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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | R-1 ITEM NOMENCLATURE PE 0207138F: <i>F-22 SQUADRONS</i> |
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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 |
|-----------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 559.455 | 576.330 | 718.432 | - | 718.432 | 689.201 | 526.627 | 484.880 | 528.188 | Continuing | Continuing |
| 674785: <i>F-22</i> | 559.455 | 576.330 | 718.432 | - | 718.432 | 689.201 | 526.627 | 484.880 | 528.188 | Continuing | Continuing |

Note

Totals include funding for PRCP Program Number, 265, F-22

A. Mission Description and Budget Item Justification

The F-22 program funding includes overhead reductions that are not intended to impact program content. The efficiencies reductions total \$4.573M in FY12.

The F-22 Raptor represents the USAF's top priority for providing the Joint Force with air dominance, operational access, and homeland and cruise missile defense for the next 20+ years. The F-22 is a first-of-a-kind multi-mission fighter aircraft that combines stealth, supercruise, advanced maneuverability and integrated avionics to make it the world's most capable combat aircraft. The Engineering and Manufacturing Development (EMD) phase of F-22 acquisition is complete. The program is now continuing the pre-planned modernization effort through incremental development phases that enhance the F-22 Global Strike capability. The development program enhances the air vehicle, engine, and training system to improve/enhance F-22 weapons, communications, and Intelligence Surveillance Reconnaissance (ISR) capabilities.

BA7 - 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. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 569.345 | 576.330 | 555.208 | - | 555.208 |
| Current President's Budget | 559.455 | 576.330 | 718.432 | - | 718.432 |
| Total Adjustments | -9.890 | - | 163.224 | - | 163.224 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | -2.375 | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -7.515 | - | | | |
| • Other Adjustments | - | - | 163.224 | - | 163.224 |

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| <p><u>Change Summary Explanation</u></p> <p>Note 1: In FY 2010, \$9.8M decrease due to higher Air Force priorities.</p> <p>Note 2: In FY 2012, \$163.2M increase in funding due to the following: \$127.6M for Increment 3.2 requirements (Air-to-Air Block 30 and Air-to-Air Block 35), Advanced Technology Development, Auto Ground Collision Avoidance System (AGCAS), Aircraft 4006 Upgrade, 5th Generation Architecture, Laboratory Obsolescence, and \$42.6M to directly fund Increment 3.2 enabling work.</p> | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | | | | R-1 ITEM NOMENCLATURE PE 0207138F: <i>F-22 SQUADRONS</i> | | | | PROJECT 674785: <i>F-22</i> | | | |
| 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 |
| 674785: <i>F-22</i> | 559.455 | 576.330 | 718.432 | - | 718.432 | 689.201 | 526.627 | 484.880 | 528.188 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | |
| The F-22 program funding includes overhead reductions that are not intended to impact program content. The efficiencies reductions total \$4.573M in FY12. | | | | | | | | | | | |
| The F-22 Raptor represents the USAF's top priority for providing the Joint Force with air dominance, operational access, and homeland and cruise missile defense for the next 20+ years. The F-22 is a first-of-a-kind multi-mission fighter aircraft that combines stealth, supercruise, advanced maneuverability and integrated avionics to make it the world's most capable combat aircraft. The Engineering and Manufacturing Development (EMD) phase of F-22 acquisition is complete. The program is now continuing the pre-planned modernization effort through incremental development phases that enhance the F-22 Global Strike capability. The development program enhances the air vehicle, engine, and training system to improve/enhance F-22 weapons, communications, and Intelligence Surveillance Reconnaissance (ISR) capabilities. | | | | | | | | | | | |
| BA7 - 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: Software Support | | | | | | | 51.930 | 60.200 | 62.249 | - | 62.249 |
| Description: (U) Operational Flight Plan (OFP) testing in the Raptor Integration Lab (RAIL) and the Avionics Integration Lab (AIL), Developmental and Operational flight test, Pilot Training Systems (PTS) software upgrades, Synthetic Aperture Radar (SAR) mapping capability development for the PTS, Trainer/Integrated Maintenance Information System (IMIS) Software Enhancements | | | | | | | | | | | |
| FY 2010 Accomplishments: (U) In FY 2010: Update 3 software support OFP testing in the Raptor Integration Lab (RAIL) and the Avionics Integration Lab (AIL) continues for three of four software products. Continuation of Developmental and Operational flight test of three of four software products. Block 30 Increment 2 software product released to the field, first of four Update 3 software products. IMIS continued the Ada to C++ conversion; Low Observables (LO) Structural Maintenance, Present TO, and Air Vehicle Interface. As each one of these IMIS areas are converted to C++, long awaited enhancements are incorporated, increasing capability to the maintainer. | | | | | | | | | | | |
| FY 2011 Plans: | | | | | | | | | | | |

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| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207138F: F-22 SQUADRONS | PROJECT 674785: F-22 | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| (U) In FY 2011: Flight test on the Update 3 software support OFPs are completed and fielded. FOT&E will be conducted on Update 3 and Increment 3.1 and will be released to the field. Update 4 coding will be accomplished, and testing in the system integration laboratories will begin for two of the three Update 4 software configurations. Developmental flight testing will begin on the first of three software configurations. Pilot Training Systems (PTS) software upgrades,Synthetic Aperature Radar (SAR) mapping capability development for the PTS. IMIS to continue Ada to C++ conversion focusing on Integrated Maintenance Data Systems (IMDS) interface error correction and Maintenance Data Collection. FY 2012 Base Plans: (U) In FY 2012: Update 4 software support OFPs are completed. Flight testing of all the Update 4 software products will be completed and fielded. IMIS to continue focus on ADA to C++ conversion focusing on three additional major areas. FY 2012 OCO Plans: | | | | | | |
| Title: System Engineering/Program Management Support Description: (U) Provide for F-22 program-wide planning and execution. FY 2010 Accomplishments: (U) In FY 2010: Provides for F-22 program wide planning and execution comprised of, but not limited to, the following: requirements identification, schedule analysis and integration, cost estimating data, and systems engineering process management. FY 2011 Plans: (U) In FY 2011: Same as prior year. FY 2012 Base Plans: (U) In FY 2012: Same as prior year. FY 2012 OCO Plans: | | 17.333 | 17.636 | 17.898 | - | 17.898 |
| Title: Mission Support Description: Continue mission support of the Program Office; travel, computer costs, misc contracts, etc. FY 2010 Accomplishments: | | 11.879 | 13.933 | 14.000 | - | 14.000 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| (U) In FY 2010: Funds provide centralized Program Management Administration (PMA) allowing management and oversight activities in direct support of F-22 Increment Development, RAMMP, Aircraft Structural Integrity Program (ASIP), flight test support, etc. FY 2011 Plans: (U) In FY 2011: Same as prior year. FY 2012 Base Plans: (U) In FY 2012: Same as prior year. FY 2012 OCO Plans: | | | | | | |
| Title: Reliability and Maintainability Maturation Program (RAMMP) Description: (U) Continue development of RAMMP to improve MTBM and aircraft availability. FY 2010 Accomplishments: (U) In FY 2010: Provides for development of multiple efforts to improve Mean Time Between Maintenance (MTBM), maintainability and reduce F-22 weapon system life cycle cost. FY 2011 Plans: (U) In FY 2011: Same as prior year. FY 2012 Base Plans: (U) In FY 2012: Same as prior year. FY 2012 OCO Plans: | | 17.184 | 12.670 | 18.000 | - | 18.000 |
| Title: Increment 3.1 Description: (U) The F-22 Increment 3.1 Modernization Program consists of the software and hardware modifications necessary to provide Enhanced Global Strike (GS) capabilities on the Lot 4B and beyond F-22 aircraft and training systems. Increment 3.1 is currently implementing the design products to deliver the enhanced capabilities to support retrofit on operational F-22 aircraft and their support elements. FY 2010 Accomplishments: | | 37.540 | 13.432 | - | - | - |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| (U) In FY 2010: Continue Increment 3.1 integration and certification testing in the Raptor Integration Lab (RAIL) and the Avionics Integration Lab (AIL) will be completed. Continue developmental flight test of the Increment 3.1 capabilities. FY 2011 Plans: (U) In FY 2011: Complete Increment 3.1 developmental flight test. Increment 3.1 operational flight test through July, 2011. FY 2012 Base Plans: (U) IN FY 2012: No planned activities in 2012 FY 2012 OCO Plans: | | | | | | |
| Title: Increment 3.2A Description: (U) The F-22 Increment 3.2a Modernization Program consists of the software development necessary to provide Increment 3.2a capabilities including improvements to Electronic Protection, Combat Identification and Link-16 Receive. FY 2010 Accomplishments: (U) In FY 2010: Software Only Updates - Requirements Development will begin, where operational requirements are translated into technical requirements. A Systems Requirements Review and external interface freeze are scheduled to occur during this time. FY 2011 Plans: (U) In FY 2011: Requirements Development will be completed and will culminate in a System Design Review. Detailed design of the capabilities will begin and a Preliminary Design Review will be conducted. Preliminary work to prepare lab and test facilities for Development, Integration, and Test will also begin. MDD will be accomplished. FY 2012 Base Plans: (U) In FY 2012: The detailed design phase will continue and will culminate in a Critical Design Review. Preliminary work will continue to prepare lab and test facilities for Development, Integration, and Test. All software coding, integration and testing will begin. Milestone B will be completed. FY 2012 OCO Plans: | | 67.178 | 75.805 | 129.450 | - | 129.450 |
| Title: Increment 3.2B | | 87.628 | 140.942 | 125.295 | - | 125.295 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| <p>Description: (U) The F-22 Increment 3.2b Modernization Program consists of the software development necessary to provide Increment 3.2b capabilities including Intra-Flight Data Link Improvements, Electronic Protection, AIM-9X and AIM-120D integration with Common Weapon Engagement Zone, Geolocate 2.0 and Stores Management System Common Split Bus. The Enhanced Stores Management System (ESMS) program is a hardware development and risk reduction program required to integrate any new weapons on the F-22 beyond Increment 3.1.</p> <p>FY 2010 Accomplishments: (U) In FY 2010: Candidate Definition is completed and the Requirements Development phase of the Increment 3.2 program will begin.</p> <p>FY 2011 Plans: (U) In FY 2011: ESMS program will continue sub-system integration and complete it in the Avionics Integration Lab (AIL). Flight test of the ESMS sub-system will also be performed and scheduled to be completed as well. Requirements Development will be completed and will culminate in a System Design Review. Detailed design of the capabilities will begin. Preliminary work to prepare lab and test facilities for Development, Integration, and Test will also begin. MDD will be accomplished. A significant amount of hardware is being purchased to support Increment 3.2B candidate testing and development.</p> <p>FY 2012 Base Plans: (U) In FY 2012: Detailed design of the capabilities will continue. Work to prepare lab and test facilities for Development, Integration, and Test will continue.</p> <p>FY 2012 OCO Plans:</p> | | | | | | |
| <p>Title: Combined Test Force (CTF)</p> <p>Description: (U) The F-22 Combined Test Force (CTF), located at Edwards Air Force Base, conducts full-up weapons system testing to assess the synergistic effect of the F-22 combined characteristics of stealth, speed, maneuverability, and integrated avionics in mission accomplishment. The CTF uses operationally significant ground and flight test scenarios, when practical, to identify system performance deficiencies early before they are more difficult and costly to resolve.</p> <p>FY 2010 Accomplishments:</p> | | 110.671 | 93.700 | 95.246 | - | 95.246 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| (U) In FY 2010: The significant programs undergoing flight test at AFFTC include: Increment 3.1/Update 3, Small Diameter Bomb (SDB) Integration AIM-9X Risk Reduction, Coldstick, Data Management Video Recorder (DMVR), Environmental Control System (ECS), Remote Sensor Assembly (RSA), Signature Management Plan(SMP), and Infrared Countermeasure (IRCM) Door. FY 2011 Plans: (U) In FY 2011: The significant programs undergoing flight test at AFFTC include: the close-out of Increment 3.1/Update 3; AIM-9X and SDB Risk Reduction; ESMS/TA-74; Coldstick tests; Arresting Gear; Main Oil Pump; Signature Management Plan; 6 gallon test; Bio-fuel Certification; and the Travel Pod. Small projects currently planned also include: IR Countermeasure Door; Auxiliary Power Unit Exhaust Door Temperature; Augmentor/ Ignitor; Air Cycle machine Reliability Improvements; Loads Regression Testing; #5 carbon seal redesign; Structural Health Monitoring Device Durability; and Engine Software version #17. FY 2012 Base Plans: (U)In FY 2012: The significant programs undergoing flight test at AFFTC include: Update 4 software testing; AIM-9X SEEK EAGLE testing; External Fuel Tank testing; and 6 gallon testing. Small projects currently-planned also include: NUCIF; dragging brake issue; Weapon Bay Door Redesign: cracking/missile fin rub; Flight Control Problem; and 5th Generation Common Architecture. FY 2012 OCO Plans: | | | | | | |
| Title: Laboratory Test & Operations (LTO) Description: (U) The LTO effort provides the capability (labor and hardware) to plan and conduct development, integration, test, & verification (IT&V) of F-22 OFPs with F-22 hardware. This capability is provided through the maintenance and operation of 20 development labs including 5 unique major System Integration Laboratories (SILs): the Agile Integration Lab (AIL); the Raptor Integration Lab; the Air Combat Simulation (ACS) Lab; the Vehicle Management System (VMS) Vehicle Integration Facility (VIF); and the Vehicle System Simulator (VSS). FY 2010 Accomplishments: (U) In FY 2010: Accomplish critical updates to offset aging/obsolete equipment. Update critical systems as required to support new aircraft configurations and capabilities. Maintain lab “ready state” availability in support of F-22 programs. Accomplish OFP verification and risk reduction. Provide pilot training, exercise execution, and war gaming in support of Air Combat Command; provide test event planning, rehearsal, and conduct in | | 84.950 | 77.042 | 98.134 | - | 98.134 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| support of Air Force Operational Test & Evaluation Center. Support periodic Air Warfare Center operational mission data updates. FY 2011 Plans: (U) In FY 2011: Same as prior year. FY 2012 Base Plans: (U) In FY 2012: Same as prior year. In addition, lab consolidation of RAIL at LMA Ft. Worth will be accomplished. FY 2012 OCO Plans: | | | | | | |
| Title: VAX Migration Description: (U) The F-22 VAX Migration program develops, integrates, tests, and deploys computer infrastructure and software tools to replace existing VAX-based resources used to develop, field, and sustain F-22 capabilities. The current VAX architecture is obsolete, resulting in increased program risks as the underlying computer infrastructure and software tools become increasingly unreliable and unsupportable. FY 2010 Accomplishments: (U) In FY 2010: The majority of the activities include labor required to translate existing VAX-based software development tools and procedures to new platforms. Where required, this includes rewriting existing code to provide equivalent results on target platforms. Each system requires complete certification testing and validation. Consequently, this activity also includes Contractor testing and support for Government certification and accreditation of migrated system; and updating of required Contractor software and hardware development processes to reflect resulting architectures. FY 2011 Plans: (U) In FY 2011: Same as prior year FY 2012 Base Plans: (U) In FY 2012: Same as prior year. FY 2012 OCO Plans: | | 58.658 | 39.692 | 31.307 | - | 31.307 |
| Title: F-22 Small Project Roll-up Description: Continue F-22 modernization development and support activities | | 14.204 | 19.275 | 12.638 | - | 12.638 |

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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: Provides for F-22 modernization activities including, but not limited to: Common Configuration, Aircraft Structural Integrity Program (ASIP), LO Signature Mgmt, EN/Threat Modeling Support, DT Weapons Assets, Arresting Gear System (AGS), PT Dynamic SAR, Support Equipment Development, Urgent Response, Replacement Test Aircraft and OGC/GFE. | | | | | |
| FY 2011 Plans: Provides for F-22 modernization activities including, but not limited to: LO Signature Mgmt, EN/Threat Modeling Support, DT Weapons Assets, F-22 Secure Software Dev Networks, PT Dynamic SAR, Support Equipment Development, Urgent Response, and OGC/GFE. | | | | | |
| FY 2012 Base Plans: Provides for F-22 modernization activities including, but not limited to: EN/Threat Modeling Support, DT Weapons Assets, F-22 Secure Software Dev Networks, PT Dynamic SAR, Support Equipment Development, Urgent Response, and OGC/GFE. | | | | | |
| FY 2012 OCO Plans: | | | | | |
| Title: Crypto Modernization | | | | | |
| Description: Crypto Modernization provides for development to support crypto-graphic updates. Two crypto-graphic projects are currently in work: the KOV-20 Field Upgrade (field upgrade only) and the KOV-20 Off-Ramp. | | | | | |
| FY 2010 Accomplishments: FY2010: No planned effort in FY2010 | | | | | |
| FY 2011 Plans: FY2011: Crypto Modernization activities: KOV-20 Field Upgrade to retrofit the test jets with the upgraded KOV-20 units. KOV-20 Off-Ramp requirements definition and tech package development will be accomplished. | | | | | |
| FY 2012 Base Plans: FY2012: Crypto Modernization activities: KOV-20 Off-Ramp requirements analysis and generation phase will be accomplished and the design phase will begin. | | | | | |
| FY 2012 OCO Plans: | | | | | |
| Title: Advanced Technology Development | | | | | |
| | 0.300 | 9.623 | 60.558 | - | 60.558 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| <p>Description: (U) Technology Maturation and risk reduction of Classified F-22 related development efforts</p> <p>FY 2010 Accomplishments: (U) In FY 2010: Study and analysis of a variety of Special Projects for integration onto the F-22.</p> <p>FY 2011 Plans: (U) In FY 2011: Technology Maturation and risk reduction of Classified F-22 related development efforts. This effort includes studies and analyses of a variety of Special Projects for integration onto the F-22 and to perform proof of concept demonstration on select projects.</p> <p>FY 2012 Base Plans: (U) In FY 2012: Technology Maturation and risk reduction of Classified F-22 related development efforts. Study and analysis of a variety of Special Projects for integration onto our platform continues. Perform proof of concept demonstration on select projects. Detailed integration efforts begin on successfully demonstrated projects.</p> <p>FY 2012 OCO Plans:</p> | | | | | | |
| <p>Title: Auto Ground Collision Avoidance System (AGCAS)</p> <p>Description: (U) The AGCAS will be designed and integrated on the F-22 to prevent the aircraft from unintentionally descending below ground level.</p> <p>FY 2010 Accomplishments: (U) In FY 2010: No planned effort in FY 2010.</p> <p>FY 2011 Plans: (U) In FY 2011: No planned effort in FY 2011.</p> <p>FY 2012 Base Plans: (U) In FY 2012: Requirements development for AGCAS will be accomplished. In addition, design work will begin to develop design solutions for Block 20, 30, and 35.</p> <p>FY 2012 OCO Plans:</p> | | - | - | 18.110 | - | 18.110 |
| <p>Title: Aircraft 4006 Upgrade</p> | | - | - | 10.168 | - | 10.168 |

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| | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| Description: (U) To support testing activities, upgrade 4006 from its current EMD configuration to a Block 20 (training fleet representative) aircraft configuration; the instrumentation package will also be upgraded. FY 2010 Accomplishments: (U) In FY 2010: No planned effort in FY10 FY 2011 Plans: (U) In FY 2011: No planned effort in FY11. FY 2012 Base Plans: (U) In FY 2012: Purchase parts; engineering design modification and instrumentation. FY 2012 OCO Plans: | | | | | | |
| Title: 5th Generation Architecture Description: (U) Conduct studies and analysis to reduce the risk of integrating F-35 hardware and fusion architecture on-board the F-22. The goal of this effort is to ultimately reduce F-22 and F-35 modernization costs and timeline (development, test, and fielding) with more cost-effective solutions leveraging commonality and synergy. FY 2010 Accomplishments: (U) In FY 2010: No planned activitiy in FY 2010 FY 2011 Plans: (U) In FY 2011: No planned activitiy in FY 2011 FY 2012 Base Plans: (U) In FY 2012: Study and analysis of the 5th Generation Architecture integration onto F22. FY 2012 OCO Plans: | | - | - | 10.000 | - | 10.000 |
| Title: Laboratory Obsolescence Description: (U) Several components in the labs have exceeded their useful life and require replacing/upgrading. FY 2010 Accomplishments: | | - | - | 8.134 | - | 8.134 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| (U) In FY 2010: No planned activity in FY10. | | | | | | | | | | | |
| FY 2011 Plans: | | | | | | | | | | | |
| (U) In FY 2011: No planned activity in FY11. | | | | | | | | | | | |
| FY 2012 Base Plans: | | | | | | | | | | | |
| (U) In FY 2012: Lab upgrades to include Honeywell ECS equipment, BAE EW Alphas, RAIL SGI Computer replacement, ECS Lab Obsolescence, Calibration Test Bench, IL FTE. | | | | | | | | | | | |
| FY 2012 OCO Plans: | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | | 559.455 | 576.330 | 718.432 | - | 718.432 |
| 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 0207138F: F-22A Squadrons APAF* | 269.827 | 602.634 | 385.755 | 0.000 | 385.755 | 411.690 | 550.440 | 451.350 | 459.298 | Continuing | Continuing |
| • PE 0207138F (1): F-22A Squadrons, OPAF | 1.207 | 1.452 | 1.699 | 0.000 | 1.699 | 1.200 | 1.218 | 1.092 | 1.095 | Continuing | Continuing |
| • PE 0207219F: APAF, Advanced Tactical Fighter ** | 96.758 | 159.915 | 105.335 | 0.000 | 105.335 | 1.289 | 1.307 | 1.330 | 1.354 | Continuing | Continuing |
| • PE 0207138F (3): MILCON | 38.838 | 22.125 | 16.500 | 0.000 | 16.500 | 11.740 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| • PE 0207219F (4): PAAF | 15.896 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| • PE 0207445F: Tactical Data Link RDT&E | 47.162 | 57.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| • PE 0207163F: AIM-120D RDT&E | 3.800 | 11.800 | 24.700 | 0.000 | 24.700 | 27.600 | 17.960 | 0.850 | 0.000 | Continuing | Continuing |
| D. Acquisition Strategy | | | | | | | | | | | |
| The Raptor Enhancement Development & Integration (REDI) contract is an Indefinite Delivery/Indefinite Quantity Ordering contract that maximizes flexibility to start, stop, accelerate and decelerate projects as required. The REDI contract was established to be more responsive to evolving war fighter requirements. The REDI contract allows the issuance of orders for the highest priority war fighter capabilities in operationally meaningful capability increments, requirements analysis, contractor cost estimates and studies, development and demonstration of capability enhancements, and unanticipated future war fighter requirements. Each increment is broken into phases to initiate requirements analysis, the design phase and the development, integration and verification phase of a specific incremental development effort. | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | R-1 ITEM NOMENCLATURE PE 0207138F: <i>F-22 SQUADRONS</i> | PROJECT 674785: <i>F-22</i> |

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.

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|---|------------------------|--------------------------------|------------------------|---------|--|---------|-----------------|------|-------------------------|---------------------|------------------|------------|--------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: 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 0207138F: F-22 SQUADRONS | | | | PROJECT 674785: F-22 | | | | |
| Product Development (\$ in Millions) | | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Software Support | SS/CPIF | Lockheed Martin:Fort Worth, TX | 51.930 | 60.200 | Dec 2010 | 62.249 | Dec 2011 | - | | 62.249 | Continuing | Continuing | 0.000 |
| System Engineering / Program Management | SS/CPIF | Lockheed Martin:Fort Worth, TX | 17.333 | 17.636 | Dec 2010 | 17.898 | Dec 2011 | - | | 17.898 | Continuing | Continuing | 0.000 |
| RAMMP | SS/CPFF | Lockheed Martin:Fort Worth, TX | 17.184 | 12.670 | Jan 2011 | 18.000 | Dec 2011 | - | | 18.000 | Continuing | Continuing | 0.000 |
| Increment 3.1 | SS/CPIF | Lockheed Martin:Fort Worth, TX | 37.540 | 13.432 | Dec 2010 | - | | - | | - | 0.000 | 50.972 | 0.000 |
| Increment 3.2A | SS/CPIF | Lockheed Martin:Fort Worth, TX | 67.178 | 75.805 | Jan 2011 | 129.450 | Dec 2011 | - | | 129.450 | 152.630 | 425.063 | 0.000 |
| Increment 3.2B | SS/CPIF | Lockheed Martin:Fort Worth, TX | 87.628 | 140.942 | Jan 2011 | 125.295 | Dec 2011 | - | | 125.295 | 426.620 | 780.485 | 0.000 |
| VAX Migration | SS/CPIF | Lockheed Martin:Fort Worth, TX | 58.658 | 39.692 | Nov 2010 | 31.307 | Dec 2011 | - | | 31.307 | 29.623 | 159.280 | 0.000 |
| F-22 Modernization | SS/Various | Lockheed Martin:Fort Worth, TX | 14.204 | 19.275 | Dec 2010 | 12.638 | Dec 2011 | - | | 12.638 | Continuing | Continuing | 0.000 |
| Crypto-Modernization | SS/CPIF | Lockheed Martin:Fort Worth, TX | - | 2.380 | Mar 2011 | 7.245 | Dec 2011 | - | | 7.245 | 39.885 | 49.510 | 0.000 |
| Advanced Technology Development | SS/CPIF | Lockheed Martin:Fort Worth, TX | 0.300 | 9.623 | Nov 2010 | 60.558 | Jan 2012 | - | | 60.558 | Continuing | Continuing | 0.000 |
| Auto Ground Collision Avoidance System (AGCAS) | SS/CPIF | Lockheed Martin:Fort Worth, TX | - | - | | 18.110 | Jan 2012 | - | | 18.110 | 69.700 | 87.810 | 0.000 |
| Aircraft 4006 Upgrade | SS/CPIF | Lockheed Martin:Fort Worth, TX | - | - | | 10.168 | Dec 2011 | - | | 10.168 | 0.000 | 10.168 | 0.000 |
| 5th Generation Architecture | SS/CPIF | Lockheed Martin:Fort Worth, TX | - | - | | 10.000 | Dec 2011 | - | | 10.000 | Continuing | Continuing | 0.000 |
| Subtotal | | | 351.955 | 391.655 | | 502.918 | | - | | 502.918 | | | 0.000 |
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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force | | | | | | | | | | | DATE: February 2011 | | |
|--|------------------------------|-----------------------------------|------------------------------|-----------------------------|---------------|-----------------|---------------|----------------|---------------|------------------|---------------------|------------|--------------------------------|
| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | PROJECT | | | | | |
| 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | | | | PE 0207138F: F-22 SQUADRONS | | | | 674785: F-22 | | | | | |
| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Mission Support | C/Various | Various:Various, | 11.879 | 13.933 | Oct 2010 | 14.000 | Oct 2011 | - | | 14.000 | Continuing | Continuing | 0.000 |
| Subtotal | | | 11.879 | 13.933 | | 14.000 | | - | | 14.000 | | | 0.000 |
| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Combined Test Force | Various | Various:Various, | 110.671 | 93.700 | Nov 2010 | 95.246 | Dec 2011 | - | | 95.246 | Continuing | Continuing | 0.000 |
| Laboratory Test & Operations (LTO) | SS/CPIF | Lockheed Martin:Ft Worth, TX | 84.950 | 77.042 | Nov 2010 | 98.134 | Dec 2011 | - | | 98.134 | Continuing | Continuing | 0.000 |
| Laboratory Obsolescence | SS/Various | Lockheed Martin:Ft Worth, TX | - | - | | 8.134 | Jan 2012 | - | | 8.134 | Continuing | Continuing | 0.000 |
| Subtotal | | | 195.621 | 170.742 | | 201.514 | | - | | 201.514 | | | 0.000 |
| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| 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 | | | 559.455 | 576.330 | | 718.432 | | - | | 718.432 | | | 0.000 |
| Remarks | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | R-1 ITEM NOMENCLATURE PE 0207138F: <i>F-22 SQUADRONS</i> | PROJECT 674785: <i>F-22</i> |
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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | R-1 ITEM NOMENCLATURE PE 0207138F: <i>F-22 SQUADRONS</i> | PROJECT 674785: <i>F-22</i> |
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Exhibit R-4A, RDT&E Schedule Details: 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 0207138F: *F-22 SQUADRONS*

PROJECT

674785: *F-22*

Schedule Details

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Increment 3.1 Development, Integration, & Test - Actual Start: 4Q 2007 | 4 | 2010 | 3 | 2011 |
| ESMS Development, Integration, & Test – Actual Start: 4Q 2008 | 4 | 2010 | 1 | 2012 |
| Increment 3.2A & Increment 3.2B Material Development Decision (MDD) | 3 | 2011 | 3 | 2011 |
| Increment 3.2A Milestone B | 2 | 2012 | 2 | 2012 |
| Increment 3.2B Milestone B | 3 | 2013 | 3 | 2013 |
| Increment 3.2B Capability Requirements Review (CRR) | 1 | 2010 | 1 | 2010 |
| Increment 3.2B Capability/Pilot-Vehicle Interface Mecanization Freeze | 3 | 2010 | 3 | 2010 |
| Increment 3.2A System Requirements Review (SRR) | 3 | 2010 | 3 | 2010 |
| Increment 3.2A System Design Review (SDR) | 2 | 2011 | 2 | 2011 |
| Increment 3.2B System Requirements Review (SRR) | 2 | 2011 | 2 | 2011 |
| Increment 3.2B System Design Review (SDR) | 4 | 2011 | 4 | 2011 |
| Increment 3.2A Preliminary Design Review (PDR) | 3 | 2011 | 3 | 2011 |
| Increment 3.2B Preliminary Design Review (PDR) | 2 | 2013 | 2 | 2013 |
| Increment 3.2A Critical Design Review (CDR) | 1 | 2012 | 1 | 2012 |
| Increment 3.2B Critical Design Review (CDR) | 4 | 2013 | 4 | 2013 |
| Initiate 3.2A Development, Integration, & Test | 1 | 2012 | 1 | 2012 |
| Initiate 3.2B Development, Integration, & Test | 2 | 2012 | 2 | 2012 |
| Advanced Technology Development Studies & Analysis | 1 | 2010 | 4 | 2016 |
| Advanced Technology Development Demonstrations | 1 | 2011 | 4 | 2016 |
| Advanced Technology Development Design | 4 | 2012 | 4 | 2016 |
| 5th Generation Architecture Risk Reduction | 1 | 2012 | 4 | 2016 |
| AGCAS Requirements Analysis | 1 | 2012 | 4 | 2012 |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force | | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | R-1 ITEM NOMENCLATURE PE 0207138F: <i>F-22 SQUADRONS</i> | PROJECT 674785: <i>F-22</i> | |

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| AGCAS System Requirements Review (SRR) | 2 | 2012 | 2 | 2012 |
| AGCAS System Design Review (SDR) | 4 | 2012 | 4 | 2012 |
| Initiate AGCAS Design | 4 | 2012 | 3 | 2013 |
| AGCAS Preliminary Design Review (PDR) | 1 | 2013 | 1 | 2013 |
| AGCAS Critical Design Review (CDR) | 3 | 2013 | 3 | 2013 |
| AGCAS Development, Integration, & Test | 2 | 2013 | 2 | 2015 |

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