Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-439

Small Diameter Bomb Increment II (SDB II)

As of FY 2017 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President’s Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

Small Diameter Bomb Increment II (SDB II)

DoD Component

Air Force

Joint Participants

Department of the Navy

Responsible Office

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Date Assigned: June 16, 2014

References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated September 23, 2015

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated September 23, 2015

Mission and Description

Small Diameter Bomb Increment II (SDB II) is a joint interest United States Air Force (USAF) and Department of the Navy (DoN) ACAT ID program, with the USAF as the lead service. SDB II provides the warfighter the capability to attack mobile targets from stand-off, through weather. The threshold aircraft for the USAF is the F-15E and the threshold aircraft for the DoN are the F-35B and F-35C. Objective aircraft include the F-16, F/A-18E/F, F-22A, F-35A, B-1B, B-2, B-52, A-10, MQ-9, and AC-130. SDB II will be compatible with the Bomb Rack Unit (BRU-61/A) and the Joint Miniature Munitions BRU (BRU-61A/A) miniature munitions carriages, the CNU-660/E carriage system, the Common Munitions Bit and Reprogramming Equipment and the Joint Mission Planning System. The SDB II Program will develop and field a single-weapon USAF storage container and a dual DoN weapon storage container.

Executive Summary

Since the last exception SAR, the program completed Captive Flight Test “Hybrid” and all return-to-flight activities following the Live Fire (LF)-5 failure investigation. On September 15, 2015, the program office executed the LF-5 flight test. The weapon experienced an anomaly immediately prior to weapon release and failed to arm. The weapon directly impacted the target but did not detonate. Due to a lack of telemetry data, because live fire test assets are not equipped with telemetry, the failure investigation did not identify a root cause. However, the investigation identified potential failure modes. Corrective actions were developed, verified and implemented prior to returning to flight.

On November 16, 2015, the latest version of SDB II Operational Flight Profile software was released. This software supports the Normal Attack and Coordinate Attack (CA) test events required to occur prior to the start of the 28-shot Government Confidence Test effort. The next release of software will support the first Laser Illuminated Attack (LIA) test event which is currently projected to occur the 3rd Quarter FY 2016. SDB II remains an events-based program.

In January 12, 2016 the SDB II program executed Guided Test Vehicle (GTV)-11 Flight Test. The weapon released nominally but did not impact the intended target. This was the first use of the new Build 6 Software. The Failure Review Board has identified the most likely root cause and was able to replicate the failure in the Computer in the Loop lab. Corrective actions are in work. The next drop of Build 6 software is projected for March 2016. This will support a return to flight with GTV-11a, CA, and LIA GTV shots currently projected for April 2016.

Implementation of high temperature sulfuric acid corrosive atmosphere corrective actions is on-going. Full qualification test is expected to complete by the 3rd Quarter FY 2016. The Lot 2 contract option award is dependent on completion of the full qualification test.

There are no significant software-related issues with this program at this time.

History of Significant Developments since Program Initiation

July 28, 2009: The JROC approved the SDB II CDD.

August 6, 2010: The DAE signed an ADM authorizing the program to enter the EMD phase and certified the program pursuant to section 2366b of title 10, U.S. Code.

October 8, 2010: The DAE signed the Milestone (MS) B APB.

January 20, 2011: Conducted the Critical Design Review (CDR). The Office of the Deputy Assistant Secretary of Defense for Systems Engineering concluded that the CDR is complete and the SDB II Program is “well situated to continue into the System Capability and Manufacturing Process Demonstration Phase.”

January 2011: Delays in the F-35 development program extended SDB II F-35 integration beyond the dates identified in the MS B APB.

July 17, 2012: First GTV-1 flight test.

July 2013: System Environmental Qualification testing began.

September 24, 2014: First LF test.

November 7, 2014: All dynamic environmental qualification testing complete.

December 8, 2014: Test, Analyze and Fix (TAAF) testing complete, culminating over 18 months of testing that totaled 2,190 hours. TAAF demonstrated a reliability of 253 hours Mean Time Between Failure which surpassed the 250 hour

requirement.

January 13, 2015: JROC approved use of SDB II CDD in lieu of CPD for production MS C. They also formally added the AC-130 as an objective aircraft.

April 1-2, 2015: Systems Verification Review.

June 3, 2015: DAE signed the MS C ADM authorizing entrance into LRIP.

June 12, 2015: Lot 1 Production contract award for the first 144 weapons.

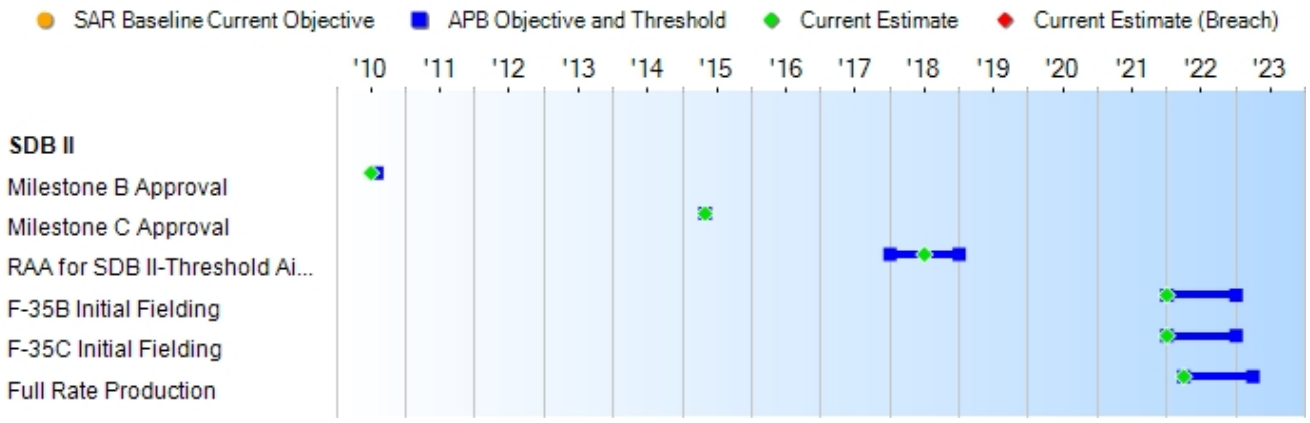
September 23, 2015: DAE signed the MS C APB. The APB included updated F-15E Required Asset Available dates to account for previous program delays and to allow sufficient time for the remaining Developmental Testing and the upcoming Operational Testing.

Threshold Breaches

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule



Schedule Events					
Events	**SAR Baseline Production Estimate**	**Current APB Production Objective/Threshold**		**Current Estimate**	
Milestone B Approval	Aug 2010	Aug 2010	Aug 2010	Jul 2010	
Milestone C Approval	May 2015	May 2015	May 2015	May 2015	
RAA for SDB II-Threshold Aircraft F-15E	Jan 2018	Jan 2018	Jan 2019	Jul 2018	(Ch-1)
F-35B Initial Fielding	Jan 2022	Jan 2022	Jan 2023	Jan 2022	
F-35C Initial Fielding	Jan 2022	Jan 2022	Jan 2023	Jan 2022	
Full Rate Production	Apr 2022	Apr 2022	Apr 2023	Apr 2022	

Change Explanations

(Ch-1) The RAA for SDB II-Threshold Aircraft F-15E current estimate changed from March 2018 to July 2018 to account for Live Fire-5 failure investigation and to allow sufficient time for the remaining Developmental Testing, Government Confidence Testing, and OT.

Notes

SDB II RAA is defined as the capability to arm twelve F-15Es with two fully-loaded Bomb Rack Units (BRU-61) carriage systems for 1.5 sorties, which equates to 144 weapons. RAA includes associated spares, support equipment (including load crew trainers), initial training, mission planning capability, and verified technical orders. The ACC Commander, or applicable Major Command Commander (if first operational unit is not within ACC) will declare IOC for the Air Force at the first designated SDB II capable wing based on the wing or group commander's recommendations. The weapon configuration delivered to meet the F-15E RAA will include fully qualified hardware functionality for all required employment modes.

The threshold date for RAA is one year beyond the objective date due to the fluidity of the Government Confidence Test schedule and the magnitude of OT which remains to be completed.

The threshold dates for FRP, F-35B Initial Fielding, and F-35C Initial Fielding are one year beyond the objective dates due to

the fluidity of the F-35 program schedule.

In FY 2013, the DoN adjusted the platform integration strategy by inclusion of F/A-18 E/F to deliver the mult-mode moving target capability to the warfighter ahead of the F-35. This strategy was approved and supported by OSD. The first DoN unit equipped will be an F/A-18E/F squadron aircraft. The quantity of SDB II weapons required for DoN Initial Fielding is 90 weapons.

Acronyms and Abbreviations

ACC - Air Combat Command
DoN - Department of Navy
OT - Operational Testing
RAA - Required Assets Available

Performance

Performance Characteristics				
SAR Baseline Production Estimate	**Current APB Production Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**
Scenario Weapon Effectiveness (WE)				
Given SDB II weapon delivery from an objective platform employing self targeting or an SDB II weapon delivery from a threshold or objective aircraft with third party targeting via an objective airborne platform (Paragraph 6.2.3.1.2 of CDD for SDB II dated July 28, 2009), the SDB II weapon will achieve a minimum PSSK of (OB -1) when averaged over all the target types contained in Table 6-1 of CDD for SDB II dated July 28, 2009. The Joint JROC reviewed the CDD in lieu of the CPD on November 18, 2014; the JROC subsequently signed the memorandum on January 13, 2015.	Given SDB II weapon delivery from an objective platform employing self targeting or an SDB II weapon delivery from a threshold or objective aircraft with third party targeting via an objective airborne platform (Paragraph 6.2.3.1.2 of CDD for SDB II dated July 28, 2009), the SDB II weapon will achieve a minimum PSSK of (OB -1) when averaged over all the target types contained in Table 6-1 of CDD for SDB II dated July 28, 2009. The Joint JROC reviewed the CDD in lieu of the CPD on November 18, 2014; the JROC subsequently signed the memorandum on January 13, 2015.	Given SDB II weapon delivery from a threshold aircraft employing self targeting or a threshold aircraft delivering SDB II with third party targeting via a JTAC, the SDB II weapon will achieve a minimum PSSK of (T-1) when averaged over all the target types contained in Table 6-1 of CDD for SDB II dated July 28, 2009. The JROC reviewed the CDD in lieu of the CPD on November 18, 2014; the JROC subsequently signed the memorandum on January 13, 2015.	Demonstrated Performance data will be collected and displayed when SDB II enters OT.	Given SDB II weapon delivery from a threshold aircraft employing self-targeting or a threshold aircraft delivering SDB II with third party targeting via a JTAC, the SDB II weapon will achieve a minimum PSSK of (T-1) when averaged over all the target types contained in Table 6-1 of CDD for SDB II dated July 28, 2009. 1. The JROC reviewed the CDD in lieu of the CPD on November 18, 2014; the JROC subsequently signed the memorandum on January 13, 2015.
Weapon Loadout				
Four SDB II weapons integrated onto the BRU -61/A. Aircraft will be able to carry and employ both SDB I and II weapons loaded on separate BRU-61/As during the same mission.	Four SDB II weapons integrated onto the BRU -61/A. Aircraft will be able to carry and employ both SDB I and II weapons loaded on separate BRU-61/As during the same mission.	(T=O) Four SDB II weapons integrated onto the BRU-61/A. Aircraft will be able to carry and employ both SDB I and II weapons loaded on separate BRU-61/As during the same mission.	Demonstrated performance data will be collected and displayed when SDB II enters OT.	Four SDB II weapons integrated onto the BRU-61/A. Aircraft will be able to carry and employ both SDB I and SDB II weapons loaded on separate BRU-61/As during the same mission.
Carrier Operability (Navy Unique Requirement)				
SDB II will be compatible with carrier operations without	SDB II will be compatible with carrier operations without	(T=O) SDB II will be compatible with carrier operations without	Demonstrated Performance data will be	SDB II will be compatible with carrier operations without

degrading other naval operations. Compatibility includes being capable of at least fifty catapult launches and forty-nine arrested landings; able to be transported, handled, stored, prepared, uploaded, and downloaded; and capable of operating in EMI, EMC, container immersion/washdown, salt fog/salt spray, explosive atmosphere, mechanical shock (i.e., near-miss, catapult launches/arrested landings, and handling shock), acoustic noise, vibration, fluid contamination, corrosive atmosphere, fungus, humidity, ice, and rain environments of aircraft carrier and replenishment ship operations.	degrading other naval operations. Compatibility includes being capable of at least fifty catapult launches and forty-nine arrested landings; able to be transported, handled, stored, prepared, uploaded, and downloaded; and capable of operating in EMI, EMC, container immersion/washdown, salt fog/salt spray, explosive atmosphere, mechanical shock (i.e., near-miss, catapult launches/arrested landings, and handling shock), acoustic noise, vibration, fluid contamination, corrosive atmosphere, fungus, humidity, ice, and rain environments of aircraft carrier and replenishment ship operations.	degrading other naval operations. Compatibility includes being capable of at least fifty catapult launches and forty-nine arrested landings; able to be transported, handled, stored, prepared, uploaded, and downloaded; and capable of operating in EMI, EMC, container immersion/washdown, salt fog/salt spray, explosive atmosphere, mechanical shock (i.e., near-miss, catapult launches/arrested landings, and handling shock), acoustic noise, vibration, fluid contamination, corrosive atmosphere, fungus, humidity, ice, and rain environments of aircraft carrier and replenishment ship operations.	collected and displayed when SDB II enters F -35C OT.	degrading other naval operations. Compatibility includes being capable of at least fifty catapult launches and forty-nine arrested landings; able to be transported, handled, stored, prepared, uploaded, and downloaded; and capable of operating in EMI, EMC, container immersion/ washdown, salt fog/salt spray, explosive atmosphere, mechanical shock (i.e., near-miss, catapult launches/ arrested landings, and handling shock), acoustic noise, vibration, fluid contamination, corrosive atmosphere, fungus, humidity, ice, and rain environments of aircraft carrier and replenishment ship operations.
Materiel Availability				
Once 3,000 SDB II weapons are in the inventory, the Materiel Availability for SDB II will be no less than .95.	Once 3,000 SDB II weapons are in the inventory, the Materiel Availability for SDB II will be no less than .95.	The Materiel Availability for SDB II will follow this graduated scale: Greater than 500 weapons in inventory - no less than .75 Greater than 1,000 weapons in inventory - no less than .80 Greater than 3,000 weapons in inventory - no less than .90.	Demonstrated performance data will be collected and displayed when 500 weapons are placed in inventory.	The Materiel Availability for SDB II will follow this graduated scale: Greater than 500 weapons in inventory - no less than .75 Greater than 1000 weapons in inventory - no less than .80 Greater than 3000 weapons in inventory - no less than .90.
Net Ready				
I) Support net-centric military operations: A) Mission: Positive weapon control during engagement of mobile (moving and stationary) targets enabled by digital communications as planned and/or event	I) Support net-centric military operations: A) Mission: Positive weapon control during engagement of mobile (moving and stationary) targets enabled by digital communications as planned and/or event	(T=O) I) Support net-centric military operations: A) Mission: Positive weapon control during engagement of mobile (moving and stationary) targets enabled by digital communications as	Demonstrated performance data will be collected and displayed when SDB II enters OT.	I) Support net-centric military operations: A) Mission: Positive weapon control during engagement of mobile (moving and stationary) targets enabled by digital communications as

-driven. 1) Measure: Receipt of weapon control directives = less than or equal to 12 seconds (Link 16); Transmission of situation awareness messages = less than or equal to 30 seconds UHF. 2) Conditions: Secure and available communications (DoD Chief Information Officer net-centric attribute). B) Mission Activities: Enable target acquisition; Target tracking. 1) Measure: Link 16 Target location accuracy** = 60 meters TLE90 and UHF** = 100 meters TLE90. 2) Conditions: SWE and WE conditions. II) Enter and be managed in the network: A) Link 16 tactical data link network. 1) Measure: Time to fine synchronization = less than or equal to 60 seconds; Terminal performance = 99% availability; Messaging = MER of less than or equal to 1%. 2) Conditions: Operational network; Type 1 encryption; Spectrum availability. B) Line-of-sight UHF tactical data link network. 1) Measure: Time to fine synchronization = less than or equal to 60 seconds; Terminal Performance = 99% availability; Messaging = MER less than or equal to 1%. 2) Conditions: Operational network; Type 1 encryption; spectrum availability. III) Exchange Information:	-driven. 1) Measure: Receipt of weapon control directives = less than or equal to 12 seconds (Link 16); Transmission of situation awareness messages = less than or equal to 30 seconds UHF. 2) Conditions: Secure and available communications (DoD Chief Information Officer net-centric attribute). B) Mission Activities: Enable target acquisition; Target tracking. 1) Measure: Link 16 Target location accuracy** = 60 meters TLE90 and UHF** = 100 meters TLE90. 2) Conditions: SWE and WE conditions. II) Enter and be managed in the network: A) Link 16 tactical data link network. 1) Measure: Time to fine synchronization = less than or equal to 60 seconds; Terminal performance = 99% availability; Messaging = MER of less than or equal to 1%. 2) Conditions: Operational network; Type 1 encryption; Spectrum availability. B) Line-of-sight UHF tactical data link network. 1) Measure: Time to fine synchronization = less than or equal to 60 seconds; Terminal Performance = 99% availability; Messaging = MER less than or equal to 1%. 2) Conditions: Operational network; Type 1 encryption; spectrum availability. III) Exchange Information:	planned and/or event-driven. 1) Measure: Receipt of weapon control directives = less than or equal to 12 seconds (Link 16); Transmission of situation awareness messages = less than or equal to 30 seconds UHF. 2) Conditions: Secure and available communications (DoD Chief Information Officer net-centric attribute). B) Mission Activities: Enable target acquisition; Target tracking. 1) Measure: Link 16 Target location accuracy** = 60 meters TLE90 and UHF** = 100 meters TLE90. 2) Conditions: SWE and WE conditions. II) Enter and be managed in the network: A) Link 16 tactical data link network. 1) Measure: Time to fine synchronization = less than or equal to 60 seconds; Terminal performance = 99% availability; Messaging = MER of less than or equal to 1%. 2) Conditions: Operational network; Type 1 encryption; Spectrum availability. B) Line-of-sight UHF tactical data link network. 1) Measure: Time to fine synchronization = less than or equal to 60 seconds; Terminal Performance = 99% availability; Messaging = MER less than or equal to 1%. 2) Conditions: Operational network; Type 1 encryption; spectrum availability. III)		planned and/or event-driven. 1) Measure: Receipt of weapon control directives = less than or equal to 12 seconds (Link 16); Transmission of situation awareness messages = less than or equal to 30 seconds UHF. 2) Conditions: Secure and available communications (DoD Chief Information Officer net-centric attribute). B) Mission Activities: Enable target acquisition; Target tracking. 1) Measure: Link 16 Target location accuracy** = 60 meters TLE90 and UHF** = 100 meters TLE90. 2) Conditions: SWE and WE conditions. II) Enter and be managed in the network: A) Link 16 tactical data link network. 1) Measure: Time to fine synchronization = less than or equal to 60 seconds; Terminal performance = 99% availability; Messaging = MER of less than or equal to 1%. 2) Conditions: Operational network; Type 1 encryption; Spectrum availability. B) Line-of-sight UHF tactical data link network. 1) Measure: Time to fine 2) Conditions: Operational network; Type 1 encryption; spectrum availability. III) Exchange Information: A) Link 16 weapon control: 1) Measure: Periodicity***

A) Link 16 weapon control: 1) Measure: Periodicity*** = less than or equal to 12 seconds; Timeliness**** = less than or equal to 3 seconds; Throughput***** = 53.76 kilobits per second; Size****** = 0.56 kilobits. 2) Conditions: Operational network; Type I encryption; Required spectrum is available. B) UHF weapon control JTAC2: 1) Measure: Periodicity******* = less than or equal to 30 seconds; Timeliness******** = less than or equal to 6 seconds; Throughput********* = 16 kilobits per second; Size********** = 1.12 kilobits. 2) Conditions: Operational network; Type I encryption; Required spectrum is available. C) Link 16 precise participant location and identification TDL 1: 1) Measure: Periodicity********** = less than or equal to 12 seconds; Timeliness*********** = less than or equal to 3 seconds; Throughput***** = 53.76 kilobits per second; Size********** = 0.315 kilobits. 2) Conditions: Operational network; Type I encryption; Required spectrum is available.	A) Link 16 weapon control: 1) Measure: Periodicity*** = less than or equal to 12 seconds; Timeliness**** = less than or equal to 3 seconds; Throughput***** = 53.76 kilobits per second; Size****** = 0.56 kilobits. 2) Conditions: Operational network; Type I encryption; Required spectrum is available. B) UHF weapon control JTAC2: 1) Measure: Periodicity******* = less than or equal to 30 seconds; Timeliness******** = less than or equal to 6 seconds; Throughput********* = 16 kilobits per second; Size********** = 1.12 kilobits. 2) Conditions: Operational network; Type I encryption; Required spectrum is available. C) Link 16 precise participant location and identification TDL 1: 1) Measure: Periodicity********** = less than or equal to 12 seconds; Timeliness*********** = less than or equal to 3 seconds; Throughput***** = 53.76 kilobits per second; Size********** = 0.315 kilobits. 2) Conditions: Operational network; Type I encryption; Required spectrum is available.	Exchange Information: A) Link 16 weapon control: 1) Measure: Periodicity*** = less than or equal to 12 seconds; Timeliness**** = less than or equal to 3 seconds; Throughput***** = 53.76 kilobits per second; Size****** = 0.56 kilobits. 2) Conditions: Operational network; Type I encryption; Required spectrum is available. B) UHF weapon control JTAC2: 1) Measure: Periodicity******* = less than or equal to 30 seconds; Timeliness******** = less than or equal to 6 seconds; Throughput********* = 16 kilobits per second; Size********** = 1.12 kilobits. 2) Conditions: Operational network; Type I encryption; Required spectrum is available. C) Link 16 precise participant location and identification (TDL 1): 1) Measure: Periodicity********** = less than or equal to 12 seconds; Timeliness*********** = less than or equal to 3 seconds; Throughput***** = 53.76 kilobits per second; Size********** = 0.315 kilobits. 2) Conditions: Operational network; Type I encryption; Required spectrum is available.		= less than or equal to 12 seconds; Timeliness**** = less than or equal to 3 seconds; Throughput***** = 53.76 kilobits per second; Size****** = 0.56 kilobits. 2) Conditions: Operational network; Type I encryption; Required spectrum is available. B) UHF weapon control JTAC2: 1) Measure Periodicity******* = less than or equal to 30 seconds; Timeliness******** = less than or equal to 6 seconds; Throughput********* = 16 kilobits per second; Size********** = 1.12 kilobits. 2) Conditions: Operational network; Type 1 encryption; Required spectrum is available. C) Link 16 precise participant location and identification TDL 1: 1) Measure: Periodicity********** = less than or equal to 12 seconds; Timeliness*********** = less than or equal to 3 seconds; Throughput***** = 53.76 kilobits per second; Size********** = 0.315 kilobits. 2) Conditions: Operational network; Type 1 encryption; Required spectrum is available.
Weapon Effectiveness				

Given meeting the threshold of WE the SDB II will achieve a minimum PSSK of (O-3), when averaged over various environmental/threat condition cases listed in Appendix F of CDD for SDB II dated July 28, 2009. The JROC reviewed the CDD in lieu of the CPD on November 18, 2014, the JROC subsequently signed the memorandum on January 13, 2015.	Given meeting the threshold of WE the SDB II will achieve a minimum PSSK of (O-3), when averaged over various environmental/threat condition cases listed in Appendix F of CDD for SDB II dated July 28, 2009. The JROC reviewed the CDD in lieu of the CPD on November 18, 2014, the JROC subsequently signed the memorandum on January 13, 2015.	SDB II will achieve a minimum PSSK of (T-3) for each target type (Table 6-1 of CDD for SDB II dated July 28, 2009) in each environmental/threat condition case listed in Appendix F of CDD for SDB II dated July 28, 2009. The JROC reviewed the CDD in lieu of the CPD on November 18, 2014, the JROC subsequently signed the memorandum on January 13, 2015.	Demonstrated performance data will be collected and displayed when SDB II enters OT.	SDB II will achieve a minimum PSSK of (T-3) for each target type (Table 6-1 of CDD for SDB II dated July 28, 2009) in each environmental/ threat condition case listed in Appendix F of CDD for SDB II dated July 28, 2009. The JROC reviewed the CDD in lieu of the CPD on November 18, 2014; the JROC subsequently signed the memorandum on January 13, 2015.

Requirements Reference

Miniature Munitions Capability ORD dated April 8, 2005, CDD dated July 28, 2009, and JROC Memorandum dated January 13, 2015

Change Explanations

None

Notes

Threshold aircraft is defined as F-15E for the Air Force and F-35B and F-35C for the Navy. Program schedule for the Air Force will not be delayed due to availability of the F-35B and F-35C. Both targeting methods (threshold aircraft or JTAC) must be employed in any combination to achieve an average over the target set.

1/ Net Ready KPP was updated in the CDD in lieu of a CPD and approved by the JROC:

**Probability (90%) that target can be found within a 60 meter or 100 meter location error ellipse.

*** Maximum interval for Link 16 IFTU message (CDD: Aircraft Controller Requirement).

****Nominal Link 16 network access delay due to host buffering, contention access randomness, and minimum NPG time slot assignment.

*****Link 16 Packed-2 Double Pulse maximum tactical throughput rate.

******7-word Re-Target message sent in two time slots with associated headers.

*******Maximum interval for UHF IFTU message (CDD: JTAC Controller Requirement).

********Nominal UHF CNR deterministic adaptable priority network access delay and nominal 7-node network.

*********CNR modem and the VINSON crypto algorithm maximum tactical throughput rate.

**********7-word Re-Target message sent with IP version 4 and CNR overhead and Mil-Std-2045-47001 header.

**********Nominal NPG 6 weapon assignment.

**********Nominal Link 16 network access delay due to host buffering and contention access randomness.

**********4-word PPLI message sent in one time slot with associated header.

Acronyms and Abbreviations

BRU - Bomb Rack Unit
CNR - Combat-Net Radio
EMC - Electromagnetic Compatibility
EMI - Electromagnetic Interference
IEA - Information Enterprise Architecture
IFTU - In Flight Target Update
IP - Internet Protocol
JTAC - Joint Terminal Attack Controller
MER - Message Error Rate
NPG - Network Participation Group
O - Objective
PPLI - Precise Participant Location Information
PSSK - Probability of Single Shot Kill
SWE - Scenario Weapon Effectiveness
T - Threshold
TDL - Tactical Data Link
TLE - Target Location Error
UHF - Ultra High Frequency
WE - Weapon Effectiveness

Track to Budget

RDT&E

Appn		BA	PE	
Navy	1319	05	0604329N	
	Project		**Name**	
	3072		Small Diameter Bomb	(Shared)
Air Force	3600	05	0604329F	
	Project		**Name**	
	655191		Small Diameter Bomb Increment II	

Procurement

Appn		BA	PE	
Navy	1507	02	0204162N	
	Line Item		**Name**	
	223800		Small Diameter Bomb II	
Air Force	3020	02	0207327F	
	Line Item		**Name**	
	SDB000		Small Diameter Bomb	(Shared)

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2015 $M			BY 2015 $M	TY $M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	1678.1	1678.1	1845.9	1777.9	1648.9	1648.9	1757.5
Procurement	2376.8	2376.8	2614.5	2392.5	2792.0	2792.0	2797.4
Flyaway	--	--	--	2122.5	--	--	2490.4
Recurring	--	--	--	2122.5	--	--	2490.4
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	270.0	--	--	307.0
Other Support	--	--	--	270.0	--	--	307.0
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	4054.9	4054.9	N/A	4170.4	4440.9	4440.9	4554.9

Current APB Cost Estimate Reference

Joint Air Force / Navy Service Cost Position dated April 29, 2015

Confidence Level

Confidence Level of cost estimate for current APB: 50%

A mathematically derived confidence level was not computed for this Life-Cycle Cost Estimate (LCCE). This LCCE represents the expected value, taking into consideration relevant risks, including ordinary levels of external and unforeseen events. It aims to provide sufficient resources to execute the program under normal conditions encountering average levels of technical, schedule, and programmatic risk and external influence.

Cost Notes

The APB covers the SDB II weapon system which consists of the Guided Bomb Unit (GBU)-53/B munition, mission planning and logistics system, and associated containers.

Total Quantity			
Quantity	**SAR Baseline Production Estimate**	**Current APB Production**	**Current Estimate**
RDT&E	163	163	163
Procurement	17000	17000	17000
Total	17163	17163	17163

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2017 President's Budget / December 2015 SAR (TY$ M)									
Appropriation	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
RDT&E	1171.6	58.4	92.4	105.3	142.9	102.4	62.7	21.8	1757.5
Procurement	40.6	66.0	92.4	99.9	161.3	291.0	452.2	1594.0	2797.4
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2017 Total	1212.2	124.4	184.8	205.2	304.2	393.4	514.9	1615.8	4554.9
PB 2016 Total	1216.7	127.9	176.4	187.4	267.5	361.9	439.9	1481.8	4259.5
Delta	-4.5	-3.5	8.4	17.8	36.7	31.5	75.0	134.0	295.4

Funding Notes

The cost estimate between the FY 2016 PB and the FY 2017 PB is a result of updated cost estimating methodologies for the Milestone C SCP, the addition of M-code, a reduction, Small Business Innovation Research, and inflation adjustments.

Quantity Summary										
FY 2017 President's Budget / December 2015 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Development	163	0	0	0	0	0	0	0	0	163
Production	0	144	250	312	550	1050	1650	2910	10134	17000
PB 2017 Total	163	144	250	312	550	1050	1650	2910	10134	17163
PB 2016 Total	163	144	250	312	550	1050	1650	2718	10326	17163
Delta	0	0	0	0	0	0	0	192	-192	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2006	--	--	--	--	--	--	24.7
2007	--	--	--	--	--	--	92.0
2008	--	--	--	--	--	--	139.6
2009	--	--	--	--	--	--	107.1
2010	--	--	--	--	--	--	126.5
2011	--	--	--	--	--	--	100.0
2012	--	--	--	--	--	--	138.8
2013	--	--	--	--	--	--	125.1
2014	--	--	--	--	--	--	109.6
2015	--	--	--	--	--	--	66.4
2016	--	--	--	--	--	--	29.1
2017	--	--	--	--	--	--	54.8
2018	--	--	--	--	--	--	47.4
2019	--	--	--	--	--	--	70.1
2020	--	--	--	--	--	--	31.5
2021	--	--	--	--	--	--	6.4
Subtotal	136	--	--	--	--	--	1269.1

Annual Funding 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2015 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2006	--	--	--	--	--	--	28.4
2007	--	--	--	--	--	--	103.0
2008	--	--	--	--	--	--	153.2
2009	--	--	--	--	--	--	116.0
2010	--	--	--	--	--	--	135.3
2011	--	--	--	--	--	--	105.0
2012	--	--	--	--	--	--	143.1
2013	--	--	--	--	--	--	127.0
2014	--	--	--	--	--	--	109.7
2015	--	--	--	--	--	--	65.8
2016	--	--	--	--	--	--	28.4
2017	--	--	--	--	--	--	52.5
2018	--	--	--	--	--	--	44.6
2019	--	--	--	--	--	--	64.6
2020	--	--	--	--	--	--	28.5
2021	--	--	--	--	--	--	5.7
Subtotal	136	--	--	--	--	--	1310.8

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2005	--	--	--	--	--	--	8.8
2006	--	--	--	--	--	--	11.7
2007	--	--	--	--	--	--	9.7
2008	--	--	--	--	--	--	11.1
2009	--	--	--	--	--	--	15.8
2010	--	--	--	--	--	--	7.6
2011	--	--	--	--	--	--	13.4
2012	--	--	--	--	--	--	17.9
2013	--	--	--	--	--	--	16.6
2014	--	--	--	--	--	--	18.0
2015	--	--	--	--	--	--	11.2
2016	--	--	--	--	--	--	29.3
2017	--	--	--	--	--	--	37.6
2018	--	--	--	--	--	--	57.9
2019	--	--	--	--	--	--	72.8
2020	--	--	--	--	--	--	70.9
2021	--	--	--	--	--	--	56.3
2022	--	--	--	--	--	--	18.4
2023	--	--	--	--	--	--	3.4
Subtotal	27	--	--	--	--	--	488.4

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2015 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2005	--	--	--	--	--	--	10.4
2006	--	--	--	--	--	--	13.4
2007	--	--	--	--	--	--	10.8
2008	--	--	--	--	--	--	12.2
2009	--	--	--	--	--	--	17.1
2010	--	--	--	--	--	--	8.1
2011	--	--	--	--	--	--	13.9
2012	--	--	--	--	--	--	18.3
2013	--	--	--	--	--	--	16.8
2014	--	--	--	--	--	--	18.0
2015	--	--	--	--	--	--	11.0
2016	--	--	--	--	--	--	28.4
2017	--	--	--	--	--	--	35.8
2018	--	--	--	--	--	--	54.1
2019	--	--	--	--	--	--	66.7
2020	--	--	--	--	--	--	63.7
2021	--	--	--	--	--	--	49.6
2022	--	--	--	--	--	--	15.9
2023	--	--	--	--	--	--	2.9
Subtotal	27	--	--	--	--	--	467.1

Includes weapon development only; does not include rack development.

Annual Funding 3020 | Procurement | Missile Procurement, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2015	144	39.4	0.5	--	39.9	0.7	40.6
2016	250	44.9	1.0	--	45.9	20.1	66.0
2017	312	56.0	1.1	--	57.1	35.3	92.4
2018	460	56.0	1.2	--	57.2	21.8	79.0
2019	300	32.5	0.9	--	33.4	35.8	69.2
2020	900	143.7	2.9	--	146.6	22.8	169.4
2021	2160	297.0	7.0	--	304.0	30.5	334.5
2022	1968	280.4	6.6	--	287.0	15.5	302.5
2023	1968	275.7	6.8	--	282.5	23.9	306.4
2024	1968	277.1	6.9	--	284.0	12.8	296.8
2025	1570	241.0	5.8	--	246.8	25.2	272.0
Subtotal	12000	1743.7	40.7	--	1784.4	244.4	2028.8

Annual Funding 3020 | Procurement | Missile Procurement, Air Force							
Fiscal Year	Quantity	BY 2015 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2015	144	38.3	0.5	--	38.8	0.7	39.5
2016	250	42.9	1.0	--	43.9	19.2	63.1
2017	312	52.5	1.0	--	53.5	33.1	86.6
2018	460	51.5	1.1	--	52.6	20.1	72.7
2019	300	29.3	0.8	--	30.1	32.3	62.4
2020	900	127.0	2.6	--	129.6	20.1	149.7
2021	2160	257.2	6.1	--	263.3	26.4	289.7
2022	1968	238.1	5.6	--	243.7	13.2	256.9
2023	1968	229.6	5.7	--	235.3	19.9	255.2
2024	1968	226.2	5.6	--	231.8	10.5	242.3
2025	1570	193.0	4.6	--	197.6	20.2	217.8
Subtotal	12000	1485.6	34.6	--	1520.2	215.7	1735.9

Annual Funding 1507 | Procurement | Weapons Procurement, Navy							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2018	90	10.8	0.4	--	11.2	9.7	20.9
2019	750	79.5	2.7	--	82.2	9.9	92.1
2020	750	109.0	3.3	--	112.3	9.3	121.6
2021	750	105.2	3.2	--	108.4	9.3	117.7
2022	750	105.4	3.4	--	108.8	5.6	114.4
2023	750	103.6	3.3	--	106.9	6.6	113.5
2024	750	104.1	3.4	--	107.5	5.5	113.0
2025	410	66.7	2.0	--	68.7	6.7	75.4
Subtotal	5000	684.3	21.7	--	706.0	62.6	768.6

Annual Funding 1507 | Procurement | Weapons Procurement, Navy							
Fiscal Year	Quantity	BY 2015 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2018	90	9.9	0.4	--	10.3	8.9	19.2
2019	750	71.7	2.4	--	74.1	9.0	83.1
2020	750	96.4	2.9	--	99.3	8.3	107.6
2021	750	91.2	2.8	--	94.0	8.1	102.1
2022	750	89.6	2.9	--	92.5	4.8	97.3
2023	750	86.4	2.8	--	89.2	5.4	94.6
2024	750	85.1	2.8	--	87.9	4.4	92.3
2025	410	53.4	1.6	--	55.0	5.4	60.4
Subtotal	5000	583.7	18.6	--	602.3	54.3	656.6

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	8/6/2010	6/4/2015
Approved Quantity	4034	9947
Reference	Milestone B ADM	Milestone C ADM
Start Year	2013	2015
End Year	2018	2022

The Current Total LRIP Quantity is more than 10% of the total production quantity due to a delay in the completion of Operational Test and Evaluation caused by schedule revisions to the F-35 program, a threshold aircraft. Since the SDB II EMD contract award, the F-35 schedule has been further delayed, which requires an additional increase in the LRIP quantities to 9,947; this change was approved by the Milestone C ADM and accounts for max quantities in Lots 1-5 and most probable quantities in Lots 6-8. These quantities are necessary to provide production-configured or representative articles for Operational Testing (OT), to establish an initial production base for the system, and to permit an orderly increase in the production rate for the system sufficient to lead to FRP upon the successful completion of OT.

Foreign Military Sales

Notes

SDB II participated in OSD's Defense Exportability Features (DEF) program for FY 2014 and FY 2015. SDB II has been approved for FY 2016 DEF pending available funding.

Nuclear Costs

None

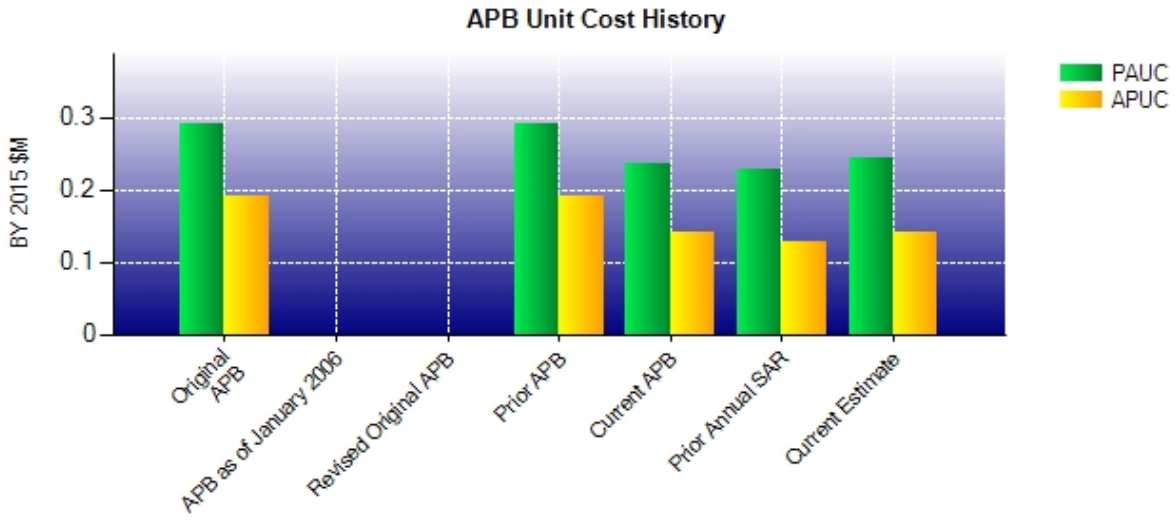
Unit Cost

Unit Cost Report

Item	BY 2015 $M Current UCR Baseline (Sep 2015 APB)	BY 2015 $M Current Estimate (Dec 2015 SAR)	% Change
Program Acquisition Unit Cost			
Cost	4054.9	4170.4	
Quantity	17163	17163	
Unit Cost	0.236	0.243	+2.97
Average Procurement Unit Cost			
Cost	2376.8	2392.5	
Quantity	17000	17000	
Unit Cost	0.140	0.141	+0.71

Item	BY 2015 $M Original UCR Baseline (Oct 2010 APB)	BY 2015 $M Current Estimate (Dec 2015 SAR)	% Change
Program Acquisition Unit Cost			
Cost	4979.8	4170.4	
Quantity	17163	17163	
Unit Cost	0.290	0.243	-16.21
Average Procurement Unit Cost			
Cost	3237.9	2392.5	
Quantity	17000	17000	
Unit Cost	0.190	0.141	-25.79

Unit Cost History



Item	Date	BY 2015 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Oct 2010	0.290	0.190	0.304	0.209
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Oct 2010	0.290	0.190	0.304	0.209
Current APB	Sep 2015	0.236	0.140	0.259	0.164
Prior Annual SAR	Dec 2014	0.228	0.129	0.248	0.151
Current Estimate	Dec 2015	0.243	0.141	0.265	0.165

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY $M)									
Initial PAUC Development Estimate	Changes								PAUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.304	0.006	0.000	0.001	0.000	-0.049	0.000	-0.003	-0.045	0.259

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.259	-0.001	0.000	0.000	0.006	0.001	0.000	0.000	0.006	0.265

Initial SAR Baseline to Current SAR Baseline (TY $M)									
Initial APUC Development Estimate	Changes								APUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.209	0.005	0.000	0.001	0.000	-0.048	0.000	-0.003	-0.045	0.164

Current SAR Baseline to Current Estimate (TY $M)									
APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.164	-0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.165

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	Jul 2010	Aug 2010	Jul 2010
Milestone C	N/A	Jan 2013	May 2015	May 2015
IOC	N/A	Jul 2016	Jan 2018	Jul 2018
Total Cost (TY $M)	N/A	5210.4	4440.9	4554.9
Total Quantity	N/A	17163	17163	17163
PAUC	N/A	0.304	0.259	0.265

The IOC event above uses the F-15E Required Assets Available (RAA) milestone which is a surrogate for IOC, The F-15E is the initial aircraft with SDB II capability. There are three additional IOCs for this program, F/A-18E/F, F-35B and F-35C Initial Fielding, all occurring after the F-15E RAA milestone.

Cost Variance

Summary TY $M				
Item	**RDT&E**	**Procurement**	**MILCON**	**Total**
SAR Baseline (Production Estimate)	1648.9	2792.0	--	4440.9
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+51.5	-301.4	--	-249.9
Other	--	--	--	--
Support	--	+68.5	--	+68.5
Subtotal	+51.5	-232.9	--	-181.4
Current Changes				
Economic	+0.8	-10.4	--	-9.6
Quantity	--	--	--	--
Schedule	--	-1.7	--	-1.7
Engineering	+115.8	--	--	+115.8
Estimating	-59.5	+318.0	--	+258.5
Other	--	--	--	--
Support	--	-67.6	--	-67.6
Subtotal	+57.1	+238.3	--	+295.4
Adjustments	--	--	--	--
Total Changes	+108.6	+5.4	--	+114.0
CE - Cost Variance	1757.5	2797.4	--	4554.9
CE - Cost & Funding	1757.5	2797.4	--	4554.9

Summary BY 2015 $M				
Item	**RDT&E**	**Procurement**	**MILCON**	**Total**
SAR Baseline (Production Estimate)	1678.1	2376.8	--	4054.9
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+46.6	-251.7	--	-205.1
Other	--	--	--	--
Support	--	+58.1	--	+58.1
Subtotal	+46.6	-193.6	--	-147.0
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+107.9	--	--	+107.9
Estimating	-54.7	+266.2	--	+211.5
Other	--	--	--	--
Support	--	-56.9	--	-56.9
Subtotal	+53.2	+209.3	--	+262.5
Adjustments	--	--	--	--
Total Changes	+99.8	+15.7	--	+115.5
CE - Cost Variance	1777.9	2392.5	--	4170.4
CE - Cost & Funding	1777.9	2392.5	--	4170.4

Previous Estimate: September 2015

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.8
Adjustment for current and prior escalation. (Estimating)	-2.5	-2.5
Revised estimate for Small Business Innovation Research (Air Force). (Estimating)	-2.3	-2.3
Congressional reduction in FY 2016 (Air Force). (Estimating)	-3.3	-3.4
Revised estimate to reflect updated cost estimating methodologies in support of Milestone C (Air Force). (Estimating)	+8.0	+9.7
Revised estimate to reflect updated cost estimating methodologies in support of Milestone C (Navy). (Estimating)	-54.6	-61.0
Additional funding in FY 2017 - 2019 for M-Code requirement (Air Force). (Engineering)	+107.9	+115.8
RDT&E Subtotal	+53.2	+57.1

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-10.4
Acceleration of procurement buy profile from FY 2025 to FY 2021 (Air Force). (Schedule)	0.0	-1.7
Revised estimate to reflect updated cost estimating methodologies in support of Milestone C (Air Force). (Estimating)	+182.4	+219.0
Revised estimate to reflect updated cost estimating methodologies in support of Milestone C (Navy). (Estimating)	+83.5	+98.7
Adjustment for current and prior escalation. (Estimating)	+0.3	+0.3
Adjustment for current and prior escalation. (Support)	+0.1	+0.1
Decrease in Other Support to reflect updated cost estimating methodologies in support of Milestone C (Air Force). (Support)	-55.8	-65.3
Decrease in Other Support to reflect updated cost estimating methodologies in support of Milestone C (Navy). (Support)	-1.2	-2.4
Procurement Subtotal	+209.3	+238.3

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: Low Rate Initial Production Lot 1
Contractor: Raytheon Company
Contractor Location: 1151 E. Hermans Rd
Tucson, AZ 85756
Contract Number: FA8672-15-C-0136
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: June 12, 2015
Definitization Date: June 12, 2015

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
30.9	35.1	144	30.9	35.1	144	34.6	35.1

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FPIF) contract.

General Contract Variance Explanation

Cost variance is not reported for this contract, because contract performance has not yet begun.

Notes

The SDB II LRIP contract was awarded for 144 Munitions, 156 Single Weapon Containers, eight Weapon Load Crew Trainers/Conventional Munitions Maintenance Trainers, four Practical EOD System Trainers, and Data. This contract provides for the exercise of an option (awarded as a separate contract for administrative convenience) for SDB II LRIP Lot 1. The work is expected to be completed by May 30, 2017.

The SDB II Production Lot 1 Integrated Baseline Review occurred November 17, 2015.

Deliveries and Expenditures

Deliveries				
Delivered to Date	**Planned to Date**	**Actual to Date**	**Total Quantity**	**Percent Delivered**
Development	0	0	163	0.00%
Production	0	0	17000	0.00%
Total Program Quantity Delivered	0	0	17163	0.00%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	4554.9	Years Appropriated	12
Expended to Date	992.4	Percent Years Appropriated	57.14%
Percent Expended	21.79%	Appropriated to Date	1336.6
Total Funding Years	21	Percent Appropriated	29.34%

The above data is current as of March 01, 2016.

The Government does not take delivery of the 163 Developmental Test (DT) assets. The DT assets will not go to inventory. The 17,000 sustainment quantity will be delivered to inventory.

Operating and Support Cost

Cost Estimate Details

Date of Estimate: April 29, 2015
Source of Estimate: SCP
Quantity to Sustain: 17000
Unit of Measure: Total Quantity
Service Life per Unit: 20.00 Years
Fiscal Years in Service: FY 2014 - FY 2046

Development units will not be sustained.

Sustainment Strategy

The SDB II O&S strategy is to use Contractor Logistics Support (CLS) to cover sustainment activities for 17,000 weapons. A CLS Product Support Agreement (PSA) will be developed and put on contract with Raytheon for initial support. That PSA will be reviewed and updated at the end of each contractual period of performance. A 20-year warranty is assumed with a 20-year shelf-life and the subsequent demilitarization of the weapon.

Antecedent Information

No Antecedent. The SDB II weapon is a new acquisition program that provides Joint fighter/bomber aircraft the capability to engage mobile targets in adverse weather from stand-off ranges by utilizing a multi-mode seeker and a post-release communications weapon data link. SDB II will not replace SDB I.

Annual O&S Costs BY2015 $M

Cost Element	SDB II Average Annual Cost Per Total Quantity	No Antecedent (Antecedent) N/A
Unit-Level Manpower	0.600	0.000
Unit Operations	0.000	0.000
Maintenance	2.900	0.000
Sustaining Support	17.900	0.000
Continuing System Improvements	5.300	0.000
Indirect Support	0.500	0.000
Other	0.000	0.000
Total	27.200	--

Item	Total O&S Cost $M			
	SDB II			No Antecedent (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	897.5	987.3	897.5	0.0
Then Year	1327.5	N/A	1327.5	N/A

Equation to Translate Annual Cost to Total Cost

Total O&S cost is equal to the average annual total inventory cost per year times the total number of years in the O&S phase, $27.2M * 33 years = $897M (BY 2015).

O&S Cost Variance		
Category	**BY 2015 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Sep 2015 SAR	897.5	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	897.5	

Disposal Estimate Details

Date of Estimate: April 29, 2015

Source of Estimate: SCP

Disposal/Demilitarization Total Cost (BY 2015 $M): Total costs for disposal of all Total Quantity are 41.7