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| Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force | | | | | | | | | | DATE: April 2013 | | |
|--|-----------------|---------|----------------------|--------------|---|---------------|---------|---------|---------|------------------|------------------|------------|
| APPROPRIATION/BUDGET ACTIVITY | | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
| 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD) | | | | | PE 0604851F: Intercontinental Ballistic Missile - EMD | | | | | | | |
| COST (\$ in Millions) | All Prior Years | FY 2012 | FY 2013 [#] | FY 2014 Base | FY 2014 OCO ^{##} | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
| Total Program Element | - | 129.728 | 135.437 | 145.442 | - | 145.442 | 88.651 | 1.363 | 1.707 | 1.737 | Continuing | Continuing |
| 655037: Support Equipment | - | 62.068 | 95.393 | 97.544 | - | 97.544 | 66.251 | 1.363 | 1.707 | 1.737 | Continuing | Continuing |
| 655081: ICBM Crypto | - | 27.943 | 32.044 | 47.898 | - | 47.898 | 22.400 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| 657006: ICBM EMD: Fuze Support | - | 39.717 | 0.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| 657010: Operational Equipment | - | 0.000 | 8.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| # FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012 | | | | | | | | | | | | |
| ## The FY 2014 OCO Request will be submitted at a later date | | | | | | | | | | | | |
| Note | | | | | | | | | | | | |
| In FY 2012, 657006, ICBM EMD: Fuze Support, efforts were transferred from PE 0604222F, Nuclear Weapons Support, 654236, Engineering Analysis, in order to consolidate ICBM fuze related activities as they progress towards deployable products. | | | | | | | | | | | | |
| In FY 2013, Project Number 657006, ICBM EMD: Fuze Support, efforts were transferred to PE 0604933F, ICBM Fuze Modernization, 655082, ICBM Fuze Support, in order to distinguish the effort as a pre-ACAT I program. | | | | | | | | | | | | |
| In FY 2014, Project Number 655037, Support Equipment, includes the new start efforts for the Instrumentation Wafer Replacement Program (IWRP) and the Signal Conditioner Monitor Group (SCMG) replacement. | | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | | |
| Intercontinental Ballistic Missile (ICBM) Engineering and Manufacturing Development (EMD) efforts will ensure the extension of the operational life of the Minuteman III ICBM weapon system through 2030. | | | | | | | | | | | | |
| The Support Equipment program designs, develops, and tests replacement of obsolete/non-serviceable weapon system support and flight test equipment. The efforts include design, development, and testing of support equipment such as Electrical-Electronic Equipment Test Sets (EEETS), Reentry Field Support Equipment (RFSE), Code System Media (CSM), Payload Transporter Replacement (PTR), Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) Message Generator, Single Integrated Operation Plan (SIOP) Targeting Application Computer System (STACS), and Transporter Erector Replacement Program (TERP). Efforts also include design, development, and testing of replacement flight test equipment such as the Instrumentation Wafer Replacement Program (IWRP) and the Signal Conditioner Monitor Group (SCMG) replacement. | | | | | | | | | | | | |

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *System Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604851F: *Intercontinental Ballistic Missile - EMD*

The ICBM Cryptography Upgrade Increment II (ICU II) program expands on the ICBM Cryptography Upgrade Increment I program to incorporate remote key/code change, irreversible transformation of launch/enable codes, and continuous signal lockout, increasing nuclear weapons security during annual code change cycles and preventing the loss of missile status monitoring.

ICBM EMD: Fuze Support reflects FY 2012 efforts related to fuze modernization efforts previously included in PE 0604222F and now included in PE 0604933.

The Operational Equipment program designs, develops, and tests replacement of weapon system equipment. The effort includes the Solid Rocket Motor (SRM) Modernization effort to define operational requirements, investigate available technologies and prepare an acquisition strategy for SRM development. This effort, coupled with the Propulsion Application Program under PE 0603851F, ICBM Demonstration/Validation, will support development of requirements and implementation timeline for a follow-on SRM program.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

| B. Program Change Summary (\$ in Millions) | FY 2012 | FY 2013 | FY 2014 Base | FY 2014 OCO | FY 2014 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 148.307 | 135.437 | 130.417 | - | 130.417 |
| Current President's Budget | 129.728 | 135.437 | 145.442 | - | 145.442 |
| Total Adjustments | -18.579 | 0.000 | 15.025 | - | 15.025 |
| • Congressional General Reductions | - | 0.000 | | | |
| • Congressional Directed Reductions | - | 0.000 | | | |
| • Congressional Rescissions | 0.000 | 0.000 | | | |
| • Congressional Adds | - | 0.000 | | | |
| • Congressional Directed Transfers | - | 0.000 | | | |
| • Reprogrammings | -14.222 | 0.000 | | | |
| • SBIR/STTR Transfer | -4.357 | 0.000 | | | |
| • Other Adjustments | 0.000 | 0.000 | 15.025 | - | 15.025 |

Change Summary Explanation

FY 2012 funding reflects a decrease of \$14.222M due to higher AF priorities and a decrease of \$4.357M due to a SBIR Transfer.

FY 2014 funding reflects an increase of \$12.920M for RFSE, an increase of \$2.500M for the HAC/RMPE Message Generator, and a decrease of \$0.395M for program efficiencies.

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | | | | | | | | DATE: April 2013 | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD) | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: Intercontinental Ballistic Missile - EMD | | | | PROJECT 655037: Support Equipment | | | |
| COST (\$ in Millions) | All Prior Years | FY 2012 | FY 2013 [#] | FY 2014 Base | FY 2014 OCO ^{##} | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
| 655037: Support Equipment | - | 62.068 | 95.393 | 97.544 | - | 97.544 | 66.251 | 1.363 | 1.707 | 1.737 | Continuing | Continuing |
| Quantity of RDT&E Articles | | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |
| # FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012 | | | | | | | | | | | | |
| ## The FY 2014 OCO Request will be submitted at a later date | | | | | | | | | | | | |
| Note | | | | | | | | | | | | |
| For FY 2014, 655037, Support Equipment, includes new start efforts for the Instrumentation Wafer Replacement Program (IWRP) and the Signal Conditioner Monitor Group (SCMG) replacement. | | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | | |
| The ongoing Support Equipment program replaces obsolete/unsupportable/non-serviceable weapon system support and test equipment necessary to extend the operational life of the Minuteman III weapon system through 2030. The efforts include design, development, and testing of replacement support equipment such as the Electrical-Electronic Equipment Test Sets (EEETS), Reentry Field Support Equipment (RFSE), Minuteman Code System Media (CSM), Payload Transporter Replacement (PTR), Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) Message Generator, Single Integrated Operation Plan (SIOP) Targeting Application Computer System (STACS) and Transporter Erector Replacement Program (TERP). | | | | | | | | | | | | |
| It also includes the design, development, and testing of replacement flight test equipment necessary to conduct Force Development Evaluations (FDEs) and ICBM Fuze Modernization flight tests such as the Instrumentation Wafer Replacement Program (IWRP) and the Signal Conditioner Monitor Group (SCMG) replacement program. FDEs are required by USSTRATCOM and the Department of Energy to determine continuing reliability and effectiveness of the ICBM weapon system. | | | | | | | | | | | | |
| BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production. | | | | | | | | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | FY 2012 | FY 2013 | FY 2014 | |
| Title: Electrical-Electronic Equipment Test Set (EEETS) | | | | | | | | | 4.775 | 3.737 | 0.000 | |
| Description: Design and develop the EEETS used for production and pre-launch checkout of Mod 7 Instrumentation Wafer required to conduct flight tests and Force Development Evaluations. The Mod 7 Instrumentation Wafer provides transmission of missile telemetry and receipt of command destruct messages during flight. The program will replace the current unsupportable test set which consists of a non-standard processor, proprietary software, and requires Digital-to-Analog Converter cards no longer available (no suitable substitute). | | | | | | | | | | | | |
| FY 2012 Accomplishments: | | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | DATE: April 2013 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | PROJECT 655037: <i>Support Equipment</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2012 | FY 2013 | FY 2014 |
| Designed, developed, fabricated and tested EEETS components. Conducted a successful Critical Design Review (CDR) and received all hardware necessary for assembly. FY 2013 Plans: Complete design, development, fabrication and testing of EEETS. Install, test, audit and verify units at flight test and contractor repair facilities. | | | | |
| Title: Reentry Field Support Equipment (RFSE) Description: Design and develop the RFSE to replace the current reentry systems test set. RFSE will increase the mean time between failure, eliminate unneeded Mk12 functions, and add new Mk21 functions. It will provide capability to meet Department of Energy mandated Limited Life Component warhead swaps and to test electrical continuity during buildup of Minuteman III reentry systems. FY 2012 Accomplishments: Designed, developed, fabricated and tested RFSE components. Continued Independent Verification & Validation (IV&V) activities. Conducted a successful CDR. FY 2013 Plans: Continue design, development, fabrication and testing of RFSE units. Continue IV&V activities and hold Test Readiness Review (TRR). FY 2014 Plans: Continue design, development, fabrication and testing of RFSE units. Conduct configuration audits and a successful Milestone C briefing. Continue IV&V activities. | | 40.937 | 32.685 | 28.753 |
| Title: Code System Media (CSM) Description: The CSM program supports the replacement of obsolete tape cartridges with more modern and available magnetic media. Segment #1, responsible for providing software to accept NSA codes, OPLAN changes and software updates on compact disk (CD), has been completed. Segment #2 will provide software and hardware necessary to import all other data on CD and produce Wing Codes Processing System products on CD. Segment #2 will also replace the Cartridge Transfer Unit (CTU) with the Data Transfer Unit (DTU). CSM effectively supports the replacement of aging media required to transport and handle mission essential codes and data throughout the ICBM weapon system. The shelf life of the current stock of DC300 tape cartridges and 9-track tapes expires in 2015. CSM delivers the capability to load codes/software on Minuteman III ICBMs through 2030 and is critical to code change activities. FY 2012 Accomplishments: | | 9.364 | 15.824 | 7.393 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | DATE: April 2013 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD) | R-1 ITEM NOMENCLATURE PE 0604851F: Intercontinental Ballistic Missile - EMD | PROJECT 655037: Support Equipment | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2012 | FY 2013 | FY 2014 |
| Continued design, development, and testing of CSM software. Completed and deployed Segment #1. Conducted a successful Segment #2 CDR. Continued Nuclear Safety Cross Check Analysis (NSCCA) activities. Began design, development and testing of the DTU. FY 2013 Plans: Continue design, development, and testing of CSM software. Conduct Segment #2 Test Readiness Review (TRR). Continue NSCCA activities. Continue design, development and testing of the DTU. FY 2014 Plans: Continue design, development, and testing of CSM software. Conduct Segment #2 configuration audits. Continue NSCCA activities. Continue design, development and testing of CTU replacement. Receive deployment authorization for Segment #2. Conduct a successful Milestone C briefing. | | | | |
| Title: Payload Transporter Replacement (PTR) Description: Designs and develops the capabilities necessary to replace the current Payload Transporter (PT) tractor and trailer, mitigating emerging threat technologies and methods. The PT emplaces, extracts, and transports the Minuteman III Reentry System (RS), Propulsion System Rocket Engine (PSRE), and Missile Guidance Set (MGS). The new PT design increases safety and security during transport activities and improves maintenance operations. This effort was previously known as the Payload Transporter Tractor and Trailer (PT III). The name was changed to differentiate it from the currently fielded PT III trailer. FY 2012 Accomplishments: Conducted a successful Milestone B briefing and awarded the Engineering & Manufacturing Development (EMD) contract. Began design and development activities. FY 2013 Plans: Continue design, development, fabrication and testing of PTR. Conduct a successful System Functional Review (SFR) and Preliminary Design Review (PDR). FY 2014 Plans: Continue design, development, fabrication and testing of PTR. Conduct a successful Critical Design Review (CDR). | | 2.754 | 15.984 | 20.866 |
| Title: Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) Message Generator Description: Designs and develops the replacement for the Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) Message Generator due to obsolescence and unsupportability for repair. The Message Generator is required to test and maintain the HAC/RMPE capability to receive, process and handle command and emergency action messages for | | 2.100 | 2.522 | 0.935 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2012 | FY 2013 | FY 2014 |
| Minuteman III command and control. This program will replace the test support equipment with a modern, sustainable common platform and standard interfaces. FY 2012 Accomplishments: Designed, developed, fabricated, and tested HAC/RMPE Message Generator. Conducted a successful PDR. FY 2013 Plans: Conduct a successful CDR. Complete developmental testing and configuration audits. FY 2014 Plans: Complete design, development, fabrication and testing of HAC/RMPE Message Generator. | | | | |
| Title: Single Integrated Operational Plan (SIOP) Targeting Applications Computer System (STACS) Description: Design and develop a replacement for the STACS hardware, software and tape cartridge media which are becoming obsolete and unsupportable. STACS will provide new targeting computer equipment and software, and CD media for data import and export. STACS enables USSTRATCOM required Operations Plan (OPLAN) changes and updates to ICBM missile wings for execution. FY 2012 Accomplishments: Awarded EMD contract. Began design and development activities. FY 2013 Plans: Continue design and development activities. Conduct a successful Systems Requirements Review and technical interchange meetings. FY 2014 Plans: Continue design and development activities. Conduct a successful PDR and CDR. | | 0.622 | 4.670 | 4.678 |
| Title: Transporter Erector Replacement Program (TERP) Description: Design and develop the capabilities necessary to replace the current transporter erector (TE). The TE is used to emplace, extract and transport Minuteman III boosters to and from the launch facilities. TERP will update existing drawings, specifications and technical orders to eliminate parts obsolescence and address intended usage through 2030 and will qualify the new system prior to production. FY 2013 Plans: Begin design, development, fabrication and testing of replacement TE. Award the EMD contract and conduct a successful PDR. FY 2014 Plans: | | 0.000 | 13.691 | 26.290 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2012 | FY 2013 | FY 2014 |
| Continue design, development, fabrication and testing of replacement TE. Conduct a successful CDR and First Article Build. Initiate system qualification testing. | | | | |
| Title: Instrumentation Wafer Replacement Program (IWRP) Description: Design and develop replacement for the Mod 7 Instrumentation Wafer. The instrumentation wafer transmits missile performance telemetry and position data and receives command destruct messages during missile flight tests and evaluations. The IWRP will directly support FDE and developmental flight tests from Vandenberg AFB and is necessary in order to conduct test flights. The IWRP will maximize the use of off-the-shelf components to meet mission requirements. This is an FY14 New Start. FY 2014 Plans: Begin design, development, fabrication and test of the replacement wafer, determine specific Commercial Off-the-Shelf components and begin review of all Range Safety requirements. | | 0.000 | 0.000 | 1.123 |
| Title: Signal Conditioner Monitor Group (SCMG) Replacement Description: Design and develop replacements for the Signal Conditioner Monitor (SCM), Missile Discrete Monitor (MDM) and associated cabling required to capture RS performance data during FDE and developmental flight tests. The Signal Conditioner Monitor Group (SCMG) provides telemetry data on the RS and monitors RS discrete signals for post flight analysis. This is an FY14 New Start. FY 2014 Plans: Begin design, development, fabrication and test of SCMG replacement components. | | 0.000 | 0.000 | 1.216 |
| Title: Program Management Administration Description: Direct unique program cost required for program management and oversight. FY 2012 Accomplishments: Program support, travel, printing, supplies, Advisory and Assistance Service. FY 2013 Plans: Program support, travel, printing, supplies, Advisory and Assistance Service. FY 2014 Plans: Program support, travel, printing, supplies, Advisory and Assistance Service. | | 1.516 | 6.280 | 6.290 |
| Accomplishments/Planned Programs Subtotals | | 62.068 | 95.393 | 97.544 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | | | | | | | | | DATE: April 2013 | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | | | PROJECT 655037: <i>Support Equipment</i> | | | |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
| Line Item | FY 2012 | FY 2013 | FY 2014 Base | FY 2014 OCO | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
| • MPAF: BA05: Line Item # 00099L: <i>Missile Replacement Equipment - Ballistic</i> | 65.874 | 56.657 | 39.104 | | 39.104 | 116.258 | 87.766 | 59.253 | 60.320 | Continuing | Continuing |
| Remarks | | | | | | | | | | | |
| D. Acquisition Strategy | | | | | | | | | | | |
| Support and test equipment replacement efforts are reviewed to determine the best method for execution including vendor qualification and procurement with no development required, develop and/or modification with organic depot capabilities or development with industry. Industry development efforts started before FY13 are predominately executed through the ICBM Prime Integration Contract (IPIC) using Cost Plus Incentive Fee (CPIF) contract addendums. Industry development efforts starting in FY13 will be executed through contracts available under the Future ICBM Acquisition and Sustainment Contstruct (FISAC) or competitive source selections. NSCCA and IV&V efforts are contracted separately under a Cost Plus Award Fee (CPAF) Contract. | | | | | | | | | | | |
| 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 2014 Air Force | | | | | | | | | | | | DATE: April 2013 | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | | | | | | PROJECT 655037: <i>Support Equipment</i> | | | |
| Product Development (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| ICBM Prime Integration Contract | SS/CPHF | Northrop Grumman Mission Systems:Clearfield, UT | - | 58.110 | Oct 2011 | 74.519 | Oct 2012 | 55.227 | Nov 2013 | - | | 55.227 | Continuing | Continuing | TBD |
| TERP EMD | C/CPAF | TBD:, | - | 0.000 | | 12.062 | Jun 2013 | 31.139 | Dec 2013 | - | | 31.139 | Continuing | Continuing | |
| Subtotal | | | 0.000 | 58.110 | | 86.581 | | 86.366 | | 0.000 | | 86.366 | | | |
| Support (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Nuclear Surety Cross-Check Analysis | SS/CPAF | Northrop Grumman IT:Mclean, VA | - | 1.676 | Oct 2011 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| Cost Estimation | C/CPFF | Tecolote:Salt Lake City, UT | - | 0.000 | | 0.300 | Dec 2012 | 0.500 | Dec 2013 | - | | 0.500 | Continuing | Continuing | |
| Advisory and Assistance Support | Various | Various:, | - | 0.000 | | 0.300 | Nov 2012 | 1.750 | Dec 2013 | - | | 1.750 | Continuing | Continuing | |
| Subtotal | | | 0.000 | 1.676 | | 0.600 | | 2.250 | | 0.000 | | 2.250 | | | |
| Test and Evaluation (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Independent Validation and Verification | SS/CPAF | Northrop Grumman IT:Mclean, VA | - | 0.766 | Oct 2011 | 1.932 | Nov 2012 | 2.638 | Dec 2013 | - | | 2.638 | Continuing | Continuing | TBD |
| Subtotal | | | 0.000 | 0.766 | | 1.932 | | 2.638 | | 0.000 | | 2.638 | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force | | | | | | | | | | | | DATE: April 2013 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | | | | PROJECT 655037: <i>Support Equipment</i> | | | | |

| Management Services (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | | |
|---|-----------------------------------|---|------------------------|----------------|-------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|--|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | Cost To Complete | Total Cost | Target Value of Contract |
| PMA - Contractor Support | Various | Various:, | - | 0.525 | Oct 2011 | 3.879 | Nov 2012 | 3.979 | Nov 2013 | - | | 3.979 | | Continuing | Continuing | TBD |
| PMA - Government Costs | Various | ICBM Program Office:Hill AFB, UT | - | 0.991 | Oct 2011 | 2.401 | Oct 2012 | 2.311 | Nov 2013 | - | | 2.311 | | Continuing | Continuing | TBD |
| Subtotal | | | 0.000 | 1.516 | | 6.280 | | 6.290 | | 0.000 | | 6.290 | | | | |

| | All Prior Years | FY 2012 | FY 2013 | FY 2014 Base | FY 2014 OCO | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|----------------|----------------|---------------------|--------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | 0.000 | 62.068 | 95.393 | 97.544 | 0.000 | 97.544 | | | |

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: System Development & Demonstration (SDD)

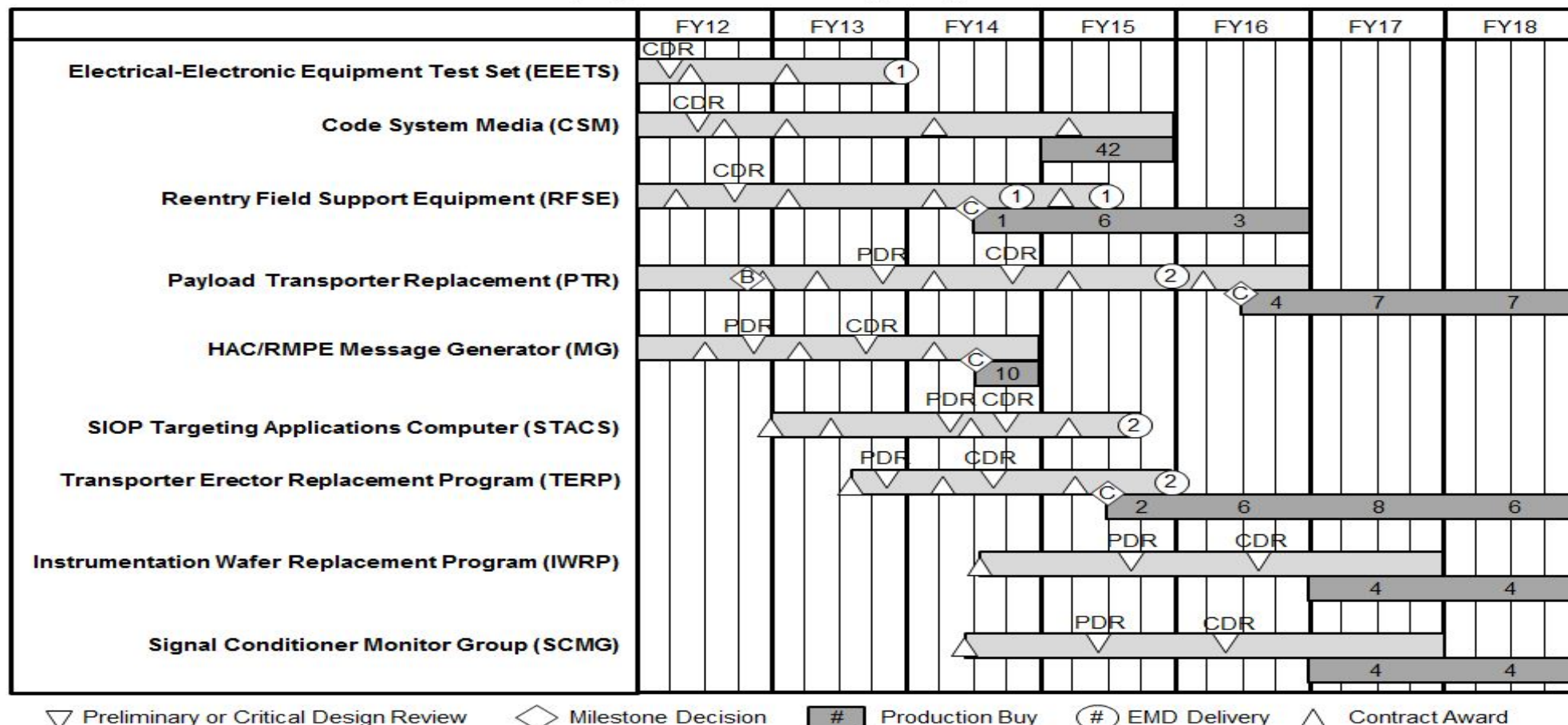
R-1 ITEM NOMENCLATURE

PE 0604851F: Intercontinental Ballistic
Missile - EMD

PROJECT

655037: Support Equipment

Support Equipment



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| Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force | | | DATE: April 2013 |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | PROJECT 655037: <i>Support Equipment</i> | |

Schedule Details

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| EEETS Critical Design Review (CDR) | 1 | 2012 | 1 | 2012 |
| EEETS EMD Delivery | 4 | 2013 | 4 | 2013 |
| CSM CDR | 2 | 2012 | 2 | 2012 |
| RFSE CDR | 3 | 2012 | 3 | 2012 |
| RFSE Milestone C | 2 | 2014 | 2 | 2014 |
| RFSE EMD Unit 1 Delivery | 4 | 2014 | 4 | 2014 |
| RFSE EMD Unit 2 Delivery | 2 | 2015 | 2 | 2015 |
| PTR Milestone B | 4 | 2012 | 4 | 2012 |
| PTR Engineering & Manufacturing Development (EMD) Contract Award | 4 | 2012 | 4 | 2012 |
| PTR Preliminary Design Review (PDR) | 4 | 2013 | 4 | 2013 |
| PTR CDR | 4 | 2014 | 4 | 2014 |
| PTR EMD Deliveries | 4 | 2015 | 4 | 2015 |
| PTR Milestone C | 2 | 2016 | 2 | 2016 |
| HAC/RMPE MG PDR | 4 | 2012 | 4 | 2012 |
| HAC/RMPE MG CDR | 3 | 2013 | 3 | 2013 |
| HAC/RMPE MG Milestone C | 2 | 2014 | 2 | 2014 |
| STACS EMD Contract Award | 4 | 2012 | 4 | 2012 |
| STACS PDR | 2 | 2014 | 2 | 2014 |
| STACS CDR | 3 | 2014 | 3 | 2014 |
| STACS EMD Deliveries | 3 | 2015 | 3 | 2015 |
| TERP EMD Contract Award | 3 | 2013 | 3 | 2013 |
| TERP PDR | 4 | 2013 | 4 | 2013 |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force | | | DATE: April 2013 | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | | PROJECT 655037: <i>Support Equipment</i> |
| | | Start | | End |
| Events | | Quarter | Year | Quarter |
| TERP CDR | | 3 | 2014 | 3 |
| TERP Milestone C | | 2 | 2015 | 2 |
| TERP EMD Deliveries | | 4 | 2015 | 4 |
| IWRP EMD Contract Award | | 3 | 2014 | 3 |
| IWRP PDR | | 3 | 2015 | 3 |
| IWRP CDR | | 3 | 2016 | 3 |
| SCMG EMD Contract Award | | 2 | 2014 | 2 |
| SCMG PDR | | 2 | 2015 | 2 |
| SCMG CDR | | 2 | 2016 | 2 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | | | | | | | | DATE: April 2013 | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD) | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: Intercontinental Ballistic Missile - EMD | | | | PROJECT 655081: ICBM Crypto | | | |
| COST (\$ in Millions) | All Prior Years | FY 2012 | FY 2013 [#] | FY 2014 Base | FY 2014 OCO ^{##} | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
| 655081: ICBM Crypto | - | 27.943 | 32.044 | 47.898 | - | 47.898 | 22.400 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| Quantity of RDT&E Articles | | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |
| # FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012 | | | | | | | | | | | | |
| ## The FY 2014 OCO Request will be submitted at a later date | | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | | |
| Intercontinental Ballistic Missile (ICBM) Cryptography Upgrade Increment II (ICU II) executes USSTRATCOM, Air Force Global Strike Command (AFGSC), and Nuclear Weapon Safety Center (NWSC) requirements by implementing the KS-60 capabilities of remote key/code change and irreversible transformation as mandated in the approved Capabilities Development Document (CDD) dated 4 January 2005 and addresses Nuclear Weapon System Safety Group Operational Safety Review (NWSSG OSR) requirements 98-2, 00-1 and 02-2. It also incorporates continuous signal lockout capabilities to prevent the widespread loss of status monitoring. These features will greatly increase security during code changes by reducing the frequency of open sites 75 days annually and will reduce associated resource costs for 450 launch facilities (LF) and 45 launch control centers (LCC). | | | | | | | | | | | | |
| The associated production funding for the program is in M30MLG, Minuteman III Modifications, starting in FY15. | | | | | | | | | | | | |
| BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production. | | | | | | | | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | FY 2012 | FY 2013 | FY 2014 | |
| Title: ICBM Crypto Upgrade Increment II (ICU II) | | | | | | | | | 27.940 | 30.554 | 46.408 | |
| Description: ICBM Cryptography Upgrade II completes design and development, implements KS-60 remote key/code change, irreversible transformation capabilities, and prevents continuous signal lockout. | | | | | | | | | | | | |
| FY 2012 Accomplishments: | | | | | | | | | | | | |
| Conducted successful Milestone B briefing. Developed design of A4 drawer hardware components, identified and tested parts to ensure they meet hardness and weapon system specifications and obtained National Security Administration fail safe design approval. Completed A4 drawer prototype. Began Operational Ground Program (OGP), Console Operations Program (COP), Wing Code Processing System (WCPS) Minuteman Applications Program (WMAP) and Strategic Air Command Code Processing System (SCPS) Application Program (SAP) software update efforts. Completed Software Requirements Review. Started trainer | | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | | | | | | | | DATE: April 2013 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD) | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: Intercontinental Ballistic Missile - EMD | | | | PROJECT 655081: ICBM Crypto | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | FY 2012 | FY 2013 | FY 2014 |
| modification effort. Awarded Nuclear Safety Cross-Check Analysis (NSCCA) Performance Analysis & Technical Evaluation (PATE) contract. FY 2013 Plans: Continue A4 Drawer hardware development. Conduct a successful A4 Drawer Preliminary Design Review (PDR) and Critical Design Review (CDR). Continue development of OGP, COP, WMAP and SAP software development. Conduct software PDRs and CDRs. Continue development of trainer modifications. Continue NSCCA/PATE activities for nuclear surety and safety. FY 2014 Plans: Complete A4 Drawer development and conduct Test Readiness Review (TRR), qualification testing and weapon system testing. Complete OGP, COP, WMAP, and SAP software development and conduct Test Readiness Review (TRR), qualification testing and weapon system testing. Develop technical data and prepare for verification. Conduct hardware and software Developmental Test and Evaluation. Complete development of trainer modifications and conduct testing. Complete NSCCA/PATE activities for nuclear surety and safety. Prepare for Milestone C production decision. | | | | | | | | | | | |
| Title: Program Management Administration Description: Direct unique program cost required for program management and oversight. FY 2012 Accomplishments: Program support, travel, printing, supplies, Advisory and Assistance Service. FY 2013 Plans: Program support, travel, printing, supplies, Advisory and Assistance Service. FY 2014 Plans: Program support, travel, printing, supplies, Advisory and Assistance Service. | | | | | | | | | 0.003 | 1.490 | 1.490 |
| Accomplishments/Planned Programs Subtotals | | | | | | | | | 27.943 | 32.044 | 47.898 |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
| Line Item | FY 2012 | FY 2013 | FY 2014 Base | FY 2014 OCO | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
| • MPAF: BA 05: Line Item # M30MLG: Minuteman III Modifications | 0.000 | 0.000 | 0.000 | | 0.000 | 11.760 | 29.700 | 30.234 | 30.778 | 0.000 | 102.472 |
| Remarks | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | DATE: April 2013 |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | PROJECT 655081: <i>ICBM Crypto</i> |
| <p><u>D. Acquisition Strategy</u></p> <p>The ICBM Cryptography Upgrade (ICU) II Program utilizes the ICBM Prime Integration Contract (IPIC) services of Northrop Grumman (NG), which were competitively awarded, for the design and development of the ICU II capability. The contract type of the ICU II Engineering and Manufacturing Development (EMD) Contract is Cost Plus Incentive Fee. Also, ICU II EMD uses a separate contract for Nuclear Surety Cross Check Analysis/Performance Analysis and Technical Evaluation (NSCCA/PATE) Independent Validation & Verification (IV&V). The contract type is Cost Plus Fixed Fee, awarded to NG Technical Services. This contract is driven by critical nuclear surety requirements to perform an independent assessment of all modifications to nuclear-certified software.</p> <p><u>E. Performance Metrics</u></p> <p>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.</p> | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force | | | | | | | | | | | | DATE: April 2013 | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD) | | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: Intercontinental Ballistic Missile - EMD | | | | PROJECT 655081: ICBM Crypto | | | | | |
| Product Development (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| ICBM Prime Integration Contract | SS/CPIF | Northrop Grumman:Clearfield, UT | - | 26.340 | Mar 2012 | 25.061 | Mar 2013 | 42.535 | Mar 2014 | - | | 42.535 | Continuing | Continuing | TBD |
| Subtotal | | | 0.000 | 26.340 | | 25.061 | | 42.535 | | 0.000 | | 42.535 | | | |
| Support (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Engineering Suport | MIPR | NSA:, | - | 0.000 | | 0.850 | Jun 2013 | 1.000 | Jun 2014 | - | | 1.000 | Continuing | Continuing | |
| Cost Estimation | C/CPFF | Tecolote:Salt Lake City, UT | - | 0.000 | | 0.200 | Dec 2012 | 0.200 | Dec 2013 | - | | 0.200 | Continuing | Continuing | |
| Comprehensive Cost and Requirements System Support | C/CPFF | IDS:El Segundo, CA | - | 0.000 | | 0.143 | Jan 2013 | 0.143 | Jan 2014 | - | | 0.143 | Continuing | Continuing | |
| Subtotal | | | 0.000 | 0.000 | | 1.193 | | 1.343 | | 0.000 | | 1.343 | | | |
| Test and Evaluation (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Independant Validation and Verification | Various | ICBM Program Officer:Hill AFB, UT | - | 1.600 | Oct 2011 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| NSCCA/PATE | C/CPFF | Northrop Grumman:Clearfield, UT | - | 0.000 | | 4.000 | Mar 2013 | 2.380 | Mar 2014 | - | | 2.380 | Continuing | Continuing | |
| Hardness Test | MIPR | TBD:, | - | 0.000 | | 0.300 | Jul 2013 | 0.150 | Oct 2013 | - | | 0.150 | Continuing | Continuing | |
| Subtotal | | | 0.000 | 1.600 | | 4.300 | | 2.530 | | 0.000 | | 2.530 | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force | | | | | | | | | | | | DATE: April 2013 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | | | | PROJECT 655081: <i>ICBM Crypto</i> | | | | |

| Management Services (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | | |
|--------------------------------------|------------------------|----------------------------------|-----------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|--|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| PMA - Government Costs | Various | ICBM Program Office:Hill AFB, UT | - | 0.003 | Oct 2012 | 1.490 | Nov 2012 | 1.490 | Nov 2013 | - | | 1.490 | Continuing | Continuing | TBD | |
| Subtotal | | | 0.000 | 0.003 | | 1.490 | | 1.490 | | 0.000 | | 1.490 | | | | |

| | All Prior Years | FY 2012 | FY 2013 | FY 2014 Base | FY 2014 OCO | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-----------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | 0.000 | 27.943 | 32.044 | 47.898 | 0.000 | 47.898 | | | |

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *System Development & Demonstration (SDD)*

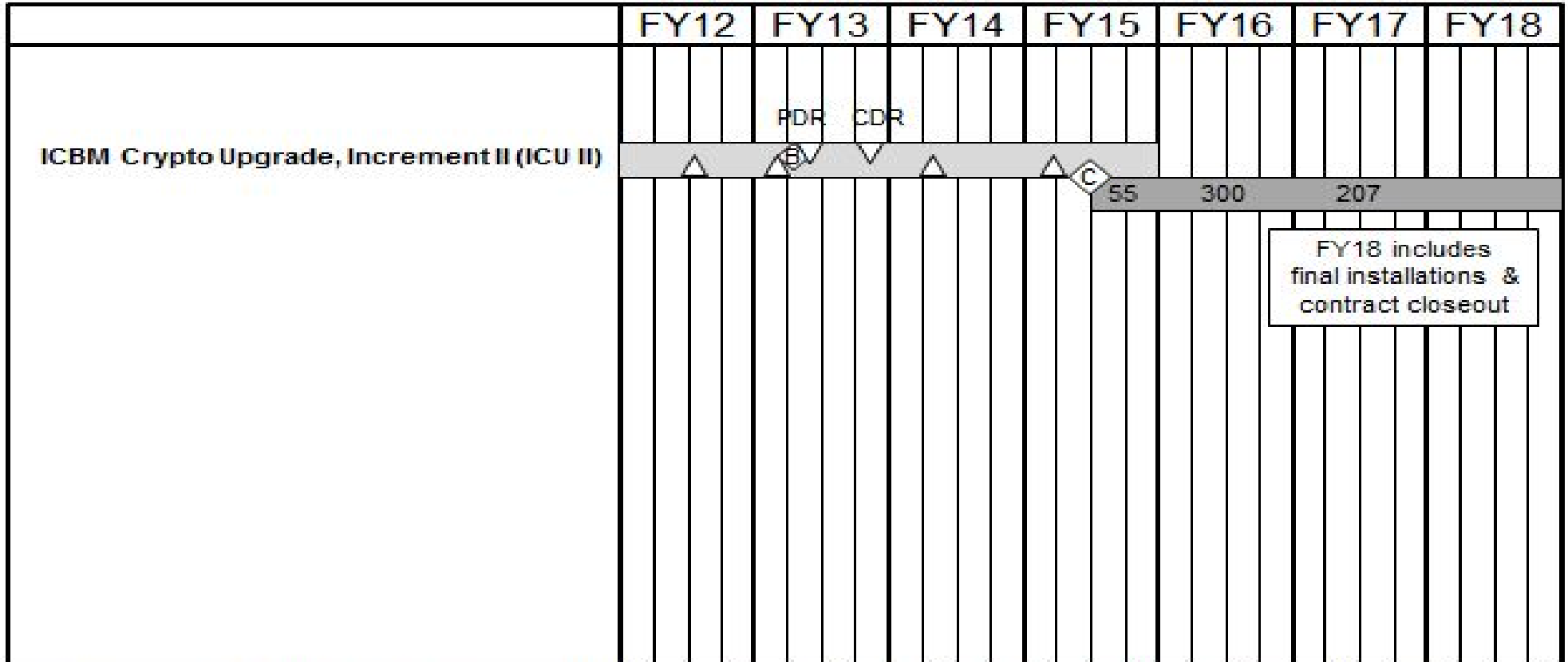
R-1 ITEM NOMENCLATURE

PE 0604851F: *Intercontinental Ballistic Missile - EMD*

PROJECT

655081: *ICBM Crypto*

ICU II



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| Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force | | | DATE: April 2013 |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | PROJECT 655081: <i>ICBM Crypto</i> | |

Schedule Details

| Events | Start | | End | |
|---------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Milestone B | 2 | 2013 | 2 | 2013 |
| Preliminary Design Review (PDR) | 2 | 2013 | 2 | 2013 |
| Critical Design Review (CDR) | 4 | 2013 | 4 | 2013 |
| Milestone C | 3 | 2015 | 3 | 2015 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | | | | | | | | | DATE: April 2013 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD) | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: Intercontinental Ballistic Missile - EMD | | | | PROJECT 657006: ICBM EMD: Fuze Support | | | |
| COST (\$ in Millions) | All Prior Years | FY 2012 | FY 2013 [#] | FY 2014 Base | FY 2014 OCO ^{##} | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
| 657006: ICBM EMD: Fuze Support | - | 39.717 | 0.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| Quantity of RDT&E Articles | | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |
| # FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012 | | | | | | | | | | | | |
| ## The FY 2014 OCO Request will be submitted at a later date | | | | | | | | | | | | |
| Note | | | | | | | | | | | | |
| In FY 2012, 657006, ICBM EMD: Fuze Support, efforts were transferred from PE 0604222F Nuclear Weapons Support, 654236, Engineering Analysis, in order to consolidate ICBM fuze-related activities as they progress towards deployable products. | | | | | | | | | | | | |
| In FY 2013, 657006, ICBM EMD: Fuze Support, efforts were transferred to PE 0604933F, ICBM Fuze Modernization, 655082, ICBM Fuze Support, in order to distinguish the effort as a pre-ACAT I program. | | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | | |
| ICBM Fuze Modernization will provide a replacement Mk21 fuze associated with the W87 warhead and a Mk12A fuze associated with the W78/88-1 Life Extension Program (LEP) warhead. The Mk21 fuze is three times past its design life and ongoing Mk21 refurbishment does not meet Nuclear Weapon Stockpile Plan requirements. The Mk12A fuze must be modified to support the W78/88-1 LEP warhead incorporating enhanced nuclear surety capabilities required by National Security Presidential Directive (NSPD) 28. | | | | | | | | | | | | |
| The fuze modernization schedule was rebaselined to ensure Mk12A fuze development remains sychronized with the W78/88-1 LEP warhead first production unit delivery shift from FY21 to FY23. | | | | | | | | | | | | |
| The US Air Force will develop Mk21 and Mk12A fuzes in cooperation with the National Nuclear Security Administration (NNSA), US Navy and United Kingdom. ICBM Fuze Modernization will leverage technologies, parts, components and development/production capabilities resulting from extensive fuze work performed by the US Navy and NNSA. Mk21 and Mk12A fuzes will be similar to the US Navy D5 fuze, but W78/88-1 LEP and W87 warhead requirements dictate some unique differences. The ICBM Fuze Modernization program will also develop associated Minuteman III weapon system modifications, support equipment, data, flight test hardware, and training. It will also conduct required system testing (including ground and flight tests) and fielding efforts. | | | | | | | | | | | | |
| As a cooperative USAF, USN and NNSA weapon sustainment acquisition, the USAF will implement joint DoD-DOE Nuclear Weapons Life Cycle Activities. The ICBM Fuze Modernization will be tailored to use joint DoD-DOE phase 6.X processes for routine nuclear stockpile activities to align with USN and NNSA operations. | | | | | | | | | | | | |
| The production phase MPAF funding is budgeted under M30MLG, Minuteman III Modifications, starting in FY18. | | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | DATE: April 2013 | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD) | R-1 ITEM NOMENCLATURE PE 0604851F: Intercontinental Ballistic Missile - EMD | PROJECT 657006: ICBM EMD: Fuze Support | |
| BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production. | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2012 | FY 2013 | FY 2014 |
| Title: Developmental Planning Description: Developmental planning, requirements definition, contract and acquisition strategy. FY 2012 Accomplishments: Completed concept assessment phase. Conducted Feasibility Study and Option Down-Select. Prepared and released request for proposals. FY 2013 Plans: Reflected in PE 0604933F ICBM Fuze Modernization, Project Number 655082 ICBM Fuze Support. | 3.868 | 0.000 | 0.000 |
| Title: System Engineering Description: Coordinate development efforts of W78 Life Extension Program (LEP) and Mk12A arming and fuzing. Synchronize DoD arming and fuzing and DoE warhead requirements. Study and assess weapon system cost/schedule/performance impacts. FY 2012 Accomplishments: Evaluated Air Force/Navy/United Kingdom performance requirements, physical characteristics, logistical and operation concepts, and physical environments. Developed common Military Characteristics (MCs) and Stockpile-to-Target Sequence (STS) requirements. Developed and validated modeling and simulation. Developed engineering design models. Examined nuclear surety themes as directed by National Security Presidential Directive (NSPD)-28. FY 2013 Plans: Reflected in PE 0604933F ICBM Fuze Modernization, Project Number 655082 ICBM Fuze Support. | 7.043 | 0.000 | 0.000 |
| Title: Hardware Development Description: Preliminary design of common technology, components, and parts. FY 2012 Accomplishments: Developed common parts, components and technology for application to Mk21 and Mk12A/W78 LEP arming and fuzing. Examined nuclear surety themes as directed by NSPD-28. FY 2013 Plans: | 19.000 | 0.000 | 0.000 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | | | | | | | DATE: April 2013 | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | | | | PROJECT 657006: <i>ICBM EMD: Fuze Support</i> | | | |

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|--|----------------|----------------|----------------|
| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2012 | FY 2013 | FY 2014 |
| Reflected in PE 0604933F ICBM Fuze Modernization, Project Number 655082 ICBM Fuze Support. | | | |
| Title: Warhead Engineering/Oversight Description: Engineering/oversight of Air Force Fuze Modernization with NNSA warhead activities. FY 2012 Accomplishments: Provided engineering analysis, direction and evaluation. Developed and performed finite element modeling of reentry vehicles. Conducted environmental ground testing. Planned and supported extended range flight testing. FY 2013 Plans: Reflected in PE 0604933F ICBM Fuze Modernization, Project Number 655082 ICBM Fuze Support. | 5.160 | 0.000 | 0.000 |
| Title: Program Management Administration Description: Direct unique program cost required for program management and oversight. FY 2012 Accomplishments: Program support, travel, printing, supplies, Advisory and Assistance Service. FY 2013 Plans: Reflected in PE 0604933F ICBM Fuze Modernization, Project Number 655082 ICBM Fuze Support. | 4.646 | 0.000 | 0.000 |
| Accomplishments/Planned Programs Subtotals | 39.717 | 0.000 | 0.000 |

| | | | | | | | | | | | |
|--|----------------|----------------|-------------------------|------------------------|--------------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
| Line Item | FY 2012 | FY 2013 | FY 2014 Base | FY 2014 OCO | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
| • MPAF: BA05: Line Item # M30MLG: <i>Minuteman III Modifications</i> | 0.000 | 0.000 | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 | 50.000 | 1,892.200 | 1,942.200 |
| • RDTE: BA05: PE 0604933F: <i>ICBM Fuze Modernization</i> | 0.000 | 73.512 | 129.411 | | 129.411 | 214.836 | 275.952 | 353.256 | 396.568 | 1,032.000 | 2,475.535 |
| Remarks | | | | | | | | | | | |
| D. Acquisition Strategy | | | | | | | | | | | |
| Mk21 and Mk12A fuzes will be modernized in a coolaborative effort with the US Navy Mk5 fuze reducing total program cost and development time by leveraging potential compatibility and commonality of ICBM and Submarine Launched Ballistic Missile warheads and fuze components. The US Navy Mk5 fuze will be developed | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | DATE: April 2013 |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | PROJECT 657006: <i>ICBM EMD: Fuze Support</i> |
| <p>first, followed by Mk21 and Mk12A. The US Navy Mk5 fuze entered Phase 6.3 Development Engineering in Aug 2012. USAF Mk21 fuze will enter Phase 6.3 in Mar 2013. Both Services participate in all design and development efforts to ensure use of adaptable comonents, subassemblies and technology. Both Services will use NNSA/SAndia National Laboratories to perform fuze design and development. The USAF will separately compete and contract for MM III unique missile modification and fuze integration efforts.</p> <p><u>E. Performance Metrics</u></p> <p>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.</p> | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force | | | | | | | | | | | | DATE: April 2013 | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | | | | | | PROJECT 657006: <i>ICBM EMD: Fuze Support</i> | | | |
| Product Development (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Preliminary Design Development | MIPR | Sandia National Labs:Albuquerque, NM | - | 19.000 | Oct 2011 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| Subtotal | | | 0.000 | 19.000 | | 0.000 | | 0.000 | | 0.000 | | 0.000 | | | |
| Support (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Minuteman Systems Engineering | C/CPFF | Northrop Grumman:Clearfield, UT | - | 7.043 | Oct 2011 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| Acquisition and Engineering Support | C/CPFF | Booze Allen Hamilton:Clearfield, UT | - | 2.800 | Oct 2011 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| Warhead Engineering Support | MIPR | NNSA:Albuquerque, NM | - | 1.500 | Nov 2011 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| Extended Range Support | MIPR | Navy:Alexandria, VA | - | 1.500 | Feb 2012 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| LPO Engineering Support | C/CPFF | Booze Allen Hamilton:Albuquerque, NM | - | 1.080 | Jan 2012 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| LPO Program Management Support | C/CPFF | ITT:Albuquerque, NM | - | 1.080 | Oct 2011 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| Subtotal | | | 0.000 | 15.003 | | 0.000 | | 0.000 | | 0.000 | | 0.000 | | | |
| Test and Evaluation (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test Planning | C/CPFF | Northrop Grumman:Clearfield, UT | - | 1.000 | Nov 2011 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |

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|---|-----------------------------------|---|------------------------|-------------|-------------------|--|-------------------|--------------|-------------------|-------------|-------------------|---|-------------------------|-------------------|---------------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force | | | | | | | | | | | | DATE: April 2013 | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | | | | | | PROJECT 657006: <i>ICBM EMD: Fuze Support</i> | | | |
| Test and Evaluation (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Ground Test | Various | Little Mountain Test Facility:TBD, UT | - | 0.500 | Dec 2011 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| Subtotal | | | 0.000 | 1.500 | | 0.000 | | 0.000 | | 0.000 | | 0.000 | | | |
| Management Services (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Cost Estimation | C/T&M | Tecolote Research, Inc:Santa Barbara, CA | - | 0.800 | Nov 2011 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| Program Management Administration & SPO Support | Various | Hill AFB:Clearfield, UT | - | 3.414 | Oct 2011 | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| Subtotal | | | 0.000 | 4.214 | | 0.000 | | 0.000 | | 0.000 | | 0.000 | | | |
| | | | All Prior Years | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 0.000 | 39.717 | | 0.000 | | 0.000 | | 0.000 | | 0.000 | | | |
| Remarks | | | | | | | | | | | | | | | |

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: System Development & Demonstration (SDD)

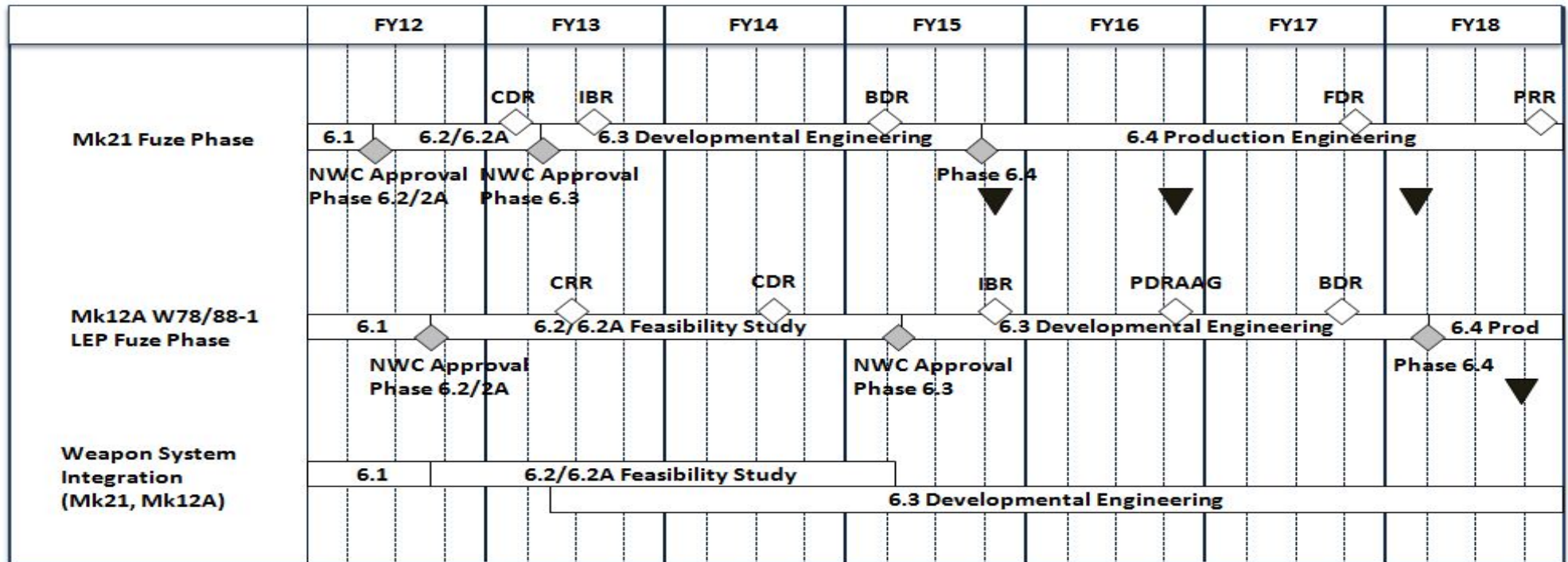
R-1 ITEM NOMENCLATURE

PE 0604851F: Intercontinental Ballistic
Missile - EMD

PROJECT

657006: ICBM EMD: Fuze Support

ICBM Fuze Modernization



| | | | | | | | | | |
|--|--------------|-----|------------------------------|-----|-------------------------|--------|------------------------|--------|--|
| | Review | | Milestone | BDR | Baseline Design Review | FDR | Final Design Review | PDRAAG | Preliminary Design Review & Acceptance Group |
| | Flight Tests | CRR | Customer Requirements Review | IBR | Initial Baseline Review | FDRAAG | FDR & Acceptance Group | PRR | Production Readiness Review |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force | | | DATE: April 2013 |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | PROJECT 657006: <i>ICBM EMD: Fuze Support</i> | |

Schedule Details

| Events | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Mk21 NWC Phase 6.2 Feasibility Study Approval | 2 | 2012 | 2 | 2012 |
| Mk21 Conceptual Design Review (CDR) | 1 | 2013 | 1 | 2013 |
| Mk21 NWC Phase 6.3 Development Engineering Approval | 2 | 2013 | 2 | 2013 |
| Mk21 Initial Baseline Review (IBR) | 3 | 2013 | 3 | 2013 |
| Mk21 Baseline Design Review (BDR) | 1 | 2015 | 1 | 2015 |
| Mk21 NWC Phase 6.4 Production Engineering | 3 | 2015 | 3 | 2015 |
| Mk21 Developmental Flight Tests | 4 | 2015 | 4 | 2018 |
| Mk21 Final Design Review (FDR) | 4 | 2017 | 4 | 2017 |
| Mk21 Production Readiness Review (PRR) | 4 | 2018 | 4 | 2018 |
| Mk12A NWC Phase 6.2 Feasibility Study Approval | 3 | 2012 | 3 | 2012 |
| Mk12A Customer Requirements Review (CRR) | 2 | 2013 | 2 | 2013 |
| Mk12A CDR | 3 | 2014 | 3 | 2014 |
| Mk12A NWC Phase 6.3 Development Engineering Approval | 2 | 2015 | 2 | 2015 |
| Mk12A IBR | 4 | 2015 | 4 | 2015 |
| Mk12A Preliminary Design Review & Acceptance Group (PDRAAG) | 4 | 2016 | 4 | 2016 |
| Mk12A BDR | 3 | 2017 | 3 | 2017 |
| Mk12A NWC Phase 6.4 Production Engineering | 1 | 2018 | 1 | 2018 |
| Mk12A Developmental Flight Tests | 3 | 2018 | 4 | 2018 |

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|--|-----------------|---------|----------------------|--------------|--|---------------|---------|---------|--|------------------|------------------|------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | | | | | | | | | DATE: April 2013 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD) | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: Intercontinental Ballistic Missile - EMD | | | | PROJECT 657010: Operational Equipment | | | |
| COST (\$ in Millions) | All Prior Years | FY 2012 | FY 2013 [#] | FY 2014 Base | FY 2014 OCO ^{##} | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
| 657010: Operational Equipment | - | 0.000 | 8.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| Quantity of RDT&E Articles | | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |
| # FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012 | | | | | | | | | | | | |
| ## The FY 2014 OCO Request will be submitted at a later date | | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | | |
| The Operational Equipment program designs, develops, and tests replacement of weapon system equipment. The effort includes the Solid Rocket Motor (SRM) Modernization program which will define operational requirements, investigate available technologies and prepare an acquisition strategy for SRM development. This effort, coupled with Propulsion Application Program,under PE 0603851F, ICBM Demonstration/Validation, will support development of requirements and implementation timeline for a follow-on SRM program. | | | | | | | | | | | | |
| BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production. | | | | | | | | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | | FY 2012 | FY 2013 | FY 2014 |
| Title: Solid Rocket Motor (SRM) Modernization | | | | | | | | | | 0.000 | 7.600 | 0.000 |
| Description: Effort will focus on reducing the total ownership cost of the Minuteman III weapon system by utilizing technologies developed in the Intercontinental Ballistic Missile Propulsion Applications Program to modernize the Minuteman III booster stack to address maintenance and obsolescence issues realized in the legacy system. | | | | | | | | | | | | |
| FY 2013 Plans: Accomplish studies to investigate the application of new technologies into the Minuteman III booster stack. Evaluate current Minuteman III solid rocket motor requirements and update as required based on legacy system issues and availability of mature technology that will reduce total ownership costs. | | | | | | | | | | | | |
| Title: Program Management Administration | | | | | | | | | | 0.000 | 0.400 | 0.000 |
| Description: Direct unique program cost required for program management and oversight. | | | | | | | | | | | | |
| FY 2013 Plans: Program support, travel, printing, supplies, Advisory and Assistance Service. | | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | | | | | 0.000 | 8.000 | 0.000 |

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|---|----------------|----------------|-------------------------------|------------------------------|--|----------------|----------------|--|----------------|-----------------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force | | | | | | | | | | DATE: April 2013 | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | | | PROJECT 657010: <i>Operational Equipment</i> | | | |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
| <u>Line Item</u> | <u>FY 2012</u> | <u>FY 2013</u> | <u>FY 2014</u> <u>Base</u> | <u>FY 2014</u> <u>OCO</u> | <u>FY 2014</u> <u>Total</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>FY 2017</u> | <u>FY 2018</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
| • RDTE: BA04: PE 0603851F: <i>ICBM - Dem/Val, PAP</i> | 43.327 | 44.959 | 40.853 | | 40.853 | 49.267 | 48.851 | 47.715 | 48.574 | Continuing | Continuing |
| Remarks | | | | | | | | | | | |
| D. Acquisition Strategy | | | | | | | | | | | |
| SRM Modernization will conduct pre-acquisition efforts in conjunction with ongoing ICBM Demonstration/Validation Propulsion Application Program efforts maturing SRM technologies. As these efforts are conducted and results from SRM aging and surveillance activities and Ground Based Strategic Deterrent (GBSD) Analysis of Alternatives become available, a follow-on SRM Modernization strategy will be established. | | | | | | | | | | | |
| FY13 SRM Modernization funding will be disbursed using two contract vehicles. The first contract will utilize Hill AFB's Design Engineering Support Program (DESP III). This will be a competitive source selection, Indefinite Delivery, Indefinite Quantity (ID/IQ), Cost Plus Fixed Fee (CPFF) contract. The second effort will use the existing Space and Missile Systems Center (SMC) GSA contract which is a Firm Fixed Price (FFP) contract. | | | | | | | | | | | |
| 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 2014 Air Force | | | | | | | | | | | | | DATE: April 2013 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | | | | | | | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | | | | PROJECT 657010: <i>Operational Equipment</i> | | | | |
| Product Development (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Technical Requirements Analysis | C/TBD | TBD:TBD, | - | 0.000 | | 7.600 | Apr 2013 | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| Subtotal | | | 0.000 | 0.000 | | 7.600 | | 0.000 | | 0.000 | | 0.000 | | | |
| Support (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | 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 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 |
| Test and Evaluation (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | 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 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 |
| Management Services (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Administration & SPO/ Other Support | Various | Various:, | - | 0.000 | | 0.400 | Apr 2013 | 0.000 | | - | | 0.000 | Continuing | Continuing | TBD |
| Subtotal | | | 0.000 | 0.000 | | 0.400 | | 0.000 | | 0.000 | | 0.000 | | | |
| | | | All Prior Years | FY 2012 | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract | |
| Project Cost Totals | | | 0.000 | 0.000 | 8.000 | | 0.000 | | 0.000 | | 0.000 | | | | |
| Remarks | | | | | | | | | | | | | | | |

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *System Development & Demonstration (SDD)*

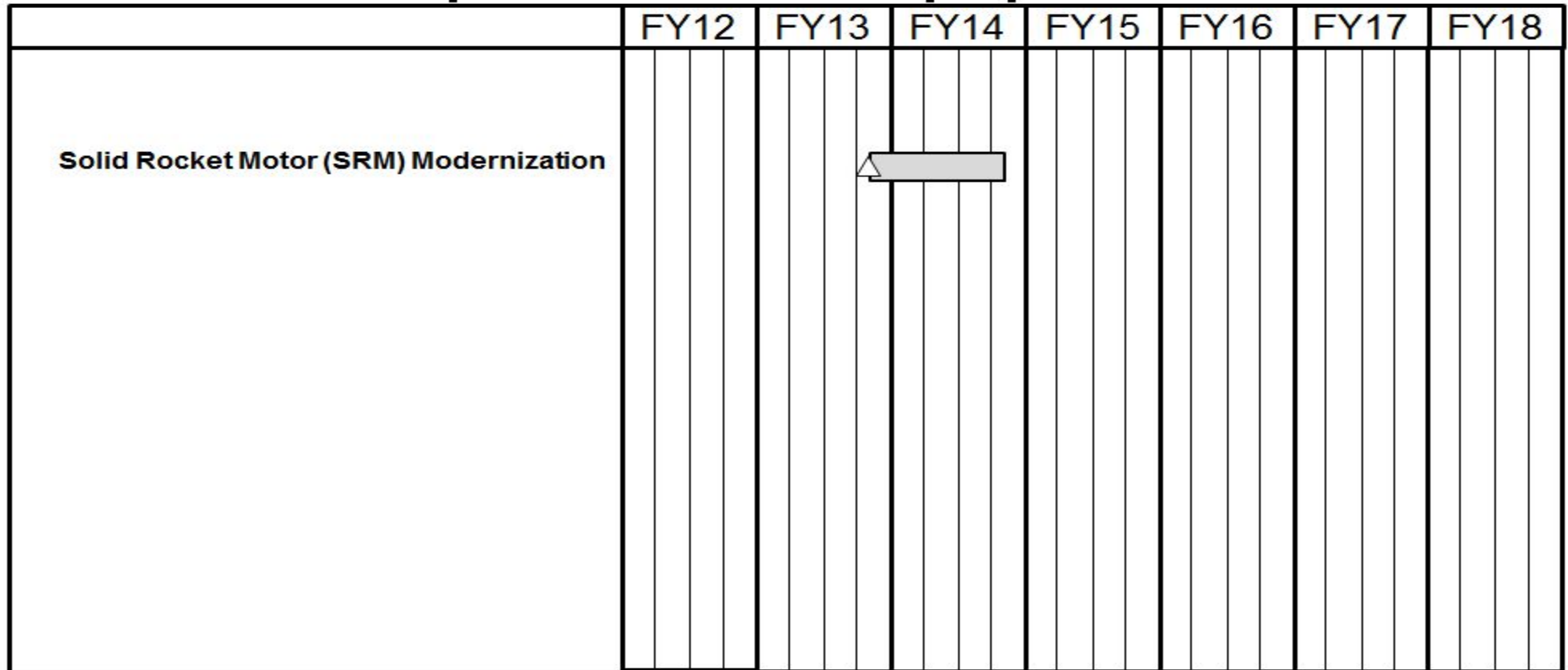
R-1 ITEM NOMENCLATURE

PE 0604851F: *Intercontinental Ballistic Missile - EMD*

PROJECT

657010: *Operational Equipment*

Operational Equipment



Preliminary or Critical Design Review



Milestone Decision



Production Buy



EMD Delivery



Contract Award

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| | | | |
|--|---|---|------------------|
| Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force | | | DATE: April 2013 |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>System Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604851F: <i>Intercontinental Ballistic Missile - EMD</i> | PROJECT 657010: <i>Operational Equipment</i> | |

Schedule Details

| Events | Start | | End | |
|----------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| SRM Modernization Contract Award | 4 | 2013 | 4 | 2014 |