Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0207133F: *F-16 SQUADRONS*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	118.512	129.103	143.869	-	143.869	117.181	117.570	121.111	137.010	Continuing	Continuing
672671: *F-16 Squadrons*	118.512	129.103	143.869	-	143.869	117.181	117.570	121.111	137.010	Continuing	Continuing

Note

The program funding includes reductions for acquisition excellence efficiencies and program management administration reductions that are not intended to impact program content. The efficiencies reductions total $2.189M in FY12.

A. Mission Description and Budget Item Justification

The F-16 Fighting Falcon is the world's premier multi-mission fighter. It is a fixed-wing, high performance, single-engine fighter aircraft. In its 32-year history, the F-16 has proven itself in combat in a variety of air-to-air and air-to-surface missions such as close air support, combat air patrol, forward air control, battle air interdiction (day/night and all-weather) and suppression of enemy air defenses (SEAD)/Destruction of enemy air defenses (DEAD). Also during these years the aircraft has evolved in its capabilities to exploit the advances made in computer, avionics systems, engine, and structures technologies. The F-16 has been selected by more than 20 air forces around the world and foreign military sales production continues in the 21st century. AFMC ASC/WWM (The F-16 System Program Office) develops, integrates, and qualifies systems to enhance the overall performance of the F-16 mission.

Enhancements which are being or will be developed during the FYDP include:

a. Operational Flight Program (OFP) Development: Blk 40-52 OFP (M-tapes) are updated continually to integrate new precision weapons, advanced targeting pods, improved avionics and other HW Group B subsystems. Major tapes (e.g., M5/5+) are released every three years and a minor tape (e.g., M5.2+) is released 1 year after each major tape. The European Participating Air Forces (EPAF) countries participate in the development of M tapes and share the cost of developing common capabilities and totally fund development of their unique capabilities. Generally, three major or minor tapes are under development/testing at any one time. Extensive ground and flight testing is required to field each M tape. Advanced weapons integration includes Joint Air-to-Surface Stand-off Missile (JASSM) and Joint Direct Attack Munition (JDAM, Laser JDAM), Small Diameter Bomb (SDB), AMRAAM, AIM-9X and updates to existing weapons into the F-16. Weapons integration also includes tasks such as performing risk reduction activities on advanced weapon integration, developing and integrating advanced racks (BRU-69), pylons, adapters, and the Universal Armament Interface, and ensuring nuclear surety, safety and compatibility. ALR-56M SW updates allow for incorporation of latest updates for changing threat environment reducing warfighter vulnerabilities. Link 16 provides the F-16s with a secure, jam resistant, high-capacity data communications link with other combat aircraft, airborne control aircraft, and ground control centers. Major new capabilities currently being integrated via M- tapes include GPS/INS updates to improve targeting accuracy and GPS security , EGBU-12 (laser/GPS guided bomb), Mode 5 IFF, Small Diameter Bomb with Universal Armament Interface, AIM-120D, and Joint Mission Planning System (JMPS). As part of OFP Transition M6.5/M7+ OFP upgrade LM Aero and OO-ALC will split responsibility for software development. LM Aero will produce the common core software tape that will field as M6.5 with the EPAF nations and serve as the baseline for the USAF M7+ OFP. OO-ALC will have software development responsibility for the M7+ software/ hardware candidates being incorporated on USAF jets with M7+ Phase III OFP development schedule to start in FY12.

b. The Mode 5 program for Blk 40/50 aircraft provides secure, encrypted IFF transponder/interrogator capability. Modifications to the Air-to Air Interrogator (AAI) system through integration of a Mode 5 capable Combined Interrogator/Transponder (CIT) capability will field with M6+ OFP.

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c. The F-16 Blk 40/50 Service Life Extension Program (SLEP) includes both a structural service life extension program as well as an upgraded avionics (modernization) effort. The avionics modernization effort would include avionics upgrades to include an Active Electronically Scanned Array (AESA) radar that offers improved Destruction of Enemy Air Defenses (DEAD) capabilities as well as improved reliability and maintainability, Center Pedestal Display (CPD), which replaces existing flight instrument cluster with large color multi-function display, Electronic Warfare (EW) updates (ALQ-213), which provides a single-point access for automated or hands-on EW system control, and Integrated Broadcast Service (IBS), that integrates multiple intelligence broadcasts into a system of systems and migrates tactical receive terminals into a single related Joint Tactical Terminal (JTT) family. The structural SLEP includes Full Scale Durability Test (FSDT) starting in FY11 and requires a test fixture to begin structural testing and analysis to determine whether the F-16 Block 40/42/50/52 airworthiness certification can be extended from the current certified service life of 8,000 Equivalent Flight Hours (EFH) to 10,000+ EFH. IAW the Aircraft Structural Integrity Program (ASIP) and MIL-STD 1530C, Testing will take approximately 3 years and supports a full up Blk 40/50 Structural upgrade development program that replaces or reworks known life-limited structure to preclude the onset of widespread fatigue damage, maintain safety of flight and enhance aircraft availability beyond 8,000 hours.
d. Thunder Radar Pod: This is a development effort to procure one Thunder Radar Pod and associated equipment for testing. Funding provided by FY09 and FY10 Congressional adds.
e. Auto Ground Collision Avoidance System (Auto GCAS) is broken out separately for clarity. This effort builds on AFRL Fighter Risk Reduction program (FRRP) demonstrated capability and result in the Auto GCAS capability being production ready for incorporation in the M6.2+ OFP (Minor Tape) fielding in CY2014 with potential for nearly eliminating Controlled Flight Into Terrain (CFIT) accidents, a leading cause of F-16 loss of pilot and aircraft accidents.
f. EMD Hardware/Advanced Capability Improvements: EMD HW provides funding to develop, test, and qualify aircraft subsystems replaced or modified due to requirements changes, Pre-Planned Product Improvements (P3I) and Diminishing Manufacturing Source (DMS). The approach to contracting varies by individual project. These hardware improvements include but are not limited to flight systems, improved navigation, mux architecture, MMC upgrade, Embedded GPS/INS updates, Blk 40 Air-to-Air Interrogator (AAI), digital video recorder, Advanced Data Transfer Equipment (ADTE) and related data transfer devices, display upgrades, radio, communication studies, and CAS Data Link. Advanced Capability Improvements includes software integration, sensor upgrades, radar updates and other self-protection/electronic protection (EP) enhancements, 4th/5th gen fighter network communications, lab and/or on-aircraft evaluation of potential subsystem changes/ capability improvements on the F-16 as well as establishment of associated requirement specification changes. These capability improvements also fund integration of pods including updates and tech order changes (SNIPER, HTS, LITENING, THUNDER POD, Theatre Air Reconnaissance System (TARS/RECCE) etc.
g. Beyond Line-of-Sight (BLOS) Communication Capability: The BLOS communication capability modification is in response to the revised AFCENT Urgent Operational Need to install BLOS capability in all fighter aircraft deploying in support of operational need date. This modification will provide a satellite communication (SATCOM) capability to communicate with many rotary wing and ground maneuver units in the theater of operations. BLOS development for Blocks 30/32 received an OMNIBUS reprogramming and funding to initiate Blocks 40-52 development/integration was provided in the FY08 Supplemental Bill.

This program is in Budget Activity 7, Operational System Development
because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0207133F: *F-16 SQUADRONS*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	142.620	129.103	110.939	-	110.939
Current President's Budget	118.512	129.103	143.869	-	143.869
Total Adjustments	-24.108	-	32.930	-	32.930
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.595	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-9.999	-			
• SBIR/STTR Transfer	-3.514	-			
• Other Adjustments	-10.000	-	32.930	-	32.930

Change Summary Explanation

FY12 funds added for Legacy Service Life Extension Program (SLEP) (FSDT, Avionics and Structures)and M6+OFP effort to integrate Mode 5 IFF design changes mandated by FAA.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
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COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
672671: *F-16 Squadrons*	118.512	129.103	143.869	-	143.869	117.181	117.570	121.111	137.010	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

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Enhancements which are being or will be developed during the FYDP include:

a. Operational Flight Program (OFP) Development: Blk 40-52 OFP (M-tapes) are updated continually to integrate new precision weapons, advanced targeting pods, improved avionics and other HW Group B subsystems. Major tapes (e.g., M5/5+) are released every three years and a minor tape (e.g., M5.2+) is released 1 year after each major tape. The European Participating Air Forces (EPAF) countries participate in the development of M tapes and share the cost of developing common capabilities and totally fund development of their unique capabilities. Generally, three major or minor tapes are under development/testing at any one time. Extensive ground and flight testing is required to field each M tape. Advanced weapons integration includes Joint Air-to-Surface Stand-off Missile (JASSM) and Joint Direct Attack Munition (JDAM, Laser JDAM), Small Diameter Bomb (SDB), AMRAAM, AIM-9X and updates to existing weapons into the F-16. Weapons integration also includes tasks such as performing risk reduction activities on advanced weapon integration, developing and integrating advanced racks (BRU-69), pylons, adapters, and the Universal Armament Interface, and ensuring nuclear surety, safety and compatibility. ALR-56M SW updates allow for incorporation of latest updates for changing threat environment reducing warfighter vulnerabilities. Link 16 provides the F-16s with a secure, jam resistant, high-capacity data communications link with other combat aircraft, airborne control aircraft, and ground control centers. Major new capabilities currently being integrated via M- tapes include GPS/INS updates to improve targeting accuracy and GPS security , EGBU-12 (laser/GPS guided bomb), Mode 5 IFF, Small Diameter Bomb with Universal Armament Interface, AIM-120D, and Joint Mission Planning System (JMPS). As part of OFP Transition M6.5/M7+ OFP upgrade LM Aero and OO-ALC will split responsibility for software development. LM Aero will produce the common core software tape that will field as M6.5 with the EPAF nations and serve as the baseline for the USAF M7+ OFP. OO-ALC will have software development responsibility for the M7+ software/ hardware candidates being incorporated on USAF jets with M7+ Phase III OFP development schedule to start in FY12.

b. The Mode 5 program for Blk 40/50 aircraft provides secure, encrypted IFF transponder/interrogator capability. Modifications to the Air-to Air Interrogator (AAI) system through integration of a Mode 5 capable Combined Interrogator/Transponder (CIT) capability will field with M6+ OFP.

c. The F-16 Blk 40/50 Service Life Extension Program (SLEP) includes both a structural service life extension program as well as an upgraded avionics (modernization) effort. The avionics modernization effort would include avionics upgrades to include an Active Electronically Scanned Array (AESA) radar that offers improved Destruction of Enemy Air Defenses (DEAD) capabilities as well as improved reliability and maintainability, Center Pedestal Display (CPD), which replaces existing flight instrument cluster with large color multi-function display, Electronic Warfare (EW) updates (ALQ-213), which provides a single-point access for automated or hands-on EW system control, and Integrated Broadcast Service (IBS), that integrates multiple intelligence broadcasts into a system of systems and migrates tactical

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0207133F: *F-16 SQUADRONS*	PROJECT 672671: *F-16 Squadrons*

receive terminals into a single related Joint Tactical Terminal (JTT) family. The structural SLEP includes Full Scale Durability Test (FSDT) starting in FY11 and requires a test fixture to begin structural testing and analysis to determine whether the F-16 Block 40/42/50/52 airworthiness certification can be extended from the current certified service life of 8,000 Equivalent Flight Hours (EFH) to 10,000+ EFH. IAW the Aircraft Structural Integrity Program (ASIP) and MIL-STD 1530C, Testing will take approximately 3 years and supports a full up Blk 40/50 Structural upgrade development program that replaces or reworks known life-limited structure to preclude the onset of widespread fatigue damage, maintain safety of flight and enhance aircraft availability beyond 8,000 hours.

d. Thunder Radar Pod: This is a development effort to procure one Thunder Radar Pod and associated equipment for testing. Funding provided by FY09 and FY10 Congressional adds.

e. Auto Ground Collision Avoidance System (Auto GCAS) is broken out separately for clarity. This effort builds on AFRL Fighter Risk Reduction program (FRRP) demonstrated capability and result in the Auto GCAS capability being production ready for incorporation in the M6.2+ OFP (Minor Tape) fielding in CY2014 with potential for nearly eliminating Controlled Flight Into Terrain (CFIT) accidents, a leading cause of F-16 loss of pilot and aircraft accidents.

f. EMD Hardware/Advanced Capability Improvements: EMD HW provides funding to develop, test, and qualify aircraft subsystems replaced or modified due to requirements changes, Pre-Planned Product Improvements (P3I) and Diminishing Manufacturing Source (DMS). The approach to contracting varies by individual project. These hardware improvements include but are not limited to flight systems, improved navigation, mux architecture, MMC upgrade, Embedded GPS/INS updates, Blk 40 Air-to-Air Interrogator (AAI), digital video recorder, Advanced Data Transfer Equipment (ADTE) and related data transfer devices, display upgrades, radio, communication studies, and CAS Data Link. Advanced Capability Improvements includes software integration, sensor upgrades, radar updates and other self-protection/electronic protection (EP) enhancements, 4th/5th gen fighter network communications, lab and/or on-aircraft evaluation of potential subsystem changes/ capability improvements on the F-16 as well as establishment of associated requirement specification changes. These capability improvements also fund integration of pods including updates and tech order changes (SNIPER, HTS, LITENING, THUNDER POD, Theatre Air Reconnaissance System (TARS/RECCE) etc.

g. Beyond Line-of-Sight (BLOS) Communication Capability: The BLOS communication capability modification is in response to the revised AFCENT Urgent Operational Need to install BLOS capability in all fighter aircraft deploying in support of operational need date. This modification will provide a satellite communication (SATCOM) capability to communicate with many rotary wing and ground maneuver units in the theater of operations. BLOS development for Blocks 30/32 received an OMNIBUS reprogramming and funding to initiate Blocks 40-52 development/integration was provided in the FY08 Supplemental Bill.

This program is in Budget Activity 7, Operational System Development
because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: OFP Updates	84.819	79.447	87.146	-	87.146
Description: OFP Updates-Blk 40-52 OFP (M-tapes) are updated continually to integrate new weapons, targeting pods, improved avionics. M5.1+ has fielded, M5.2+ has completed DTE phase and entered Force Development Eval(FDE)with fielding scheduled for 1QCY2011, M6.1+ is in Phase III code & SIL test phase with fielding scheduled for Sep 2012, M7+ is in Phase 1 planning, capability definition and initial candidate definition for the development of Post M6+ MMC based avionics system SW development.					

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: M5.1+ OFP major release has fielded. M5.2+ has completed DTE phase and entered Force Development Eval(FDE)with fielding scheduled for 1QCY2011. M6.1+ OFP major release, completing the first phase of software design and software development activity and beginning the System Integration Lab and Developmental Flight Testing. OO-ALC will continue familiarization with the OFP development environment and preparation for the USAF unique M7+ program. M7+ is still in Phase 1 planning, capability definition and initial candidate definition. OO-ALC and F16 SPO will document agreements on activities that will be performed as part of Phase II development starting in March 2011 at Ogden including cost and schedule milestones. The F16 SPO will work with OO-ALC to define candidates as part of Phase III development scheduled to start in FY12 ***FY 2011 Plans:*** M5.2+ OFP M tape is currently in Force Development Eval(FDE). M6.1+ Phase III OFP major release is approx 50% complete and is on schedule for meeting all internal SW SIL and Flight Test milestones for DTE Completion scheduled for Jan 2012. M6.2+ Minor Tape contract will be awarded to LM Aero. (3) Cockpit Review Team meetings with the pilots will be held to determine the priorities and candidate selection. detailed design of the M7+ candidates. The F-16 SPO will contract with LM Aero to do requirements definition for common development (Part of M6.5 efforts with EPAF). OO-ALC and the F16 SPO will document agreements on activities that will be performed as part of M7+ Phase III development efforts starting in FY12 at OO-ALC. ***FY 2012 Base Plans:*** M6.1+ OFP completes DTE Jan 2012 and is on track for fielding Sep 2012, M6.2+ Minor Tape will start SIL Integration efforts. OO-ALC and the F16 SPO will document agreements on activities that will be performed as part of M7+ Phase III development efforts starting in March 2012 when M7+ detail design and code efforts for Phase III will begin. OFP transition from LM Aero to OO-ALC will be completed and final SIL HW asset requirements will be procured as part of the transition of the OFP from LM Aero to OO-ALC. ***FY 2012 OCO Plans:***					
Title: Flight Test ***Description:*** F-16 Baseline Flight Test funds F-16 test and evaluation at the Combined Test Facility (CTF) at Edwards AFB for Developmental Test (DT) including integration test of associated subsystems and weapons. Includes flight test activities to maintain test schedule for F-16 Block 40/50 Operational Flight Programs (OFPs), weapons integration, and systems to ensure capabilities meet ACC's fielding schedule.	20.240	23.856	24.056	-	24.056

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: FY10 funding supports CTF infrastructure (Government and Contractor) and DT flight sorties for Block 40/50 M6.1+OFP DT&E , M5.2+ DT&E, M4.3+/M5+ weapons/subsystem regression for JDAM , AIM-9X Block II and AIM-120, and advanced radar risk reduction. ***FY 2011 Plans:*** FY11 funding supports CTF infrastructure (Government and Contractor) and DT flight sorties for Block 40/50 M6.1+OFP DT&E, Legacy OFP (M4.3+/M5+) weapons/subsystem regression for JDAM , AIM-9X Block II and AIM-120, advanced radar risk reduction, Auto GCAS DTO Testing and M7+ initial DTO testing. ***FY 2012 Base Plans:*** FY12 funding supports CTF infrastructure (Government and Contractor) and DT flight sorties for Block 40/50 M6.1+OFP DT&E, legacy OFP (M4.3+/M5+ weapons/subsystem regression for JDAM , AIM-9X Block II and AIM-120, Auto GCAS and M7+ DTO testing completing 1QFY12. ***FY 2012 OCO Plans:***					
Title: Mode 5 IFF APX-113-60 ***Description:*** Mode 5 Identification of Friend or Foe (IFF) APX-113-60 for CAF Blk 40/50 aircraft provides secure, encrypted IFF transponder/interrogator capability. ***FY 2010 Accomplishments:*** Integrate MODE 5 IFF, APX-113-60 Integration activities and DoD AIMS & FAA interrogation management activities will continue. ***FY 2011 Plans:*** In FY 2011 Integrate MODE 5 IFF, APX-113-60 DoD AIMS & FAA interrogation management activities will continue as part of M6+ OFP Fielding. ***FY 2012 Base Plans:*** ***FY 2012 OCO Plans:***	5.244	0.100	-	-	-
Title: Service Life Extension Program (SLEP) ***Description:*** The F-16 Blk 40/50 Service Life Extension Program (SLEP) includes both a structural service life extension program as well as an upgraded avionics (modernization) effort. The avionics modernization	-	20.000	24.767	-	24.767

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
effort would include avionics upgrades to include an Active Electronically Scanned Array (AESA) radar that offers improved Destruction of Enemy Air Defenses (DEAD) capabilities as well as improved reliability and maintainability, Center Pedestal Display (CPD) that replaces existing flight instrument cluster with large color multi-function display, Electronic Warfare (EW) updates (ALQ-213) that provides a single-point access for automated or hands-on EW system control, Integrated Broadcast Service (IBS) that integrates multiple intelligence broadcasts into a system of systems and migrates tactical receive terminals into a single related Joint Tactical Terminal (JTT) family. The structural SLEP includes Full Scale Durability Test (FSDT) starting in FY11 and requires a test fixture to begin structural testing and analysis to determine how the F-16 Block 40/42/50/52 airworthiness certification can be extended from the current certified service life of 8,000 Equivalent Flight Hours (EFH) to 10,000+ EFH IAW the Aircraft Structural Integrity Program (ASIP) and MIL-STD 1530C. Testing will take approximately 3 years and supports a Blk 40/50 Structural upgrade program that replaces or reworks known life-limited structure to preclude the onset of widespread fatigue damage, maintain safety of flight and enhance aircraft availability beyond 8,000 hours. ***FY 2010 Accomplishments:*** ***FY 2011 Plans:*** Full Scale Durability Test (FSDT) is to build test fixture and begin strutural testing and analysis to enable the F-16 Block 40/42/50/52 airworthiness certification can be extended from the current certified service life of 8,000 Equivalent Flight Hours (EFH) to 10,000+ EFH. IAW the Aircraft Structural Integrity Program (ASIP) and MIL-STD 1530C, a Full Scale Durability Test and a detailed structural analysis must be conducted before ASIP engineers can safely extend the airworthiness certification limits. ***FY 2012 Base Plans:*** Continuation of Full Scale Durability Test (FSDT) and analysis to enable the F-16 Block 40/42/50/52 airworthiness certification can be extended from the current certified service life of 8,000 Equivalent Flight Hours (EFH) to 10,000+ EFH. FY12 also includes effort in support of F-16 Blk 40/50 Service Life Extension Program (SLEP) for both a structural service life extension program as well as an avionics SLEP. The FSDT will provide anlaysis and test data to certify structural redesign needed to extend the current service life of these Blk 40/50 aircraft beyond 8,000 equivalent flight hours. The avionics SLEP will include avionics upgrades to keep the F-16 relevant in the threat environment (e.g. Active Electronically Scanned Array (AESA) radar that offers improved Destruction of Enemy Air Defenses (DEAD) capabilities as well as improved reliability and maintainability; Center Pedestal Display (CPD) that replaces existing flight instrument cluster with large color multi-function display;					

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Electronic Warfare (EW) updates (ALQ-213)that provides a single-point access for automated or hands-on EW system control; Integrated Broadcast Service (IBS) that integrates multiple intelligence broadcasts into a system of systems and migrates tactical receive terminals into a single related Joint Tactical Terminal (JTT) family; etc). ***FY 2012 OCO Plans:***					
Title: EMD HW/Advanced Capibilities Improvements ***Description:*** EMD HW/Advanced Capabilities Improvements provides funding to develop, test & qualify subsystems modified due to requirements changes, PPPI and DMS. EMD HW provides funding to develop, test, and qualify aircraft subsystems replaced or modified due to requirements changes, Pre-Planned Product Improvements (P3I) and Diminishing Manufacturing Source (DMS). The approach to contracting varies by individual project. These hardware improvements include but are not limited to flight systems, improved navigation, mux architecture, MMC upgrade, Embedded GPS/INS updates, Blk 40 Air-to-Air Interrogator (AAI), digital video recorder, Advanced Data Transfer Equipment (ADTE) and related data transfer devices, display upgrades, radio, communication studies, and CAS Data Link. Advanced Capability Improvements includes software integration, sensor upgrades, Radar updates and other self-protection/electronic protection (EP) enhancements, 4th/5th gen fighter network communications, lab and/or on-aircraft evaluation of potential subsystem changes/capability improvements on the F-16 as well as establishment of associated requirement specification changes. These capability improvements also fund integration of pods including updates and tech order changes. ***FY 2010 Accomplishments:*** ***FY 2011 Plans:*** EMD HW/Advanced Capabilities Improvements provides funding to develop, test & qualify subsystems modified due to requirements changes, PPPI and DMS. EMD HW provides funding to develop, test, and qualify aircraft subsystems replaced or modified due to requirements changes, Pre-Planned Product Improvements (P3I) and Diminishing Manufacturing Source (DMS). The approach to contracting varies by individual project. These hardware improvements include but are not limited to flight systems, improved navigation, mux architecture, MMC upgrade, Embedded GPS/INS updates, Blk 40 Air-to-Air Interrogator (AAI), digital video recorder, Advanced Data Transfer Equipment (ADTE) and related data transfer devices, display upgrades, radio, communication studies, and CAS Data Link. Advanced Capability Improvements includes software integration, sensor upgrades, Radar updates and other self-protection/electronic protection (EP) enhancements, 4th/5th gen fighter network communications, lab and/or on-aircraft evaluation of potential subsystem changes/capability	-	0.500	0.500	-	0.500

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
improvements on the F-16 as well as establishment of associated requirement specification changes. These capability improvements also fund integration of pods including updates and tech order changes. ***FY 2012 Base Plans:*** EMD HW/Advanced Capabilities Improvements provides funding to develop, test & qualify subsystems modified due to requirements changes, PPPI and DMS. EMD HW provides funding to develop, test, and qualify aircraft subsystems replaced or modified due to requirements changes, Pre-Planned Product Improvements (P3I) and Diminishing Manufacturing Source (DMS). The approach to contracting varies by individual project. These hardware improvements include but are not limited to flight systems, improved navigation, mux architecture, MMC upgrade, Embedded GPS/INS updates, Blk 40 Air-to-Air Interrogator (AAI), digital video recorder, Advanced Data Transfer Equipment (ADTE) and related data transfer devices, display upgrades, radio, communication studies, and CAS Data Link. Advanced Capability Improvements includes software integration, sensor upgrades, 4th/5th gen fighter network communications, lab and/or on-aircraft evaluation of potential subsystem changes/capability improvements on the F-16 as well as establishment of associated requirement specification changes. These capability improvements also fund integration of pods including updates and tech order changes. ***FY 2012 OCO Plans:***					
Title: Auto Ground Collision Avoidance System ***Description:*** This program will nearly eliminate Controlled Flight Into Terrain (CFIT) accidents, a leading cause of F-16 loss of pilots and aircraft accidents. One study predicted this capability could have saved 10 pilots and 15 aircraft lost from CFIT accidents had it been available. Air Force 1067 signed by the CAFROCC on 3 Mar 2008 directed development of Auto GCAS for F-16 Blk 40-52 aircraft for fielding with M6.2+. The requested solution is for an Automatic Ground Collision Avoidance System (Auto GCAS) and other Flight Control safety enhancements identified in Phase II for F-16 Blocks 40/42 and 50/52 aircraft to be integrated and delivered with the M6.2+ OFP in CY 14. The effort is to qualify and release a DFLCC configuration that is backward compatible with M6.1+ F-16 USAF OFP that can initiate DFLCC TCTO upgrades without Auto GCAS in the core avionics. Production configurations of the remaining software items will be incorporated during the M6.2+ effort and will enable the Auto GCAS function. ***FY 2010 Accomplishments:***	5.630	5.200	7.400	-	7.400

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY10 effort centered on transition from Fighter Risk Reduction Program to an intitial Auto GCAS development program though LM Aero which will be a 2 phase approach for development via 2 contracts, an initial Phase IIIa, awarded in Sep 2010 (software and requirements definition contract), and a follow-on Phase IIIb effort for integration and testing starting in FY11. ***FY 2011 Plans:*** On-going Phase IIIa efforts will finalize all Fighter Risk reduction Prgram capabilities, the Auto GCAS Requirements Matrix, MCRT #1 and #2, select Flight Control safety enhancement requirements, which shall be identified at SRR. Phase IIIb contract efforts will incorporate unqiue M6.1+ specific requirements (into core avionics, DTS, mission planning and flight control OFPs) to allow Auto GCAS to begin system DTO later in the year. ***FY 2012 Base Plans:*** Continuation of Auto GCAS Phase IIIb efforts will address in-flight anomalies whose defect can only be addressed via software revision the Contractor shall incorporate Avionics and Flight Control requirements or requirement revisions (into core avionics, DTS, mission planning and flight control OFPs) into DTO #2. Also key efforts affect configuring the DTO #2 Flight Controls flight test OFP as a production OFP and formally test it with the F-16 USAF M6.1+ Avionics suite for DFLCC OFP update via TCTO as well as configure the DTO #2 Flight Controls flight test OFP as a production OFP and provide it to the F-16 USAF M6.2+ Avionics suite for fielding. ***FY 2012 OCO Plans:***					
Title: BLOS ***Description:*** Provide Beyond Line of Sight (BLOS) capability in response to AFCENT Urgent Operation Need for fighter aircraft supporting OEF/OIF. ***FY 2010 Accomplishments:*** BLOS RDTE funds required for contractor to support modification and installation of developed BLOS modification kits on designated test aircraft for operational flight test. ***FY 2011 Plans:*** ***FY 2012 Base Plans:*** ***FY 2012 OCO Plans:***	0.986	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Congressional Add Thunder Pod ***Description:*** Plus up/Thunder Pod FY10 only ***FY 2010 Accomplishments:*** Continue development effort to integrate Thunder Radar Pod and associated equipment onto the F-16 for testing. ***FY 2011 Plans:*** ***FY 2012 Base Plans:*** ***FY 2012 OCO Plans:***	1.593	-	-	-	-
Accomplishments/Planned Programs Subtotals	118.512	129.103	143.869	-	143.869

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0207133F: *APAF, Aircraft Procurement Line Item 40, F-16 Mods*	256.036	162.486	69.785	0.000	69.785	17.208	1.843	0.760	20.520	Continuing	Continuing
• PE 0207445F: *APAF, Aircraft Procurement Line Item 40, F-16 Mods*	0.000	0.000	0.000	0.000	0.000	0.000	8.302	8.303	7.994	Continuing	Continuing
• PE 0809731F: *APAF, Aircraft Procurement Line Item 40, F-16 Mods*	4.633	4.702	3.561	0.000	3.561	4.158	4.940	5.039	5.130	Continuing	Continuing
• PE 0207133F (3): *APAF, Aircraft Procurement , Line Item 95, Post Production Support*	12.911	17.838	4.537	0.000	4.537	14.606	14.755	15.001	15.271	Continuing	Continuing

D. Acquisition Strategy

RDT&E funds will primarily be executed in developing improved capability, maintenance and safety mods. Operational Flight Program (OFP) software will be continuously updated to complement mod development efforts. OFP transition activities to OO-ALC started in FY06 as part of the "follower/ leader" effort with software development starting with M7+.

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The F-16 Blk 40/50 Service Life Extension Program (SLEP) includes both a structural service life extension program as well as an upgraded avionics (modernization) effort. The avionics modernization effort would include avionics upgrades to include an Active Electronically Scanned Array (AESA) radar vendor is TBD. Center Pedestal Display (CPD) vendor is TBD.
Integrated Broadcast Service (IBS) vendor is TBD and ALQ-214 vendor is TBD.

The EMD Hardware Development line provides funding to develop, test, and qualify aircraft subsystems upgrades, communication upgrades and Diminishing Manufacturing Source (DMS). The approach to contracting varies by individual project. Lockheed Martin Aeronautics Company (LM Aero) is the prime contractor on all systems except the General Electric Engines and the Pratt & Whitney Engines. Contract types are T&M, CPIF, CPFF and FFP.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force		DATE: February 2011
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OFP Updates	Various	Various:Various,	84.819	79.447	Nov 2010	87.146	Oct 2011	-		87.146	Continuing	Continuing	0.000
Mode 5 IFF for CAF Aircraft	SS/CPIF	LM Aero:Ft Worth, TX	5.244	0.100	Apr 2011	-		-		-	0.000	5.344	0.000
Service Life Extension Program (SLEP	Various	Various:Various,	-	20.000	Mar 2011	24.767	Mar 2012	-		24.767	0.000	44.767	0.000
EMD HW/Advanced Capabilities Improvements	Various	Various:Various,	-	0.500	Apr 2011	0.500	May 2012	-		0.500	Continuing	Continuing	0.000
BLOS development/integration	Various	Various:Various,	0.986	-		-		-		-	0.000	0.986	0.000
Auto GCAS	Various	Various:Various,	5.630	5.200	May 2011	7.400	Feb 2012	-		7.400	Continuing	Continuing	0.000
Reprogramming Pending	TBD	TBD:TBD,	-	-		-		-		-	0.000	0.000	0.000
Congressional Add (Thunder Pods)	Various	OO-ALC:various,	1.593	-		-		-		-	0.000	1.593	0.000
		Subtotal	98.272	105.247		119.813		-		119.813			0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Tests	Various	Various:Various,	20.240	23.856	Oct 2010	24.056	Oct 2011	-		24.056	Continuing	Continuing	0.000
		Subtotal	20.240	23.856		24.056		-		24.056			0.000

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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TBD	TBD	Not specified.:,	-	-		-		-		-	0.000	0.000	0.000
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	118.512	129.103		143.869		-		143.869			0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force		DATE: February 2011
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Flight Test Continuous	1	2010	4	2016
OFP Development, continuous	1	2010	4	2016
M6.1+ Release	4	2012	4	2012
M6.2+ Minor Tape Release	2	2014	2	2014
M7.1+ Release	4	2015	4	2015
Auto GCAS	2	2010	4	2013
Mode 5 IFF Development Complete	4	2011	4	2011
Service Life Extension Program (SLEP) Development	2	2011	4	2016
EMD Hardware (continuous)	3	2011	4	2016
Congressional Add Thunder Pod Test	2	2010	4	2010
BLOS Development Complete	4	2010	4	2010