Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force

**Date:** February 2018

Appropriation/Budget Activity

3600: Research, Development, Test & Evaluation, Air Force I BA 5: System

Development & Demonstration (SDD)

R-1 Program Element (Number/Name)
PE 0604329F / Small Diameter Bomb (SDB) - EMD

| COST (\$ in Millions)      | Prior<br>Years | FY 2017 | FY 2018 | FY 2019<br>Base | FY 2019<br>OCO | FY 2019<br>Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To<br>Complete | Total<br>Cost |
|----------------------------|----------------|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|---------------|
| Total Program Element      | 1,060.423      | 37.603  | 38.979  | 73.158          | 0.000          | 73.158           | 31.241  | 17.311  | 27.427  | 27.927  | 0.000               | 1,314.069     |
| 655191: SDB Increment II   | 1,060.423      | 37.603  | 38.979  | 73.158          | 0.000          | 73.158           | 31.241  | 17.311  | 27.427  | 27.927  | 0.000               | 1,314.069     |
| Quantity of RDT&E Articles | -              | -       | -       | -               | -              | -                | -       | -       | -       | -       |                     |               |

Program MDAP/MAIS Code: 439

### A. Mission Description and Budget Item Justification

Small Diameter Bomb Increment II (SDB II) is a joint interest United States Air Force (USAF) and department of Navy (DoN) ACAT IC program, with the Air Force (AF) as the lead service. SDB II provides the war-fighter the capability to attack mobile targets from stand-off, through weather. SDB II addresses the following war-fighter requirements: attack moving and stationary targets, adverse weather operations, multiple kills per pass, multiple ordnance carriage, precision munitions capability, reduced munitions footprint, increased weapons effectiveness, minimized potential for collateral damage, reduced susceptibility of munitions to countermeasures and provides a network enabled weapon capability via Link-16 and Ultra High Frequency (UHF) Weapon Data Link. The threshold aircraft for the AF is the F-15E, and the threshold aircraft for the (DoN) are the F-35B and F-35C. Objective aircraft include the F-22, F-16, F-35A, B-2, A-10, MQ-9, B-1, B-52, AC-130 and the F /A-18E /F. SDB II will be compatible with the BRU-61 (Bomb Rack Unit) miniature munitions carriage, Type II carriage systems, the CNU-660 /E carriage system, the Common Munitions BIT /Reprogramming Equipment (CMBRE), and the Joint Mission Planning System (JMPS). The SDB II program will develop and field a single weapon storage container (USAF) and a dual weapon container (DoN).

SDB II is an events-driven program. SDB II completed a 42-month competitive Risk Reduction phase in October 2009 and entered the Milestone B Engineering and Manufacturing Development (EMD) phase in August 2010. A Fixed Price Incentive Firm EMD contract was awarded on 09 August 2010. The SDB II Program received Milestone C approval to enter Low Rate Initial Production (LRIP) on 3 June 2015. A Fixed Price Incentive Firm Contract for Lot 1 production of 144 weapons was awarded on 12 June 2015, Lot 2 production contract option for 250 weapons was exercised on 8 September 2016, and Lot 3 production contract option for 312 weapons was exercised on 27 January 2017. An updated Milestone C Acquisition Program Baseline is complete. Developmental Testing (DT), including Guided Test Vehicles (GTV) and Live Fire (LF) test missions is nearing completion. A 28-shot Government Confidence Test program began in FY2016 as part of DT. There are no significant software-related issues with the program at this time. Required Assets Available (RAA) for the F-15E is to be completed in FY2019. The DoN Initial Operational Capability (IOC) on the F-35B and F-35C will occur once all F-35B and F-35C operational testing is completed. SDB II is a key component of the Air Force Global Strike Task Force CONOPs. Department of the Navy first Lot (Lot 4) will support F/A-18E/F Initial Operational Capability.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver SDB II weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.

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.

PE 0604329F: Small Diameter Bomb (SDB) - EMD Air Force

Page 1 of 11

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force

Date: February 2018

Appropriation/Budget Activity

3600: Research, Development, Test & Evaluation, Air Force I BA 5: System

Development & Demonstration (SDD)

R-1 Program Element (Number/Name)

PE 0604329F I Small Diameter Bomb (SDB) - EMD

| B. Program Change Summary (\$ in Millions)            | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total |
|---|---------|---------|--------------|-------------|---------------|
| Previous President's Budget                           | 54.838  | 38.979  | 73.709       | 0.000       | 73.709        |
| Current President's Budget                            | 37.603  | 38.979  | 73.158       | 0.000       | 73.158        |
| Total Adjustments                                     | -17.235 | 0.000   | -0.551       | 0.000       | -0.551        |
| <ul> <li>Congressional General Reductions</li> </ul>  | 0.000   | 0.000   |              |             |               |
| <ul> <li>Congressional Directed Reductions</li> </ul> | -15.851 | 0.000   |              |             |               |
| <ul> <li>Congressional Rescissions</li> </ul>         | 0.000   | 0.000   |              |             |               |
| <ul> <li>Congressional Adds</li> </ul>                | 0.000   | 0.000   |              |             |               |
| <ul> <li>Congressional Directed Transfers</li> </ul>  | 0.000   | 0.000   |              |             |               |
| <ul> <li>Reprogrammings</li> </ul>                    | 0.000   | 0.000   |              |             |               |
| SBIR/STTR Transfer                                    | -1.384  | 0.000   |              |             |               |
| Other Adjustments                                     | 0.000   | 0.000   | -0.551       | 0.000       | -0.551        |

# **Change Summary Explanation**

FY17 Congressional Mark totaling -\$15.7M (-\$7.9M for Forward Financing and a requested transfer of -\$7.8M to M-code).

| C. Accomplishments/Planned Programs (\$ in Millions)  | FY 2017 | FY 2018 | FY 2019 |
|---|---------|---------|---------|
| Title: SDB II Development   | 24.643  | 13.774  | 27.699  |
| <b>Description:</b> Development of SDB II to deliver the capability described in the SDB II Capability Development Document (CDD), in lieu of Capability Production Document (CPD) as specified in the government approved SDB II System Performance Specification (SPS) for production, deployment, and sustainment. Upgrades to SDB II hardware and software to meet emerging threats (i.e., M-Code, GPS, Cryptographic Modernization, advanced guidance, navigation and control). Development of the SDB II design to ensure exportability, cyber security, program protection, and address obsolescence issues and affordability opportunities.   |         |         |         |
| FY 2018 Plans: Begin Multi-Service Operational Test and Evaluation (MOT&E) on the F-15E platform. Continue Operational Flight Program (OFP) update and qualification efforts for the BRU-61. Continue Advanced Joint Effectiveness Model (AJEM) lethality modeling and testing. Continue collaboration with National Security Agency (NSA) on weapon data link key management software. Continue collaboration with Joint Interoperability Test Command (JITC) on interoperability testing. Continue integration of SDB II with Command and Control Infrastructure, including Air and Space Operations Command (AOC) and integration with Joint Terminal Attack Controller (JTAC) kits. Continue mission planning support during Operational Test (OT). Continue design, development and integration to upgrade SDB II hardware and software to meet emerging threats and to maintain compatibility with external systems |         |         |         |

PE 0604329F: Small Diameter Bomb (SDB) - EMD

Air Force Page 2 of 11

| Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force   |   | Date: F | ebruary 2018 | 3       |
|---|---|---------|--------------|---------|
| Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)  | R-1 Program Element (Number/Name) PE 0604329F / Small Diameter Bomb (SDB) - EMD   | ·       |              |         |
| C. Accomplishments/Planned Programs (\$ in Millions)  |   | FY 2017 | FY 2018      | FY 2019 |
| (i.e., M-Code, Cryptographic Modernization, advanced guidance, navigation a program protection, and address obsolescence issues and affordability oppor   |   |         |              |         |
| FY 2019 Plans: Continue MOT&E on the F-15E platform. Continue OFP update and qualificate lethality software. Continue collaboration with JITC on interoperability testing, and Control Infrastructure, including AOC and integration with JTAC kits. Continue design, development and integration to upgrade SDB II hardware as maintain compatibility with external systems (i.e., M-Code, Cryptographic Modand control, ensure exportability, cyber security, program protection, and add opportunities)modeling and testing. Continue collaboration with NSA on weap   | Continue integration of SDB II with Command attinue mission planning support during OT. and software to meet emerging threats and to dernization, advanced guidance, navigation ress obsolescence issues and affordability  |         |              |         |
| FY 2018 to FY 2019 Increase/Decrease Statement: Funding increase due to multiple upgrades in different phases of ongoing devareas discussed above (M-Code, Cryptographic Modernization, exportability, and affordability).  |   |         |              |         |
| Title: SDB II Integration and Qualification Testing   |   | 4.959   | 8.405        | 4.216   |
| <b>Description:</b> F-15E Aircraft Integration incorporates tests and targets, Model link and mission planning. Develop F-15E OFP upgrades to provide the capal targets, weapon data link control, and exclusion zone information prior to laur in-flight edits of target and weapon data link programming if/when required ba  | bility to program the weapon with mission planned nch of the weapon. It also allows the aircrew to make   |         |              |         |
| FY 2018 Plans: Begin Multi-Service Operational Test and Evaluation (MOT&E) on the F-15E update and qualification efforts for the BRU-61. Continue Advanced Joint Effetesting. Continue collaboration with National Security Agency (NSA) on weap collaboration with Joint Interoperability Test Command (JITC) on interoperability Command and Control Infrastructure, including Air and Space Operations Co Attack Controller (JTAC) kits. Continue mission planning support during Oper integration to upgrade SDB II hardware and software to meet emerging threat (i.e., M-Code, Cryptographic Modernization, advanced guidance, navigation a program protection, and address obsolescence issues and affordability oppor | ectiveness Model (AJEM) lethality modeling and on data link key management software. Continue lity testing. Continue integration of SDB II with mmand (AOC) and integration with Joint Terminal rational Test (OT). Continue design, development and its and to maintain compatibility with external systems and control, ensure exportability, cyber security, |         |              |         |
| FY 2019 Plans:  |   |         |              |         |

PE 0604329F: Small Diameter Bomb (SDB) - EMD Air Force

UNCLASSIFIED
Page 3 of 11

| UI   | NCLASSIFIED  |         |              |         |
|--|--|---------|--------------|---------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force  |  | Date: F | ebruary 2018 |         |
| Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)   | R-1 Program Element (Number/Name) PE 0604329F / Small Diameter Bomb (SDB) - EMD  | ·       |              |         |
| C. Accomplishments/Planned Programs (\$ in Millions)   |  | FY 2017 | FY 2018      | FY 2019 |
| Continue MOT&E on the F-15E platform. Continue OFP update and qualificat modeling and testing. Continue collaboration with NSA on weapon data link k with JITC on interoperability testing. Continue integration of SDB II with Comrand integration with JTAC kits. Continue mission planning support during OT. upgrade SDB II hardware and software to meet emerging threats and to main Code, Cryptographic Modernization, advanced guidance, navigation and cont protection, and address obsolescence issues and affordability opportunities).   | ey management software. Continue collaboration mand and Control Infrastructure, including AOC Continue design, development and integration to tain compatibility with external systems (i.e., M- |         |              |         |
| FY 2018 to FY 2019 Increase/Decrease Statement: Funding decreased due to multiple upgrades in different phases of ongoing do of the areas discussed above (F-15 OFP updates and qualification, M-Code, JTAC fielding, Cryptographic Modernization, advanced guidance, navigation a program protection, and address obsolescence issues and affordability oppor   | Mission Planning, JITC interoperability testing and and control, ensure exportability, cyber security, and   |         |              |         |
| Title: SDB II M-Code   |  | 8.001   | 16.800       | 41.243  |
| <b>Description:</b> M-code provides an enhanced anti-jam capability and secures a the ability to operate in increasing adversarial A2/AD jamming environment w advanced security.  |  |         |              |         |
| FY 2018 Plans: Continue activities to provide SDB II with M-Code capabilities for improved an M-Code activities include, but are not limited to, trade studies; development a design, development, integration and testing of M-Code and enhanced anti-ja Review and prototype development for M-Code and enhanced anti-jam receivengineering changes to the SDB II system to integrate the new M-Code receivers to ensure aircraft to weapon integration and transmission of the appropriate the control of the property of the strength of the system to integrate the new M-Code receivers.   | nd implementation of an acquisition strategy; and m components. Complete Preliminary Design ver. Continue design, test and qualification of ver. Update mission planning and threshold aircraft  |         |              |         |
| FY 2019 Plans: Continue activities to provide SDB II with M-Code capabilities for improved an M-Code activities include, but are not limited to, trade studies; development a design, development, integration and testing of M-Code and enhanced anti-ja Review and prototype development for M-Code and enhanced anti-jam receivengineering changes to the SDB II system to integrate the new M-Code receivers to ensure aircraft to weapon integration and transmission of the appropriate the control of the property of the statement of the sta | nd implementation of an acquisition strategy; and m components. Complete Preliminary Design ver. Continue design, test and qualification of ver. Update mission planning and threshold aircraft  |         |              |         |
| FY 2018 to FY 2019 Increase/Decrease Statement:  |  |         |              |         |

PE 0604329F: Small Diameter Bomb (SDB) - EMD Air Force

UNCLASSIFIED
Page 4 of 11

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force

Date: February 2018

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

3600: Research, Development, Test & Evaluation, Air Force I BA 5: System

PE 0604329F I Small Diameter Bomb (SDB) - EMD

Development & Demonstration (SDD)

| C. Accomplishments/Planned Programs (\$ in Millions)  | FY 2017 | FY 2018 | FY 2019 |
|---|---------|---------|---------|
| Funding increase due to continued electronics and receiver development, and receiver certification and qualification. |         |         |         |
| Accomplishments/Planned Programs Subtotals  | 37.603  | 38.979  | 73.158  |

### D. Other Program Funding Summary (\$ in Millions)

|   |         |         | FY 2019     | FY 2019 | FY 2019      |         |         |         |         | <b>Cost To</b> |                   |
|---|---------|---------|-------------|---------|--------------|---------|---------|---------|---------|----------------|-------------------|
| <u>Line Item</u>                              | FY 2017 | FY 2018 | <b>Base</b> | OCO     | <u>Total</u> | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Complete       | <b>Total Cost</b> |
| <ul> <li>MPAF 02 Line Item SDB000:</li> </ul> | 251.361 | 356.950 | -           | -       | -            | -       | -       | -       | -       | 0.000          | 608.311           |
| Small Diameter Bomb                           |         |         |             |         |              |         |         |         |         |                |                   |
| <ul> <li>MPAF 02 Line Item SDB002:</li> </ul> | -       | -       | 100.861     | -       | 100.861      | 212.434 | 333.546 | 308.116 | 321.972 | 489.974        | 1,766.903         |
| Small Diameter Bomb II                        |         |         |             |         |              |         |         |         |         |                |                   |
| <ul> <li>RDTE 05 PE 0604329N:</li> </ul>      | 37.605  | 57.637  | 72.573      | -       | 72.573       | 73.547  | 58.914  | 44.409  | 45.360  | 0.000          | 390.045           |
| Small Diameter Bomb II                        |         |         |             |         |              |         |         |         |         |                |                   |
| <ul> <li>WPN Line Item 223800:</li> </ul>     | -       | 20.968  | 91.272      | -       | 91.272       | 118.461 | 114.574 | 117.019 | 119.502 | 301.856        | 883.652           |
| Small Diameter Bomb II                        |         |         |             |         |              |         |         |         |         |                |                   |

#### Remarks

Air Force

FY17 and FY18 MPAF 02 Line Item SDB000 includes SDB I and SDB II funding. FY19 and out-years includes SDB I funding only.

FY19 and out-years MPAF 02 Line Item SDB002 includes SDB II funding only.

FY17 MPAF 02 Line Item SDB000 includes \$151M Overseas Contingency Operations (OCO) for SDB I.

FY18 MPAF 02 Line Item SDB000 includes \$90.92M Overseas Contingency Operation (OCO) for SDB I.

Navy RDT&E funds include F-35B and F-35C Integration and Support Cost.

## E. Acquisition Strategy

The SDB II Engineering and Manufacturing Development (EMD) contract was awarded using competitive procedures. At the completion of the 42-month Risk Reduction phase in October 2009, one contractor was selected in April 2010 and awarded the EMD contract in August 2010. The EMD contract is a Fixed-Price Incentive Firm (FPIF) contract with priced production options for the first five production lots. SDB II production Lots 1-3 are FPIF. Production Lots 4-5 are fixed price not-toexceed pricing with an economic price adjustment clause for labor and materials. The Government is buying the SDB II based on the contractor System Performance Specification (SPS) which has been approved by the Government. The contractor is accountable for system performance as defined in the SPS and a system warranty as defined in the EMD contract and follow-on production contracts. Accordingly, the contractor is accountable to the Government for the design of the weapon system, as well as the planning and execution of the Development Test & Evaluation (DT&E) program to verify system performance. The Government formally arranges and funds the use of Government flight test support for DT&E.

PE 0604329F: Small Diameter Bomb (SDB) - EMD

UNCLASSIFIED Page 5 of 11

| xhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force   |   | Date: February 2018              |  |  |
|--|---|----------------------------------|--|--|
| Appropriation/Budget Activity 600: Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)              | R-1 Program Element (Number/Name) PE 0604329F / Small Diameter Bomb (SDB) - EMD | '                                |  |  |
| . Performance Metrics  |   |                                  |  |  |
| Please refer to the Performance Base Budget Overview Book for information Force performance goals and most importantly, how they contribute to our m |   | esources are contributing to Air |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |
|  |   |                                  |  |  |

PE 0604329F: *Small Diameter Bomb (SDB) - EMD* Air Force

UNCLASSIFIED
Page 6 of 11

Date: February 2018 Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force

Appropriation/Budget Activity

3600 / 5

R-1 Program Element (Number/Name) PE 0604329F I Small Diameter Bomb (SDB) 655191 I SDB Increment II - EMD

Project (Number/Name)

| Product Developmen                            | nt (\$ in Mi                 | illions)                          |                | FY 2   | 2017          | FY 2   | 2018          |        | 2019<br>ise   | FY 2  |               | FY 2019<br>Total |                     |               |                                |
|---|------------------------------|-----------------------------------|----------------|--------|---------------|--------|---------------|--------|---------------|-------|---------------|------------------|---------------------|---------------|--------------------------------|
| Cost Category Item                            | Contract<br>Method<br>& Type | Performing<br>Activity & Location | Prior<br>Years | Cost   | Award<br>Date | Cost   | Award<br>Date | Cost   | Award<br>Date | Cost  | Award<br>Date | Cost             | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |
| Risk Reduction Contract 1                     | C/CPFF                       | Boeing : St. Louis,<br>MO         | 151.922        | 0.000  |               | 0.000  |               | 0.000  |               | 0.000 |               | 0.000            | 0.000               | 151.922       | 151.922                        |
| Risk Reduction Contract 2                     | C/CPFF                       | Raytheon : Tucson, AZ             | 150.800        | 0.000  |               | 0.000  |               | 0.000  |               | 0.000 |               | 0.000            | 0.000               | 150.800       | 150.800                        |
| EMD Contract                                  | C/FPIF                       | Raytheon : Tucson, AZ             | 460.169        | 0.000  |               | 0.000  |               | 0.000  |               | 0.000 |               | 0.000            | 0.000               | 460.169       | 460.169                        |
| Technical Support<br>Contract                 | SS/<br>Various               | Raytheon : Tucson, AZ             | 68.643         | 23.699 | Dec 2016      | 10.235 | Feb 2018      | 21.580 | Dec 2018      | 0.000 |               | 21.580           | 21.262              | 145.419       | 136.520                        |
| M Code Development                            | C/Various                    | Not specified. : NV               | 0.000          | 8.001  | Jun 2017      | 16.800 | Jan 2018      | 41.243 | Jan 2019      | 0.000 |               | 41.243           | 43.393              | 109.437       | 109.437                        |
| IMPACT High Pressure Air<br>Compressor System | SS/FFP                       | Boeing : St. Charles,<br>MO       | 3.175          | 0.000  |               | 0.000  |               | 0.000  |               | 0.000 |               | 0.000            | 0.000               | 3.175         | 3.175                          |
| F-15E Integration and Test<br>Support         | SS/<br>Various               | Boeing : St. Louis,<br>MO         | 45.956         | 0.931  | Jan 2017      | 2.000  | Jun 2018      | 2.000  | Jun 2019      | 0.000 |               | 2.000            | 0.724               | 51.611        | 49.762                         |
| BRU-61/A Integration and Test Support         | SS/<br>Various               | Boeing : St. Charles,<br>MO       | 8.529          | 0.000  |               | 0.000  |               | 0.000  |               | 0.000 |               | 0.000            | 0.000               | 8.529         | 8.529                          |
| Mission Planning                              | Various                      | Various : Various                 | 5.631          | 0.201  | Jan 2017      | 0.914  | Feb 2018      | 0.000  |               | 0.000 |               | 0.000            | 0.000               | 6.746         | 5.832                          |
| Data Link Integration & Support               | Various                      | Various : Various                 | 2.934          | 0.070  | Dec 2016      | 0.000  |               | 0.000  |               | 0.000 |               | 0.000            | 0.000               | 3.004         | 3.004                          |
| System Performance & Lethality                | Various                      | Various : Various                 | 38.388         | 0.300  | Nov 2016      | 0.300  | Nov 2017      | 0.312  | Nov 2018      | 0.000 |               | 0.312            | 0.000               | 39.300        | 39.334                         |
| Other Product<br>Development                  | Various                      | Various : Various                 | 11.576         | 0.275  | Nov 2016      | 6.284  | Mar 2018      | 2.780  | Mar 2019      | 0.000 |               | 2.780            | 36.791              | 57.706        | 69.594                         |
|   |                              | Subtotal                          | 947.723        | 33.477 |               | 36.533 |               | 67.915 |               | 0.000 |               | 67.915           | 102.170             | 1,187.818     | N/A                            |

#### Remarks

EMD contract is budgeted to the contract ceiling price \$509.9M.

The EMD Target Value is AF funding only. This represents the total liability for the AF (target cost plus ceiling). The contract's target value including Navy funding is \$450.827M. The target price is \$509.9M. This includes AF and Navy ceiling.

PE 0604329F: Small Diameter Bomb (SDB) - EMD Air Force

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force

R-1 Program Element (Number/Name)

Date: February 2018

**Appropriation/Budget Activity** 3600 / 5

PE 0604329F I Small Diameter Bomb (SDB) 655191 I SDB Increment II

Project (Number/Name)

- EMD

| Support (\$ in Millions | 6)                           |                                   |                | ort (\$ in Millions) |               |       | FY 2          | 2017  | FY 2          | 2018  | FY 2<br>Ba    |       | FY 2                |               | FY 2019<br>Total               |  |  |  |
|-------------------------|------------------------------|-----------------------------------|----------------|----------------------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------------|---------------|--------------------------------|--|--|--|
| Cost Category Item      | Contract<br>Method<br>& Type | Performing<br>Activity & Location | Prior<br>Years | Cost                 | Award<br>Date | Cost  | Award<br>Date | Cost  | Award<br>Date | Cost  | Award<br>Date | Cost  | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |  |  |  |
| Other Government Costs  | Various                      | Various : Various                 | 5.042          | 0.482                | Apr 2017      | 1.049 | Apr 2018      | 0.522 | Apr 2019      | 0.000 |               | 0.522 | 0.736               | 7.831         | 8.201                          |  |  |  |
|                         |                              | Subtotal                          | 5.042          | 0.482                |               | 1.049 |               | 0.522 |               | 0.000 |               | 0.522 | 0.736               | 7.831         | N/A                            |  |  |  |

#### Remarks

None.

| Test and Evaluation (\$ in Millions) |                              |                                   |                | FY 2017 |               | FY 2018 |               | FY 2019<br>Base |               | FY 2019<br>OCO |               | FY 2019<br>Total |                     |               |                                |
|--------------------------------------|------------------------------|-----------------------------------|----------------|---------|---------------|---------|---------------|-----------------|---------------|----------------|---------------|------------------|---------------------|---------------|--------------------------------|
| Cost Category Item                   | Contract<br>Method<br>& Type | Performing<br>Activity & Location | Prior<br>Years | Cost    | Award<br>Date | Cost    | Award<br>Date | Cost            | Award<br>Date | Cost           | Award<br>Date | Cost             | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |
| DT&E: 96th Test Wing                 | РО                           | 96th Test Wing :<br>Eglin AFB, FL | 30.941         | 1.370   | Apr 2017      | 0.239   | Apr 2018      | 2.853           | Dec 2019      | 0.000          |               | 2.853            | 0.000               | 35.403        | 33.725                         |
| DT&E: UTTR, WSMR                     | Various                      | Various : Various                 | 9.625          | 0.480   | Feb 2017      | 0.000   |               | 0.000           |               | 0.000          |               | 0.000            | 0.000               | 10.105        | 10.105                         |
| Targets                              | PO                           | Various : Various                 | 25.248         | 0.150   | Feb 2017      | -       |               | 0.000           | Dec 2018      | 0.000          |               | 0.000            | 0.000               | 25.398        | 26.336                         |
| Other Test Support                   | Various                      | Various : Various                 | 9.263          | 0.700   | Dec 2016      | 0.299   | Dec 2017      | 1.000           | Apr 2019      | 0.000          |               | 1.000            | 0.000               | 11.262        | 11.896                         |
|                                      | •                            | Subtotal                          | 75.077         | 2.700   |               | 0.538   |               | 3.853           |               | 0.000          |               | 3.853            | 0.000               | 82.168        | N/A                            |

#### **Remarks**

UTTR: Utah Test and Training Range WSMR: White Sands Missile Range

| Management Services (\$ in Millions)       |                              |                                   |                | FY 2017 |               | FY 2018 |               | FY 2019<br>Base |               | FY 2019<br>OCO |               | FY 2019<br>Total |                     |               |                                |
|--|------------------------------|-----------------------------------|----------------|---------|---------------|---------|---------------|-----------------|---------------|----------------|---------------|------------------|---------------------|---------------|--------------------------------|
| Cost Category Item                         | Contract<br>Method<br>& Type | Performing<br>Activity & Location | Prior<br>Years | Cost    | Award<br>Date | Cost    | Award<br>Date | Cost            | Award<br>Date | Cost           | Award<br>Date | Cost             | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |
| EPASS                                      | Various                      | Various : Eglin AFB,<br>FL        | 21.758         | 0.750   | Jun 2017      | 0.750   | Jun 2018      | 0.750           | Jun 2019      | 0.000          |               | 0.750            | 1.500               | 25.508        | 25.508                         |
| Program Management<br>Administration (PMA) | Various                      | Various : Eglin AFB,<br>FL        | 10.823         | 0.194   | Oct 2016      | 0.109   | Oct 2017      | 0.118           | Oct 2018      | 0.000          |               | 0.118            | 0.264               | 11.508        | 11.536                         |
| SBIR                                       | Various                      | Various : Eglin AFB,<br>FL        | 0.000          | 0.000   | Sep 2018      | -       |               | -               |               | -              |               | -                | 0.000               | 0.000         | -                              |

PE 0604329F: Small Diameter Bomb (SDB) - EMD Air Force

UNCLASSIFIED
Page 8 of 11

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force

Appropriation/Budget Activity

3600 / 5

R-1 Program Element (Number/Name)
PE 0604329F / Small Diameter Bomb (SDB)
- EMD

Project (Number/Name)
655191 / SDB Increment II

| Management Service | es (\$ in M                  | illions)                          |                | FY 2  | 2017          | FY 2  | 2018          | FY 2<br>Ba |               | FY 2  | 2019<br>CO    | FY 2019<br>Total |                     |               |                                |
|--------------------|------------------------------|-----------------------------------|----------------|-------|---------------|-------|---------------|------------|---------------|-------|---------------|------------------|---------------------|---------------|--------------------------------|
| Cost Category Item | Contract<br>Method<br>& Type | Performing<br>Activity & Location | Prior<br>Years | Cost  | Award<br>Date | Cost  | Award<br>Date | Cost       | Award<br>Date | Cost  | Award<br>Date | Cost             | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |
|                    |                              | Subtotal                          | 32.581         | 0.944 |               | 0.859 |               | 0.868      |               | 0.000 |               | 0.868            | 1.764               | 37.016        | N/A                            |

#### Remarks

EPASS: Engineering, Professional & Administrative Support Services

|                     | Prior<br>Years | FY 2   | 2017 | FY 2   | 2018 |        | 2019<br>Ise | FY 2019<br>OCO | FY 2019<br>Total | Cost To | Total<br>Cost | Target<br>Value of<br>Contract |
|---------------------|----------------|--------|------|--------|------|--------|-------------|----------------|------------------|---------|---------------|--------------------------------|
| Project Cost Totals | 1,060.423      | 37.603 |      | 38.979 |      | 73.158 |             | 0.000          | 73.158           | 104.670 | 1,314.833     | N/A                            |

Remarks

PE 0604329F: Small Diameter Bomb (SDB) - EMD

Air Force

| Exhibit R-4, RDT&E Schedule Profile: PB 2019 A     | ir F    | orc | е              |   |   |            |   |   |    |   |      |         |     |   |   |    |                |   |   |         |   |  |   | Da | te: | Fe      | brua | ary | 2018 | 3 |   |
|--|---------|-----|----------------|---|---|------------|---|---|----|---|------|---------|-----|---|---|----|----------------|---|---|---------|---|--|---|----|-----|---------|------|-----|------|---|---|
| Appropriation/Budget Activity<br>3600 / 5          |         |     |                |   |   |            |   |   | PE |   | )432 |         |     |   |   |    | mber<br>eter E |   |   |         |   | Project (Number/Name)<br>655191 / SDB Increment II |   |    |     |         |      |     |      |   |   |
|  | FY 2017 |     | FY 2017 FY 201 |   |   | 18 FY 2019 |   |   |    |   |      | FY 2020 |     |   |   | FY | 2021           |   |   | FY 2022 |   |  |   |    | FY  | FY 2023 |      |     |      |   |   |
|  | 1       | 2   | 2              | 3 | 4 | 1          | 2 | 3 | 4  | 1 | 2    | ;       | 3   | 4 | 1 | 2  | 3              | 4 | 1 | 2       | 3 | 4  | 1 | 2  | : 3 | 3       | 4    | 1   | 2    | 3 | 4 |
| SDB Increment II                                   |         |     |                |   |   |            |   |   | ,  |   |      |         | · · |   |   |    | '              |   |   |         |   |  |   |    |     |         |      | ,   | •    |   |   |
| F-15 Integration Developmental/Operational Testing |         |     |                |   |   |            |   |   |    |   |      |         |     |   |   |    |                |   |   |         |   |  |   |    |     |         |      |     |      |   |   |
| SDB II M-Code                                      |         |     |                |   |   |            |   |   |    |   |      |         |     |   |   |    |                |   |   |         |   |  |   |    |     |         |      |     |      |   |   |
| Government Confidence Testing                      |         |     |                |   |   |            |   |   |    |   |      |         |     |   |   |    |                |   |   |         |   |  |   |    |     |         |      |     |      |   |   |
| Operational Testing                                |         |     |                |   |   |            |   |   |    |   |      |         |     |   |   |    |                |   |   |         |   |  |   |    |     |         |      |     |      |   |   |
| F-15E Required Assets Available                    |         |     |                |   |   |            |   |   |    |   |      |         |     |   |   |    |                |   |   |         |   |  |   |    |     |         |      |     |      |   |   |
| SDB II Integration on Threshold F-35B/C            |         | _   |                |   |   |            |   |   |    |   |      |         |     |   |   |    |                |   |   |         |   |  |   |    |     |         |      |     |      |   |   |

| Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force |   |         | Date: February 2018 |
|---|---|---------|---------------------|
| Appropriation/Budget Activity 3600 / 5                  | R-1 Program Element (Number/Name) PE 0604329F / Small Diameter Bomb (SDB) | - , (   | umber/Name)         |
| 300073  | - EMD   | 0551917 | BB increment ii     |

# Schedule Details

|  | Sta     | art  | Er      | nd   |
|--|---------|------|---------|------|
| Events by Sub Project                              | Quarter | Year | Quarter | Year |
| SDB Increment II                                   |         |      |         |      |
| F-15 Integration Developmental/Operational Testing | 1       | 2017 | 2       | 2019 |
| SDB II M-Code                                      | 3       | 2017 | 4       | 2020 |
| Government Confidence Testing                      | 1       | 2017 | 2       | 2018 |
| Operational Testing                                | 3       | 2018 | 2       | 2019 |
| F-15E Required Assets Available                    | 2       | 2019 | 2       | 2019 |
| SDB II Integration on Threshold F-35B/C            | 3       | 2018 | 2       | 2022 |

PE 0604329F: Small Diameter Bomb (SDB) - EMD

Air Force