extension Program  
 Battle Control System – Fixed (BCS-F) 3.1  
 Battle Control System – Fixed (BCS-F) 3.2  
 C-130 Aircraft Avionics Modernization Program (AMP)  
 C-130J – Hercules Cargo Aircraft Program  
 C-17A – Globemaster III Advanced Cargo Aircraft Program  
 C-27J Joint Cargo Aircraft (JCA)  
 C-5 Aircraft Avionics Modernization Program (AMP)  
 C-5 Aircraft Reliability Enhancement and Re-Engining Program (RERP)  
 C-5 Core Mission Computer and Weather Radar Replacement  
 Cobra Judy Replacement Mission Planning Tool  
 Command and Control Air Operations Suite (C2AOS)/Command and Control Information Services (C2IS) (Follow-on to Theater Battle Management Core Systems)  
 CV-22 Osprey – Joint Advanced Vertical Lift Aircraft  
 Defense Enterprise Accounting and Management System – Air Force (DEAMS – AF)  
 Enhanced Polar System (EPS)  
 Evolved Expendable Launch Vehicle  
 Expeditionary Combat Support System (ECSS)  
 F-15E Radar Modernization Program  
 F-22 – Raptor Advanced Tactical Fighter  
 F-35 – Lightning II Joint Strike Fighter (JSF) Program  
 Family of Beyond Line-of-Sight Terminals (FAB-T)  
 Family of Beyond Line-of-Sight Terminals (FAB-T), Increment 2 (High Data Rate Airborne Terminal)  
 Full Scale Aerial Target  
 Global Broadcast Service (GBS)  
 Global Broadcast Service (GBS) Defense Enterprise Computing Center (DECC)  
 Global Hawk (RQ-4B) Block 30 – High Altitude Endurance Unmanned Aircraft System  
 Global Hawk (RQ-4B) Block 40 – High Altitude Endurance Unmanned Aircraft System  
 Global Positioning Satellite (GPS) Next Generation Control Segment (OCX)  
 Global Positioning Satellite III (GPS-III A)  
 HC/MC-130 Recapitalization  
 HH-60G/CRH (Combat Rescue Helicopter)  
 Information Transport System (ITS) Increment 2  
 Integrated Strategic Planning and Analysis Network (ISPAN) Increment 2  
 Integrated Strategic Planning and Analysis Network (ISPAN) Increment 4  
 Joint Air-to-Surface Standoff Missile (JASSM) and JASSM – Extended Range (JASSM-ER)  
 Joint Direct Attack Munition (JDAM)  
 Joint Mission Planning Systems (JMPS) – Air Force (including RC-135, E-8/E-3, F-22, A-10)  
 Joint Space Communication Layer  
 Joint Space Operations Center (JSpOC) Mission System (JMS)  
 KC-46 – Tanker Replacement Program  
 Large Aircraft Infrared Countermeasures (LAIRCM) Program  
 Long Range Stand Off (LRSO) Weapon  
 Long Range Strike Bomber  
 Mark XIIA Identification Friend or Foe (IFF) Mode 5 (all development and integration programs)  
 Massive Ordnance Penetrator (MOP)  
 Military GPS User Equipment (MGUE)  
 Miniature Air-Launched Decoy (MALD)  
 Miniature Air-Launched Decoy – Jammer (MALD-J)  
 MQ-9 Reaper – Unmanned Aircraft System  
 MQ-X  
 Multi-Platform Radar Technology Insertion Program (MP RTIP)  
 Navstar Global Positioning System (GPS) (includes Satellites, Control, and User Equipment)  
 Nuclear Detection (NUDET) System (NDS)  
 Presidential Aircraft Recapitalization (PAR) Program – Air Force One Recapitalization Program  
 Small Diameter Bomb, Increment I  
 Small Diameter Bomb, Increment II  
 Space Fence (SF)  
 Space-Based Infrared System (SBIRS) Program, High Component  
 Space-Based Space Surveillance (SBSS) Block 10 Follow-on  
 Three-dimensional Expeditionary Long-Range Radar (3DELRR)  
 Vulnerability Lifecycle Management System (VLMS) 1.5  
 Weather Satellite Follow-on (WSF)  
 Wideband Global Satellite Communications (SATCOM) (WGS) Program

## Problem Discovery Affecting Operational Test and Evaluation

One purpose of test and evaluation is to determine if thresholds in the approved Capability Production Document (CPD) have been satisfied. The Acquisition Executive needs this information in making production decisions, but satisfying these measures is often not equivalent to achieving the required combat capability needed for mission accomplishment. A comprehensive evaluation of operational effectiveness, operational suitability, and survivability provides the Acquisition Executive and operational users with information regarding a system’s combat capability. This evaluation can only be done after operational testing (OT) under realistic combat conditions, which includes end-to-end testing with operational users across the intended operational envelope and within the context of the system-of-systems in which it will operate.

The Deputy Assistant Secretary of Defense (DASD) Developmental Test and Evaluation (DT&E) conducts an assessment of all Major Defense Acquisition Programs and special interest programs prior to their OT; this DT&E assessment reports on a system’s demonstrated ability to meet its Key Performance Parameters and assesses the risk of the system’s ability to successfully complete OT. The DT&E assessment is based on capabilities demonstrated during developmental testing (DT), early OT, and criteria from the Test and Evaluation Master Plan and requirements documents. The DT&E community engages with program offices early and often throughout a program’s acquisition cycle, observing both contractor and government DT. The DT and early OT events provide the program manager opportunities to discover and correct problems that could prevent a system from delivering its required combat capability. As such, the test events should include as much operational realism as possible, and also include military operators and maintainers whenever possible. The early test events should also provide information to the requirements and resource sponsors for the system to ensure that the documented requirements are still relevant and feasible. By the time of the Initial Operational Test and Evaluation (IOT&E), discovery of significant issues affecting combat capability should be rare, and lingering problems from DT should have been resolved.

Last year, I added a new section to my Annual Report assessing systems under my oversight in 2010-2011 with regard to problem discovery during testing. My assessment fell into two categories: systems with significant issues observed in OT that

should, in my view, have been discovered and resolved prior to the commencement of OT, and systems with significant issues observed during early testing that, if not corrected, could adversely affect my evaluation of those systems’ effectiveness, suitability, and survivability during IOT&E. This year, I am providing an update to the status of those systems identified last year, as well as my assessment of systems under my oversight in 2012 within those two categories.

Last year, I reported that four of the seven Assessments of Operational Test Readiness (AOTRs) that I received from the DASD(DT&E) recommended that the programs not proceed to IOT&E, but that the program proceeded anyway. Regardless of the AOTR recommendation, six of those seven programs experienced significant issues in their IOT&Es: the C-5 Reliability Enhancement and Re-Engining Program (RERP); RQ-4B Global Hawk Blocks 20 and 30; Standard Missile-6 (SM-6); Multi-functional Information Distribution System (MIDS) Joint Tactical Radio System (JTRS); Stryker Nuclear, Biological, and Chemical Reconnaissance Vehicle (NBCRV); and Joint Tactical Radio System (JTRS) Handheld, Manpack, and Small Form Fit (HMS) Rifleman Radio.

I have received 12 additional assessments from DASD(DT&E) since my report last year; these are listed in the table below. Of the 12 reports, 2 recommended not proceeding to IOT&E: MQ-1C Gray Eagle and JTRS HMS Manpack Radio. Despite the recommendation, both of these systems proceeded to IOT&E. The JTRS HMS Manpack Radio performed poorly in the IOT&E, as predicted by the AOTR; however, the MQ-1C Gray Eagle performed well in IOT&E despite DT results suggesting poor reliability that would affect the test outcome. In fact, the Gray Eagle IOT&E demonstrated that the modeling assumptions that established the reliability requirements thresholds were not valid. As a result, the Army is reassessing whether those reliability thresholds should be changed. Additionally, as discussed in this section last year, the Warfighter Information Network – Tactical (WIN-T) Increment 2 had both performance and reliability issues during early testing, but these issues were not assessed by the DT&E AOTR. Two of the systems listed below are still in-test: P-8 and Joint Space Operations Center (JSpOC) Mission System (JMS) Increment 1.

DASD(DT&E) Assessments of Operational Test Readiness (AOTRs)	
AIM-9X Air-to-Air Missile Upgrade	Joint Space Operations Center (JSpOC) Mission Systems (JMS) Increment 1
Apache Block III	Joint Tactical Radio System (JTRS) Handheld, Manpack, and Small Form Fit (HMS) Manpack Radio
B-2 Extremely High Frequency (EHF)	MQ-1C Gray Eagle Unmanned Aircraft System (UAS)
C-130 Avionics Modernization Program (AMP)	P-8
E-2D Advanced Hawkeye	Space-Based Infrared System (SBIRS)
HC/MC-130J	Warfighter Information Network – Tactical (WIN-T) Increment 2

# DOT&E ACTIVITY AND OVERSIGHT

## PROGRESS UPDATES ON DISCOVERIES REPORTED LAST YEAR

Last year, I identified 23 systems that had significant issues in early testing that should be corrected prior to IOT&E. The following table provides an update on the progress those systems made in implementing fixes to those problems.

FY11 DISCOVERIES IN EARLY TESTING THAT SHOULD BE CORRECTED PRIOR TO IOT&E			
Fixes Implemented and Demonstrated in OT	Fixes Implemented; Currently in OT or Planning OT	Some Fixes Implemented; Testing Constrained Pending Future Acquisition Decisions	No Fixes Planned
Apache Block III	Aegis Modernization	Joint Tactical Radio System (JTRS) Handheld, Manpack, and Small Form Fit (HMS) Manpack Radio	Defense Enterprise Accounting and Management System (DEAMS)
EProcurement	AIM-120 Advanced Medium-Range Air-to-Air Missile (AMRAAM)	RQ-4B Global Hawk Block 30 High-Altitude, Long-Endurance Unmanned Aerial System (UAS)	LHA-6
Joint Tactical Radio System (JTRS) Network Enterprise Domain (NED)	AN/TPQ-53 Radar (formerly the Enhanced AN/TPQ-36 Radar System (EQ-36))	Vertical Take-Off and Landing Unmanned Aerial Vehicle (VTUAV)	Littoral Combat Ship (LCS) Mission Modules
MQ-1C Gray Eagle Unmanned Aircraft System (UAS)	E-2D Advance Hawkeye		MQ-9 Reaper Armed Unmanned Aircraft System (UAS)
Spider XM7 Network Command Munition	Joint High Speed Vessel (JHSV)		
	Miniature Air-Launched Decoy – Jammer (MALD-J)		
	Mk 48 Advanced Capability (ADCAP) Mod 7 Common Broadband Advanced Sonar System (CBASS)		
	Mk 54 Lightweight Torpedo		
	P-8A Poseidon		
	Surveillance Towed Array Sensor System (SURTASS) with Compact Low Frequency Active (CLFA)		
	Warfighter Information Network – Tactical (WIN-T)		

# DOT&E ACTIVITY AND OVERSIGHT

Last year, I identified 17 systems that had significant issues in IOT&E that should have been discovered and resolved prior to commencement of operational testing. The following table provides an update on the status of those systems, as well as the progress those systems have made in implementing fixes to the problems.

FY11 DISCOVERIES IN IOT&E THAT SHOULD HAVE BEEN RESOLVED PRIOR TO OPERATIONAL TEST			
Fixes Implemented and Demonstrated in FOT&E	Fixes Implemented; But New Issues Discovered	Fixes Implemented; Currently in OT	No Fixes Planned
C-130J	AGM-88E Advanced Anti-Radiation Guided Missile (AARGM)	LPD-17	Force XXI Battle Command Brigade and Below (FBCB2) Joint Capabilities Release (JCR)
Common Aviation Command and Control System (CAC2S)	Standard Missile-6 (SM-6)	Nett Warrior	Stryker Nuclear, Biological, and Chemical Reconnaissance Vehicle (NBCRV)
CV-22 Osprey			Vertical Launch Anti-Submarine Rocket (VLA) with Mk 54 Mod 0 Lightweight Hybrid Torpedo
Department of the Navy (DoN) Large Aircraft Infrared Countermeasures (LAIRCM)			
Financial Information Resource System (FIRST)			
Multi-functional Information Distribution System (MIDS) Joint Tactical Radio System (JTRS)			
Navy Multiband Terminal (NMT)			
Space-Based Space Surveillance (SBSS)			
Additionally, 2 of 17 programs were cancelled: Early Infantry Brigade Combat Team (E-IBCT) and Joint Tactical Radio System (JTRS) Ground Mobile Radio (GMR).			

# DOT&E ACTIVITY AND OVERSIGHT

## PROBLEMS DISCOVERED DURING OPERATIONAL TEST AND EVALUATION THAT SHOULD HAVE BEEN DISCOVERED DURING DEVELOPMENTAL TEST AND EVALUATION

SIGNIFICANT DISCOVERIES IN FY12 IOT&E	
AGM-88E Advanced Anti-Radiation Guided Missile (AARGM)	Key Management Infrastructure (KMI) Increment 2
ALR-69 Radar Warning Receiver (RWR)	Mine Resistant Ambush Protected (MRAP) Caiman Multi-Terrain Vehicle (CMTV)
Battle Control System – Fixed (BCS-F) Release 3.2	Mine Resistant Ambush Protected (MRAP) Dash Ambulance
Distributed Common Ground System – Army (DCGS-A)	Miniature Air-Launched Decoy – Jammer (MALD-J)
E-2D Advanced Hawkeye	MV-22 Osprey
E-3 Airborne Warning and Control System (AWACS) Block 40/45 Upgrade	Standard Missile-6 (SM-6)
Joint Mission Planning System – Air Force (JMPS-AF) Mission Planning Environment (MPE) E-8	Virginia Class Submarine Modernized with the APB-09 Acoustic Rapid Commercial Off-the-Shelf (COTS) Insertion (A-RCI) Sonar System and AN/BYG-1 Combat Control System
Joint Tactical Radio System (JTRS) Handheld, Manpack, and Small Form Fit (HMS) Manpack Radio	Warfighter Information Network – Tactical (WIN-T) Increment 2
Joint Tactical Radio System (JTRS) Handheld, Manpack, and Small Form Fit (HMS) Rifleman Radio	

### AGM-88E Advanced Anti-Radiation Guided Missile (AARGM)

The AARGM program spent most of FY11 correcting hardware and software deficiencies discovered in DT and during its first IOT&E attempt. Once IOT&E began the second time, the Navy provided requirements changes in response to deficiencies identified since the first IOT&E attempt was terminated, and hence, the test scenarios were less stressing than originally planned. Additionally, new anomalies were discovered:

- AARGM Guidance Section/Control Section communication failures caused a significant number of operational mission failures. The problem occurred during specific IOT&E threat scenarios, but the system deficiency identified is one that should have been identified with adequate DT&E.
- A classified deficiency in performance required an adjusted threat representation.

### ALR-69 Radar Warning Receiver (RWR)

The Air Force began operational flight testing in May 2012, knowing that the system would likely not meet several thresholds based on DT that occurred between February and May 2011. Additional deficiencies were observed in OT:

- Threat symbol splitting (when one threat signal received by the system produces multiple threat symbols at different azimuths

on the cockpit display) degraded the aircrew’s situational awareness as to which displayed threats are “real,” where those real threats are located, and inhibited the aircrew’s ability to appropriately react to the threat(s) in a timely manner. The threat symbol splitting deficiency did not occur during DT. The program believes it was strictly a software timing problem, and they modified the software and demonstrated the fix in the laboratory after the IOT&E. No flight testing has been accomplished to verify the fix.

### Battle Control System – Fixed (BCS-F) Release 3.2

The Air Force conducted OT of BCS-F from April through August 2012, at the System Support Facility (SSF) and all four U.S. operational air defense sectors.

- A critical deficiency was discovered during OT at the Eastern Air Defense Sector. Random tracks were not being passed from the BCS-F system to the Joint Air Defense Operations Center at Bolling Air Force Base, Washington, D.C. This deficiency causes a loss of situational awareness for the operators conducting surveillance of the National Capital Region and results in an inaccurate air picture. The problem with the forwarding of tracks could not be identified at the

# DOT&E ACTIVITY AND OVERSIGHT

SSF during DT&E since the SSF cannot replicate sector link architecture.

## **Distributed Common Ground Station – Army (DCGS-A)**

The Army conducted the DCGS-A Software Baseline 1.0 IOT&E from May through June 2012 at Fort Stewart, Georgia. DOT&E found the system not operationally effective, not operationally suitable, and not survivable because of deficiencies identified in the OT:

- Effective workflow is inhibited for the development of intelligence products to support operations because the system configuration as tested placed the fusion capability in the Secret Compartmented Information (SCI) (high) side even though most of the data necessary for fusion are in the Secret (low) side. Additionally, collection management tools are on the high side, but collection managers need to work closely with the brigade operations staff on the low side. Human intelligence tools are split between the high side and low side, but human intelligence analysts manage and interview their sources on the low side. Developmental testing and Early User Testing were conducted in a laboratory environment that did not replicate the physical separation and security barriers of the deployed configuration.
- The targeting software in the SCI enclave used first known location rather than the last known location. The DT showed the target algorithm to be correct, but was not robust enough to discover this deficiency.
- DCGS-A was not reliable because of a large number of software problems. The program has not rigorously tracked metrics identifying trends in software maturity, such as the number of new software problems opened and the number of software problems closed.

## **E-2D Advanced Hawkeye**

The Navy conducted the E-2D IOT&E from February to September 2012. The evaluation is currently ongoing, but the following deficiencies were revealed:

- Cooperative Engagement Capability (CEC) software deficiencies associated with the CEC system generating multiple tracks for the same contact were outstanding upon entering IOT&E; thus, CEC was decoupled from the E-2D IOT&E. Corrections to the CEC system have continued throughout 2012. The system is now in test. It is likely that current E-2D fixes will not address all shortfalls in the current CEC system. Ongoing work is required, some of which is required for other systems separate from E-2D and CEC.
- Radar track re-labeling was observed in DT, but the full magnitude of the problem only manifested itself under the conditions of IOT&E.

## **E-3 Airborne Warning and Control System (AWACS) Block 40/45 Upgrade**

The Air Force conducted a 24-flight IOT&E operating from the E-3 main operating base, Tinker Air Force Base, Oklahoma City, Oklahoma, between March and June 2012. The two operational

Block 40/45 E-3 aircraft participated in several large force exercises. The test included flights working with assets from all four Services in training areas on both coasts as well as over land. The Block 40/45 AWACS was not ready to enter IOT&E, in addition to aircrews and maintainers not having representative training.

- The mission planning system and mission computing start-up checklist were never tested in DT&E and were used for the first time in IOT&E.
- The system was designed to the interoperability standards in place when the development contract was written. The aircraft does not provide Link 16 capabilities that are equivalent to the legacy Block 30/35 it replaces. Many of the tactical datalink deficiencies were caused by the Air Force not modifying the system design to reflect changes in interoperability standards during Block 40/45 development. The satellite communications terminal did not provide an operationally useful capability to receive digital information.

## **Joint Mission Planning System – Air Force (JMPS-AF) Mission Planning Environment (MPE) E-8**

The Air Force paused the IOT&E of the E-8 MPE, the representative test platform for JMPS-AF Increment IV, in September 2011 to allow the Program Office to develop and integrate corrective actions to deficiencies identified during OT. Following additional development and regression testing, the Air Force certified E-8 MPE version 1.3 ready for resumed OT. The Air Force intends to re-execute the entire IOT&E in early FY13. DOT&E's assessment of the paused IOT&E noted significant deficiencies that were not identified during DT&E:

- The time needed for E-8 MPE software installation was lengthy, due in large part to anomalies in the software functionality and installation process
- Threat database information was not easily accessible or usable; training for intelligence specialists was inadequate
- Inability to transfer mission plans to the aircraft
- Critical calculation errors of the magnetic variation for user-specified waypoints
- Could not plan missions with in-flight delays

## **Joint Tactical Radio System (JTRS) Handheld, Manpack, and Small Form Fit (HMS) Manpack Radio**

Although the DASD(DT&E) AOTR stated the Manpack radio was not sufficiently mature to enter the planned Multi-Service Operational Test and Evaluation (MOT&E), the Army proceeded to conduct the test as a part of the Network Integration Evaluation (NIE) 12.2. DOT&E assessed the Manpack as not operationally effective due to the poor performance of the Single Channel Ground and Airborne Radio System (SINCGARS) waveform and not operationally suitable due to a failure to meet reliability or availability requirements. The Manpack radio AOTR had outlined these major MOT&E deficiencies prior to OT. In September 2012, the Army conducted a Government Development Test (GDT) 3 to demonstrate improvements in

MOT&E deficiencies. During GDT 3, the Manpack radio demonstrated:

- Improved performance of the SINCGARS waveform that met requirements of mounted and dismounted transmission range, voice quality, and call completion rates under benign conditions of developmental test.
- Poor reliability with the Solider Radio Waveform (SRW) waveform demonstrating 177 hours Mean Time Between Essential Function Failure compared to the Manpack radio requirement of 477 hours. This translates to a 66 percent chance of completing a 72-hour mission compared to a requirement of 86 percent.

### **Joint Tactical Radio System (JTRS) Handheld, Manpack, and Small Form Fit (HMS) Rifleman Radio**

From October to November 2011, the Army Test and Evaluation Command conducted the Rifleman Radio IOT&E at White Sands Missile Range, New Mexico, as part of the Army's NIE 12.1. Operational units tested the Rifleman Radio using the Soldier Radio Waveform Network Manager (SRWNM) to plan and load SRW network configurations into the radios. From February through March 2012, the Army conducted the Rifleman Radio GDT 2.3 at the Electronic Proving Ground at Fort Huachuca, Arizona. The Army conducted this GDT to complete DT that the Army should have completed prior to IOT&E. In April 2012, the Army conducted a follow-on developmental test, GDT 2.3a. The Army used this follow-on event to confirm fixes to deficiencies observed during GDT 2.3.

- The SRWNM was not employed with the Rifleman Radio prior to IOT&E. The poor performance of the SRWNM adversely affected the performance of the Rifleman Radio.
- The software version used in the Rifleman Radio for IOT&E was not the final version to include all the security features required by the National Security Agency (NSA) certification. The NSA requirements updated software caused numerous essential function failures during GDT 2.3, which followed IOT&E. GDT 2.3 reliability was so poor that the Army executed a GDT 2.3a to reassess DT reliability with installed security fixes. If the DT had been conducted prior to IOT&E, the Army would have produced a more reliable radio for operational test.
- Problems with reliability, range, battery life, and thermal characteristics were found in early OT.
- Prior to the IOT&E, problems with the communications security retention battery would have negatively affected suitability.
- Post-IOT&E, additional problems were found with the Rifleman Radio including spontaneous self-initiated shutdown, failures to transmit and receive, and the SRW network not healing in a timely manner after radios that had separated from the network rejoined. These deficiencies have been fixed and demonstrated in DT.
- All deficiencies have been shown to be fixed or improving (reliability still not met) but should still be confirmed in a formal GDT prior to the competitive IOT&E-2.

### **Key Management Infrastructure (KMI) Increment 2**

The Joint Interoperability Test Command conducted an IOT&E from July until August 2012. The results were a marked improvement over previous operational assessments; however, there were still several operational effectiveness and suitability problems uncovered during the testing event that must be corrected before continued deployment. The KMI program and vendor regression testing of software was problematic and inconsistent. Lacking thorough regression, software fixes in newer releases often broke previously functioning components.

- OT identified some problems that were missed by DT, including problems with Electronic Key Management System (EKMS) to KMI transition, High Assurance Internet Protocol Encryptor (KG-250) configuration, virtual private network establishment, and data error handling. The developmental test environment was initially limited because of no operational data from the legacy system; however, this has now been corrected.
- The transition process from EKMS to KMI functioned in DT, but was inadequate once implemented in the operational environment on live networks. The controlled test environment did not account for multiple network configuration; and therefore, the test team was forced to perform rapid diagnosis, on-the-fly troubleshooting, and resolution as the OT&E was underway.

### **Mine Resistant Ambush Protected (MRAP) Caiman Multi-Terrain Vehicle (CMTV)**

Another major capability insertion during FY12 included the Independent Suspension System for the CMTV. Endurance testing of the CMTV is ongoing at Yuma Proving Ground, Arizona, in all conditions.

- Based on performance during DT, the CMTV cannot stop following sustained operations in muddy terrain. The program suspended DT until the program identifies and implements a materiel solution to fix the brake system.
- The CMTV experienced problems associated with air conditioner, tire, and cab mount cracking failures.

### **Mine Resistant Ambush Protected (MRAP) Dash Ambulance**

The MRAP program continues to acquire and test enhanced capabilities to integrate across the MRAP family of vehicles. In FY12, a major capability insertion included the ambulance kits for the Navistar Dash. The Dash Ambulance is not operationally effective and not operationally suitable because of the deficiencies listed below:

- The patient compartment of the vehicle is small and the litter births are not long enough to safely accommodate litter patients taller than 5 feet 11 inches. A unit equipped with the Dash Ambulance cannot provide safe emergency medical care and transport for tall casualties in close proximity to enemy forces. This problem should have been corrected prior to the Limited User Test (LUT).
- The small interior of the Dash Ambulance does not provide sufficient space for medical equipment and inhibits the ability

# DOT&E ACTIVITY AND OVERSIGHT

of the medic to maneuver within the compartment to properly treat patients.

## **Miniature Air-Launched Decoy (MALD) and Jammer (MALD-J)**

The MALD variant (without the jammer) completed IOT&E in 2011 and was found operationally effective for combat, but not operationally suitable due to poor materiel reliability. In July 2011, the Air Force identified a fault with the missile's radio frequency connector that caused it to separate from the missile during long-endurance carriage flights. The Air Force has repaired the fault and conducted further reliability testing; however, MALD's operational reliability of 78 percent remains below the 93 percent threshold requirement. The Air Force began IOT&E for the MALD-J variant in August 2012.

## **MV-22 Osprey**

The Navy conducted Follow-On Operational Test and Evaluation (FOT&E) in June 2012 of the latest Block C software and six other minor enhancements.

- The Traffic Advisory System (TAS) became saturated during formation flight, preventing the display of potentially hazardous traffic external to the mission aircraft. Intended to warn pilots of impending collision with approaching aircraft, the TAS does not distinguish between approaching aircraft and aircraft in formation. Additional development is needed to address operational test findings and improve the utility of TAS for the MV-22 fleet.

## **Standard Missile-6 (SM-6)**

The Navy completed SM-6 Phase 2 IOT&E in July 2012. Phase 2 was an extensive modeling and simulation effort that examined SM-6 battlespace not covered in the flight tests completed in July 2011. As discussed last year, there were two classified performance anomalies in the flight test portion of the IOT&E that a more rigorous DT&E should have discovered earlier.

- The Phase 2 modeling and simulation trials confirmed the classified performance deficiency observed in flight test. The Navy is exploring corrective actions; however, implementation and testing of these corrective actions are not scheduled.
- The uplink/downlink antenna debris anomaly was discovered during DT and carried forward to IOT&E without corrective action being fully implemented on all missiles; thus, there were additional occurrences during IOT&E. The Navy conducted high-temperature wind tunnel tests, which examined if changes to the antenna sealant material and insulation bonding manufacturing process would eliminate the debris. The trials recorded no anomalies against these fixes; however, the unexpected discovery of insulation inter-layer delamination on three of five wind tunnel test articles raises questions regarding the efficacy of the Navy's corrective actions.

- First observed in DT, the Mk 54 Safe-Arm Device anomaly carried forward into IOT&E with additional occurrences. While initially viewed as anomalous, there is not enough evidence at this time to determine whether the Mk 54 behavior, as seen in testing, has a connection to the burst mode of the SM-6. However, the Phase 2 modeling and simulation trials confirmed that the missile lethality is sensitive to the combination of the burst mode, target, and engagement conditions.

## **Virginia Class Submarine Modernized with the APB-09 Acoustic Rapid Commercial Off-the Shelf (COTS) Insertion (A-RCI) Sonar System and AN/BYG-1 Combat Control System**

- A series of *Virginia* class FOT&E events examined the mission performance changes as a result of the modernization of the sonar and combat control system. These tests were combined with the operational evaluations of the latest variants of the A-RCI Sonar System, the AN/BYG-1 Combat Control System, and the Mk 48 Advanced Capability torpedo. One of the primary focus areas of the new combat control system software was the improvement of the Wide Aperture Array's processing and displays for the operators.
- The Wide Aperture Array demonstrated poor performance during the OT period, and operators chose not to use it to aid in completing their missions. The Navy investigated the problems after the OT period was complete, developed new software fixes, and fielded the new software following some limited DT. No OT has been completed to evaluate the new software or the effects on mission performance.
- These problems are recurring and likely a result of the Navy's time-based process for upgrading electronics systems.
- Many other systems on the *Virginia* class submarine exhibited the same failure modes in FOT&E as in IOT&E.

## **Warfighter Information Network – Tactical (WIN-T) Increment 2**

In May 2012, the Army conducted the WIN-T Increment 2 IOT&E at Fort Bliss, Texas; White Sands Missile Range, New Mexico; Fort Campbell, Kentucky; Fort Riley, Kansas; and Fort Gordon, Georgia. DOT&E assessed the WIN-T Increment 2 as supportive of voice, video, and data communications at-the-halt and on-the-move. However, the network needs improvement in the following areas:

- Reliability
- Stability of the terrestrial Highband Networking Waveform network to support on-the-move communications
- Performance of the Soldier Network Extension
- Information Assurance

# DOT&E ACTIVITY AND OVERSIGHT

## PROBLEMS DISCOVERED DURING EARLY TESTING THAT, IF NOT CORRECTED, COULD ADVERSELY AFFECT MY ASSESSMENT OF OPERATIONAL EFFECTIVENESS, SUITABILITY, AND SURVIVABILITY DURING INITIAL OPERATIONAL TEST AND EVALUATION (CONDUCTED WITHIN THE NEXT TWO YEARS)

DISCOVERIES IN EARLY TESTING IN FY12 THAT SHOULD BE CORRECTED PRIOR TO IOT&E	
Bradley Engineering Change Proposal (ECP)	Littoral Combat Ship (LCS) Increment 2
F-15E Radar Modernization Program (RMP)	Multi-Static Active Coherent (MAC) System
Joint Standoff Weapon (JSOW) C-1	Patriot Advanced Capability-3 (PAC-3)

### Bradley Engineering Change Proposal (ECP)

In September 2012, the Army conducted two underbody blast tests at the Aberdeen Test Center on the M2A3 Infantry Fighting Vehicle with ECP1 components to characterize the system's vulnerability.

- Severe vehicle and occupant vulnerabilities were observed during early testing. If these vulnerabilities are not corrected the system will likely be assessed as not survivable against realistic underbody threats.

### F-15E Radar Modernization Program (RMP)

F-15E RMP developmental flight testing began in January 2011 and IOT&E was expected to begin in late FY12. The planned FY12 IOT&E start did not occur due to challenges in maturing system software to meet the user's functional requirements.

- Software stability is crucial to operational effectiveness and suitability. However, the program experienced software maturation challenges and was unable to complete DT in 2012. Unanticipated software performance shortfalls led to multiple radar software releases and associated regression testing to mature radar mode functionality. At the end of FY12, RMP performance had not yet met the user's requirements. Achieving the Air Force RMP software stability requirement by IOT&E may not be feasible.

### Joint Standoff Weapon (JSOW) C-1

The Navy completed DT and initiated integrated testing of the AGM-154C-1 JSOW variant during FY12. The JSOW C-1 integrated testing completed in early FY13, with OT to begin in mid-FY13.

- JSOW C-1 reliability is well below the threshold primarily because of software-driven problems. Achieving an adequate assessment of Mean Flight Hour between Operational Mission Failure during OT is an area of high risk.
- The pilot-vehicle interface is excessively complicated and could prevent successful mission execution.

### Littoral Combat Ship (LCS)

The Navy conducted shore-based testing of the MH-60S Block 2 Airborne Mine Countermeasures System, which is intended to support LCS mine countermeasures. Additionally, the Navy

commenced a Quick Reaction Assessment (QRA) of the gun systems on LCS 1. Testing indicated shortfalls in performance:

- The Navy determined the MH-60S helicopter cannot safely tow the AN/AQS-20A Sonar Mine Detecting Set (AQS-20A) or the Organic Airborne Sweep and Influence System because the helicopter is underpowered for these operations. The MH-60S helicopter will no longer be assigned these missions operating from any ship, including LCS.
- Preliminary evaluation of test data collected during the operational assessment (OA) of the MH-60S Block 2 Airborne Laser Mine Detection System indicates that the system does not meet Navy requirements for False Classification Density and has low reliability.
- Results from the QRA of the LCS gun systems revealed performance, reliability, and operator training deficiencies for both the 30 mm and 57 mm guns.

### Multi-Static Active Coherent (MAC) System

The Navy conducted DT in 2012 and plans to begin OT in early FY13.

- No significant problems have been observed in DT to date; however, little realistic DT has been conducted, and the test construct used for DT contained target requirements that may support model verification but were not operationally realistic or translatable to operationally realistic conditions. The Navy plans to waive two known problems that will likely affect mission performance.

### Patriot Advanced Capability-3 (PAC-3)

The Army completed DT of the Post-Deployment Build-7 (PDB-7) and began a LUT operational test in FY12.

- Data analysis is ongoing, but preliminary results indicate that Patriot training remains inadequate to prepare operators for complex Patriot engagements. This was true during the PDB-6.5 and PDB-6 LUTs as well. This problem was exacerbated in the PDB-7 LUT because many of the experienced Patriot operators in the test unit were understandably transferred to deploying units prior to the LUT, resulting in many inexperienced users and a high variability in Soldier proficiency across the test unit.

# DOT&E ACTIVITY AND OVERSIGHT

- The Patriot system did not meet its reliability requirements during the PDB-7 DT. DOT&E is investigating the possibility of using field data to improve the estimates of Patriot system reliability such as Mean Time Between Critical Mission

Failure. However, critical field data including total operating hours and numbers of critical mission failures for each Patriot battery major end item may not be accurate.

---

## CONCLUSION

Previously, Congress has expressed concerns that significant weapons acquisition program problems are discovered during OT&E that should have been discovered during DT. Last year, I documented 40 systems with significant discovery during OT during 2010-2011; 23 of those systems had discovery in early OT, of which 19 implemented fixes that were either verified by successful IOT&E or are currently in IOT&E. Of the 17 programs that discovered significant issues during their

IOT&E in 2010-2011, 12 have implemented fixes that were either verified in successful FOT&E or are planning additional OT periods; 2 of the remaining 5 programs were cancelled. Thus, while significant issues are being discovered late in the programs' acquisition cycle, most programs are addressing the discoveries and verifying fixes in FOT&E. In 2012, 17 programs had significant discoveries in IOT&E or FOT&E, while 7 programs had significant discovery in early testing.

# DOT&E ACTIVITY AND OVERSIGHT