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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2023 Navy **Date:** April 2022

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	535.567	50.003	40.852	42.881	-	42.881	20.516	10.116	9.615	9.665	0.000	719.215
1663: <i>SDB II F-18 Integration</i>	189.074	7.150	4.960	3.242	-	3.242	0.000	0.000	0.000	0.000	0.000	204.426
3072: <i>Small Diameter Bomb (SDB)</i>	346.493	42.853	35.892	39.639	-	39.639	20.516	10.116	9.615	9.665	0.000	514.789

**Program MDAP/MAIS Code:**  
**Project MDAP/MAIS Code(s):** 439

**A. Mission Description and Budget Item Justification**

Small Diameter Bomb Increment II (SDB II) is an ACAT 1C joint Department of the Air Force (USAF) and Department of the Navy (DON) program, with the USAF as the lead service. The SDB II increases joint lethality in contested environments. The SDB can strike a diverse set of targets inside an adversary's air and missile defense networks to destroy mobile platforms through the weather. With increased loadout, range, and munitions effect the network enabled SDBII enhances close combat lethality in complex terrain and provides a net-centric operations capability. The BRU-61 is the Universal Armament Interface (UAI) pneumatic rack used to carry four SDB II's at one time. The threshold aircraft for the USAF is the F-15E and for the DON are the F-35B and F-35C. F/A-18 E/F is an objective platform for the DoN.

The DON has adjusted the platform integration strategy through the inclusion of F/A-18 E/F using BRU-55 to deliver the capability to the warfighter aligned to adjusted F-35 program's schedule.

**BUDGET ACTIVITY JUSTIFICATION:** This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2023 Navy	<b>Date:</b> April 2022
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Previous President's Budget	51.097	46.769	0.000	-	0.000
Current President's Budget	50.003	40.852	42.881	-	42.881
Total Adjustments	-1.094	-5.917	42.881	-	42.881
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.917			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.008	0.000			
• SBIR/STTR Transfer	-1.086	0.000			
• Program Adjustments	0.000	0.000	0.000	-	0.000
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000
• Adjustments to Budget Year	-	-	42.881	-	42.881

**Change Summary Explanation**

Project 3072: FY 2023 funding request was reduced by \$1.411 million to account for the availability of prior year execution balances.

Schedule: Project 1663: COVID travel and staffing restrictions impacted ability to support test prep and execution delaying test events and IOC. Delays are due to test asset availability and discoveries in software. Software fixes are in and now completing Crypto Mod compatibility before resuming test. Fielded capability will have full function of SDB II and will be Crypto Mod compliant.

Schedule: Project 3072: Delays in F-35 testing and fielding are due to aging test aircraft and competing fleet priorities. The current F-35 test aircraft were down for maintenance longer than anticipated. Flight testing resumed in December and will continue to execute to meet the F-35B EOC.

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FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2023 Navy **Date:** April 2022

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB )</i>	<b>Project (Number/Name)</b> 1663 / <i>SDB II F-18 Integration</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
1663: <i>SDB II F-18 Integration</i>	189.074	7.150	4.960	3.242	-	3.242	0.000	0.000	0.000	0.000	0.000	204.426
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

Due to continuing delays in the F-35 program, the DON has adjusted the platform integration strategy by inclusion of Small Diameter Bomb II (SDB II) and BRU-55 on F/A-18 E/F to deliver the capability to the warfighter in light of continued F-35 program delays. This program funds the aircraft software, integration and testing required to successfully integrate SDB II and BRU-55 on the F/A-18 E/F to meet a FY 2023 Initial Operational Capability (IOC). In order to meet the IOC, testing will be limited to the F/A-18 E/F midboard stations and the flight envelope will be limited. Following limited envelope and midboard station testing, the program will test full envelope SDB II and BRU-55 on inboard stations and the SDB II and BRU-61 type II carriage system on midboard and inboard stations.

COVID travel and staffing restrictions impacted ability to support test prep and execution. Delays are due to test asset availability and discoveries in software. Software fixes are in and now completing Crypto Mod compatibility before resuming test. Fielded capability will have full function of SDB II and will be Crypto Mod compliant.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<b>Title:</b> F/A-18 Integration	7.150	4.960	3.242	0.000	3.242
<b>Articles:</b>	-	-	-	-	-
<b>FY 2022 Plans:</b> Correct any deficiencies from Operational Test (OT) of SDB II / BRU-55 limited envelope. Conduct Development Test (DT) and Operational Test (OT) of SDB II / BRU-55 full envelope.					
<b>FY 2023 Base Plans:</b> Complete integration of SDB II / BRU-55 on inboard stations. Continue software fixes in H16 Operational Flight Program (OFP).					
<b>FY 2023 OCO Plans:</b> N/A					
<b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Decrease of \$1.718M from FY 2022 to FY 2023 reflects the completion of the SDB II / BRU-55 integration and beginning of software fixes in H16 OFP.					
<b>Accomplishments/Planned Programs Subtotals</b>	7.150	4.960	3.242	0.000	3.242

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Navy		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB )</i>	<b>Project (Number/Name)</b> 1663 / <i>SDB II F-18 Integration</i>

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• WPN/2238: <i>Small Diameter Bomb II</i>	57.755	33.764	108.317	-	108.317	102.635	89.364	91.847	92.496	263.371	1,060.239

**Remarks**

**D. Acquisition Strategy**

Integration of SDB II and the BRU-55 is software driven by ground and flight test requirements.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB )</i>	<b>Project (Number/Name)</b> 1663 / <i>SDB II F-18 Integration</i>
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<b>Support (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
OFP Development and Support	SS/IDIQ	Boeing : St. Louis, MO	67.099	3.476	Nov 2020	0.770	Nov 2021	1.235	Nov 2022	-		1.235	0.000	72.580	72.580
SDB II Prime Contractor Support	SS/IDIQ	Raytheon Missile Systems : Tuscon, AZ	26.370	0.000		0.565	Feb 2022	0.267	Feb 2023	-		0.267	0.000	27.202	27.202
SDB II Integration Support	WR	NAWC AD : Patuxent River, MD	10.167	0.154	Nov 2020	0.979	Nov 2021	0.322	Nov 2022	-		0.322	0.000	11.622	-
SDB II Software Support	WR	NAWC WD : China Lake, CA	49.128	1.882	Nov 2020	0.752	Nov 2021	0.261	Nov 2022	-		0.261	0.000	52.023	-
BRU-61 Prime Contractor Support	SS/IDIQ	Boeing : St. Charles, MO	0.000	0.000		0.739	Jan 2022	1.043	Nov 2022	-		1.043	0.000	1.782	1.782
BRU-77 Prime Contractor Support	Various	Various : Various	11.172	0.000		0.000		0.000		-		0.000	0.000	11.172	11.172
<b>Subtotal</b>			163.936	5.512		3.805		3.128		-		3.128	0.000	176.381	N/A

**Remarks**  
 FY 2023 funds continued integration on inboard stations and software fixes in H16 Operational Flight Plan (OFP).  
 Prior year BRU Prime Contractor Support is for the BRU-77 program which was terminated. The Boeing BRU-61 will be used for future four-place rack integration on F/A-18 E/F.

<b>Test and Evaluation (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Wind Tunnel Test	MIPR	various : various	9.735	0.000		0.000		0.000		-		0.000	0.000	9.735	-
Development Test	WR	VX-23 : Patuxent River, MD	12.781	1.638	Nov 2020	0.855	Nov 2021	0.000		-		0.000	0.000	15.274	-
Operational Test	WR	VX-9 : China Lake, CA	2.622	0.000		0.300	Nov 2021	0.114	Nov 2022	-		0.114	0.000	3.036	-
<b>Subtotal</b>			25.138	1.638		1.155		0.114		-		0.114	0.000	28.045	N/A

**Remarks**  
 Testing in FY 2022 and beyond is for integration efforts of F/A-18 E/F and SDB II with BRU-55 on inboard stations.

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2023 Navy							<b>Date:</b> April 2022				
<b>Appropriation/Budget Activity</b> 1319 / 5			<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB )</i>				<b>Project (Number/Name)</b> 1663 / <i>SDB II F-18 Integration</i>				
	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>		
<b>Project Cost Totals</b>	189.074	7.150	4.960	3.242	-	3.242	0.000	204.426	N/A		

**Remarks**

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy

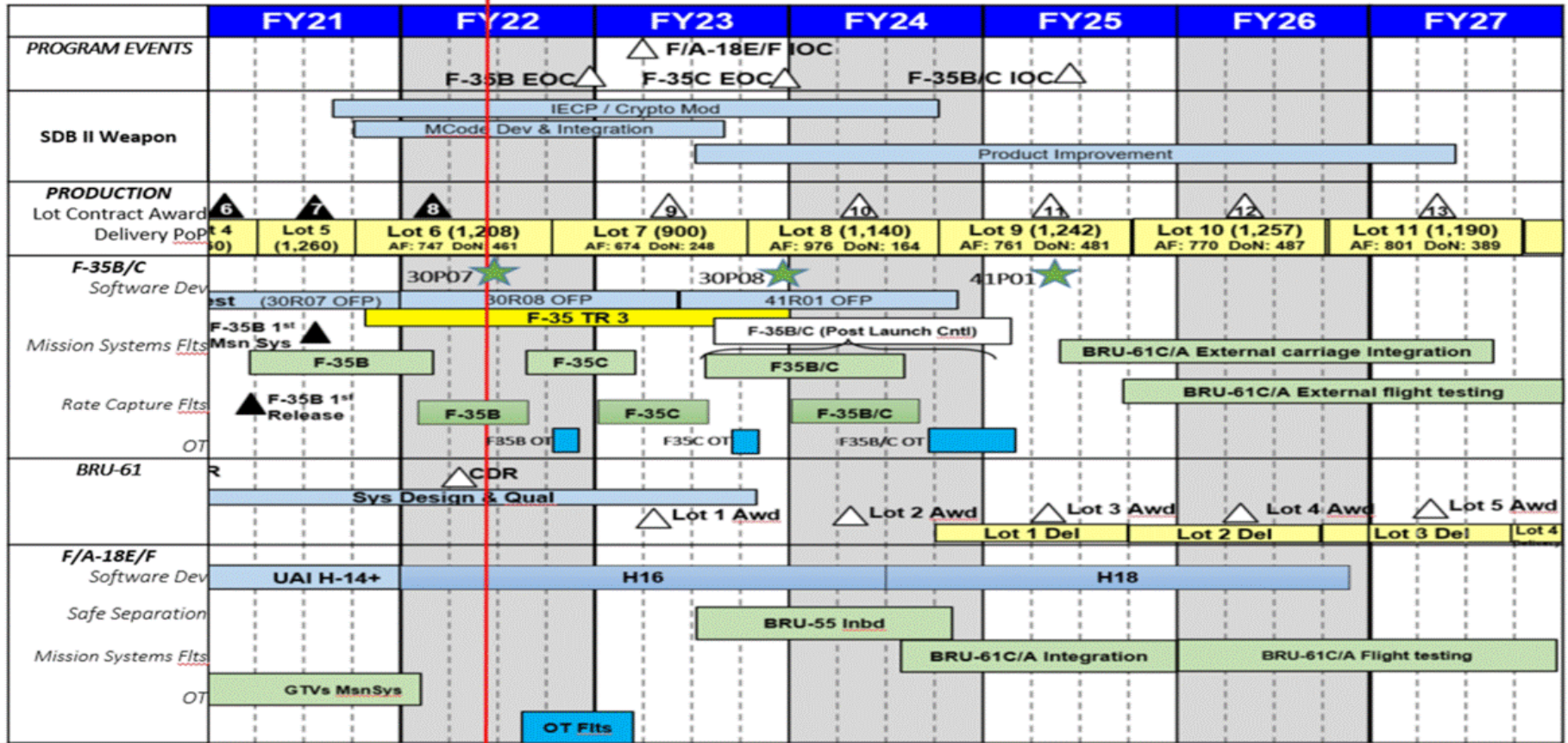
Date: April 2022

Appropriation/Budget Activity  
1319 / 5

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

Project (Number/Name)  
1663 / SDB II F-18 Integration

SDB II Program Schedule



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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2023 Navy</b>		<b>Date: April 2022</b>
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i> )	<b>Project (Number/Name)</b> 1663 / <i>SDB II F-18 Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>F/A-18 E/F SDB II Integration</i></b>				
Acquisition Milestones: IOC	2	2023	2	2023
Test & Evaluation: GTV Mission System	1	2021	1	2022
Test & Evaluation: Operational Test	3	2022	1	2023
Test & Evaluation: BRU-55 Inboard Station Testing	3	2023	4	2024
F-18 E/F Operational Flight Program: H-14+	1	2021	4	2021
F-18 E/F Operational Flight Program: H-16	1	2022	2	2024
F-18 E/F Operational Flight Program: H-18	3	2024	4	2026

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Navy										<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i> )				<b>Project (Number/Name)</b> 3072 / <i>Small Diameter Bomb (SDB)</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
3072: <i>Small Diameter Bomb (SDB)</i>	346.493	42.853	35.892	39.639	-	39.639	20.516	10.116	9.615	9.665	0.000	514.789
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
<b>Project MDAP/MAIS Code:</b> 439												

**A. Mission Description and Budget Item Justification**

Small Diameter Bomb Increment II (SDB II) is an ACAT 1C joint Department of the Air Force (USAF) and Department of the Navy (DON) program, with the USAF as the lead service. The SDB II increases joint lethality in contested environments. The SDB can strike a diverse set of targets inside an adversary's air and missile defense networks to destroy mobile platforms through the weather. With increased loadout, range, and munitions effect the network enabled SDBII enhances close combat lethality in complex terrain and provides a net-centric operations capability. The BRU-61 is the Universal Armament Interface (UAI) rack used to carry four SDB II's at one time. The threshold aircraft for the USAF is the F-15E and for the DON are the F-35B and F-35C.

This Project Unit includes all funding associated with integration on the DoN threshold platforms, F-35B and F-35C. This includes the integration of the SDB II weapon with BRU-61 rack on the F-35B&C, modification to the USAF BRU-61 four-place bomb rack for F-35 and DoN shipboard environments, the integration of the Universal Armament Interface (UAI) software into the F-35 Operational Flight Program (OFP), test asset procurement, flight testing, logistics and associated software updates for the SDB II weapon system.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
<b>Title:</b> SDB II Weapon Support	31.137	28.644	29.639	0.000	29.639
<b>Articles:</b>	-	-	-	-	-
<b>Description:</b> Funding provides for SDB II Engineering, Manufacturing and Development (EMD) efforts including weapon vendor support (Raytheon Missile Systems - RMS), test assets, and government support. Test articles were procured in prior years as part of a joint buy with the Air Force for a better priced quantity buy.					
<b>FY 2022 Plans:</b> FY 2022 activities include completion of Developmental Test & Evaluation of the F-35B, conduct Operational Test & Evaluation (OT&E) of the F-35B, begin F-35C Developmental Test & Evaluation, conduct ship suitability for BRU-61, conduct initial fleet training for F-35B BRU-61, develop and test Common Aircraft Armament Test Set (CAATS) software to support BRU-61, conduct maintenance demonstration to support F-35B Early					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Navy			<b>Date:</b> April 2022			
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i> )	<b>Project (Number/Name)</b> 3072 / <i>Small Diameter Bomb (SDB)</i>				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
Operational Capability (EOC) with limited envelope. Continue development of the Navy variant BRU-61C/A four-place rack.						
<b>FY 2023 Base Plans:</b> FY 2023 activities include continuation of F-35C Developmental Test & Evaluation, to include multiple Rate Capture flight events and full envelope expansion of F-35B and F-35C. FY 2023 testing will include Mission Systems and Jettison testing in support of Network Enabled Weapons (NEW) F-35 Operational Flight Plan (OFP) and begin SDB II Own-ship control testing. Continue Common Aircraft Armament Test Set (CAATS) software to support BRU-61. Continue development of the Navy variant BRU-61C/A four-place rack.						
<b>FY 2023 OCO Plans:</b> N/A						
<b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Increase of \$0.995M from FY 2022 to FY 2023 is due to the completion of F-35B OT and execution of F-35C DT.						
<b>Title:</b> JSF Integration						
<b>Articles:</b>						
<b>Description:</b> Funding provided for integration of SDB II on F-35B and F-35C, specifically for Lockheed Martin to develop F-35 Operational Flight Program (OFP) software, flight missions, and support and analysis of missions.						
<b>FY 2022 Plans:</b> Completion of OT on F-35B and continue DT on F-35C. Begin 30P08 OFP testing.						
<b>FY 2023 Base Plans:</b> Correction of deficiencies as a result of F-35 Operational Test (OT). Continue F-35 40R02 OFP integration to include Network Enabled Weapons (NEW). Begin 41R01 OFP which will include SDB II Own-ship control.						
<b>FY 2023 OCO Plans:</b> N/A						
<b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Increase of \$2.752 million from FY 2022 to FY 2023 is due to the increased Lockheed Martin support required for F-35C DT.						
<b>Accomplishments/Planned Programs Subtotals</b>						
		11.716	7.248	10.000	0.000	10.000
		-	-	-	-	-
		42.853	35.892	39.639	0.000	39.639

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Navy		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i> )	<b>Project (Number/Name)</b> 3072 / <i>Small Diameter Bomb (SDB)</i>

**C. Other Program Funding Summary (\$ in Millions)**

Line Item	FY 2021	FY 2022	FY 2023	FY 2023	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Cost To	
			Base	OCO	Total					Complete	Total Cost
• RDTE,AF/0207327F: <i>Small Diameter Bomb</i>	19.879	27.109	27.713	-	27.713	29.133	29.682	24.135	24.672	0.000	1,420.700
• MPAF/0207327F: <i>Small Diameter Bomb</i>	185.096	294.649	279.006	-	279.006	263.124	228.439	207.971	211.333	489.974	2,453.642
• WPN/2238: <i>Small Diameter Bomb II</i>	57.755	33.764	108.317	-	108.317	102.635	89.364	91.847	92.496	263.371	1,060.239

**Remarks**

The Air Force RDTE funding moved from BA-5 to BA-7 and from PE 0604329F to 0207327F beginning in FY 2021. Prior year funding is included in BA-5 PE 0604329F.

APN funding is the BRU-61 item number within the 072000 BLI.

**D. Acquisition Strategy**

The SDB II acquisition strategy was to conduct a full and open competition to select up to two contractors to compete during a planned 42-month risk reduction phase prior to entering Engineering, Manufacturing and Development (EMD). This competition began April 17, 2006 with the signature of contracts to the competing contractors: 1) Raytheon and 2) the team of Boeing and Lockheed Martin. A Fixed Price Incentive Firm Target type contract for EMD, including Firm Fixed Price procurement options for Lots 1-3 was awarded to Raytheon August 9, 2010. Lots 4 & 5 are included in the contract, but are Not-To-Exceed options. Milestone C was approved 4 June 2015, with Lot 1 (Air Force only) awarded 12 June 2015. Lots 6 & 7 were awarded as sole source Fixed Price Incentive Firm contracts. Lot 8 is an option to the Lot 7 contract.

The Navy funding will support Navy-unique efforts for SDB Increment II, such as aircraft integration, ship suitability, studies and analysis, and program management and government in-house support. These efforts will be performed on several cost-type contracts or through cost reimbursable work requests to government activities and contractors.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB )</i>	<b>Project (Number/Name)</b> 3072 / <i>Small Diameter Bomb (SDB)</i>
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<b>Product Development (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development - SDB II EMD	C/FPIF	Raytheon : Tucson, AZ	109.821	4.208	Mar 2021	8.000	Mar 2022	8.000	Mar 2023	-		8.000	13.601	143.630	143.630
Aircraft Integration - JSF	C/CPFF	Lockheed Martin : Fort Worth, TX	32.808	5.305	Feb 2021	3.902	Jan 2022	4.228	Jan 2023	-		4.228	9.907	56.150	56.150
Hardware Development - BRU-61	C/CPFF	Boeing : St. Charles, MO	10.864	11.833	May 2021	5.944	Jun 2022	11.218	Jan 2023	-		11.218	25.263	65.122	65.078
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	11.238	0.000		0.000		0.000		-		0.000	0.000	11.238	-
<b>Subtotal</b>			164.731	21.346		17.846		23.446		-		23.446	48.771	276.140	N/A

**Remarks**  
 Primary Hardware Development to Raytheon in Tucson, AZ reflects the SDB II prime contractor and includes test assets and contractor costs to support F-35 integration.  
 Funding for Lockheed Martin F-35 includes Associate Contractor Agreements (ACA), bay modifications, logistics efforts, and adapter hardware. It does not include Operational Flight Plan (OFF), Universal Armament Interface (UAI) software coding, nor test missions which are represented in Support and Test sections, respectively.  
 Funding to Boeing for BRU-61B/A modifications required to carry SDB II on Navy and Marine Corps aircraft and environments (resulting in a BRU-61C/A). Prior year efforts were to provide data and support to the BRU-77 contractor.

<b>Support (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development - JSF	C/CPFF	Lockheed Martin : Ft. Worth, TX	42.810	4.073	Jan 2021	2.343	Jan 2022	2.997	Jan 2023	-		2.997	10.959	63.182	63.182
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	17.410	0.000		0.000		0.000		-		0.000	0.000	17.410	-
<b>Subtotal</b>			60.220	4.073		2.343		2.997		-		2.997	10.959	80.592	N/A

**Remarks**  
 Software Development for F-35 is the UAI, OFF, and mission planning which supports the SDB II program. Block 4 OFF (30R07 OFF) coding began in FY 2019 and will continue through Development Test (DT). 30P07 will provide a limited release envelope on F35B. 30P08 OFF will provide a full release envelope on both F-35B and F-35C.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i> )	<b>Project (Number/Name)</b> 3072 / <i>Small Diameter Bomb (SDB)</i>
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<b>Test and Evaluation (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	WR	NAWC AD : Patuxent River, MD	18.747	4.050	Nov 2020	2.353	Nov 2021	4.997	Nov 2022	-		4.997	5.311	35.458	-
Operational Test & Evaluation - SDBII	WR	NAWC WD : China Lake, CA	1.010	1.355	Jul 2021	6.997	Nov 2021	0.000		-		0.000	11.072	20.434	-
Developmental Test & Evaluation	WR	NAWC WD : China Lake, CA	2.000	4.412	Nov 2020	2.000	Nov 2021	2.451	Nov 2022	-		2.451	0.000	10.863	-
Developmental Test & Evaluation - SDB II	C/CPFF	Lockheed Martin : Ft. Worth, TX	7.813	2.338	Mar 2021	1.003	Mar 2022	2.755	Mar 2023	-		2.755	0.000	13.909	13.909
Prior Year T&E cost no longer funded in the FYDP	Various	Various : Various	8.049	0.000		0.000		0.000		-		0.000	0.000	8.049	-
<b>Subtotal</b>			37.619	12.155		12.353		10.203		-		10.203	16.383	88.713	N/A

**Remarks**

Developmental Test (DT) and Operational Test (OT) include all aspects of the weapon system - SDB II, BRU-61, and F-35B and F-35C aircraft OFF with third party post-launch control to include Joint Terminal Attack Controller (JTAC) or other Link 16 capable aircraft.

Operational test is scheduled to begin in FY 2022 to support FY 2022 F-35B Early Operational Capability (EOC) using BRU-61B/A. Funding in outyears is to support DT and OT of SDB II and F-35B and F-35C with BRU-61C/A for F-35 post-launch control.

FY 2022 to FY 2023 increase in Developmental Test is greater than inflation due to number and type of DT events planned for FY23 to support the FY 2023 F35-C EOC and begin F-35B/C specific flight tests to support FY 2025 IOC.

<b>Management Services (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Services	Various	Various : Various	5.951	0.250	Nov 2020	0.200	Nov 2021	0.253	Nov 2022	-		0.253	0.501	7.155	-
Government Support	WR	NAWC WD : China Lake, CA	48.693	2.693	Nov 2020	1.787	Nov 2021	1.633	Nov 2022	-		1.633	2.603	57.409	-
Government Support	WR	Various : Various	26.839	2.276	Nov 2020	1.333	Nov 2021	1.077	Nov 2022	-		1.077	3.809	35.334	-
Travel	WR	NAVAIR : Patuxent River, MD	2.440	0.060	Oct 2020	0.030	Oct 2021	0.030	Oct 2022	-		0.030	0.123	2.683	-
<b>Subtotal</b>			83.923	5.279		3.350		2.993		-		2.993	7.036	102.581	N/A



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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy

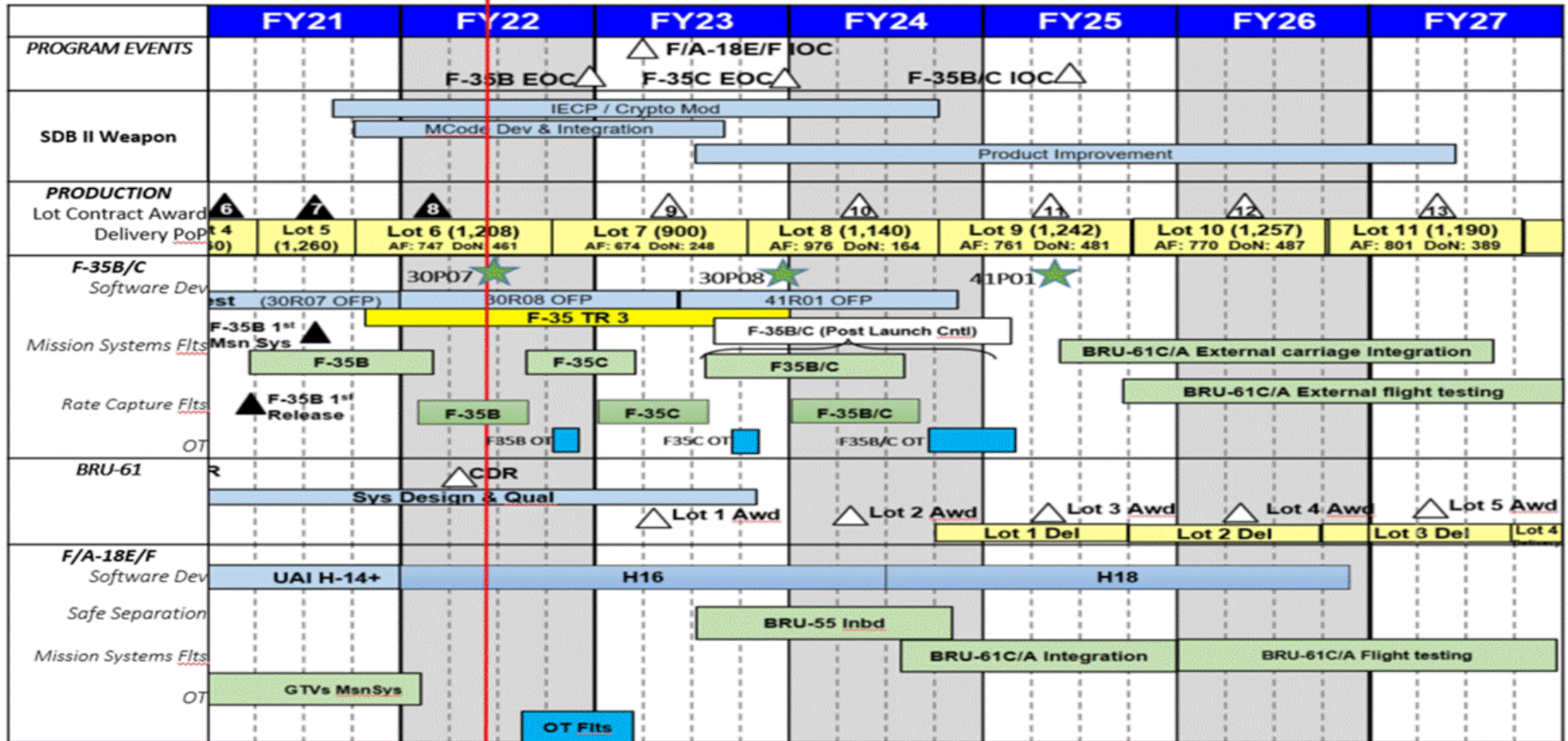
Date: April 2022

Appropriation/Budget Activity  
1319 / 5

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

Project (Number/Name)  
3072 / Small Diameter Bomb (SDB)

SDB II Program Schedule



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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2023 Navy</b>		<b>Date: April 2022</b>
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i> )	<b>Project (Number/Name)</b> 3072 / <i>Small Diameter Bomb (SDB)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Small Diameter Bomb II</i></b>				
Acquisition Milestones: Milestones: F-35B EOC	4	2022	4	2022
Acquisition Milestones: Milestones: F-35C EOC	4	2023	4	2023
Acquisition Milestones: Milestones: F-35 B/C IOC	2	2025	2	2025
Test & Evaluation: Technical Evaluation: F-35B First Release	1	2021	1	2021
Test & Evaluation: Technical Evaluation: F-35B First Mission Systems Flight	3	2021	3	2021
Test & Evaluation: Technical Evaluation: F-35B Mission Systems	1	2021	1	2022
Test & Evaluation: Technical Evaluation: F-35B OT	4	2022	4	2022
Test & Evaluation: Technical Evaluation: F-35C Rate Capture Flights	1	2023	3	2023
Test & Evaluation: Technical Evaluation: F-35B/C Post Launch Control	3	2023	1	2025
Test & Evaluation: Technical Evaluation: F-35C OT	4	2023	4	2023
Test & Evaluation: Technical Evaluation: F-35B/C Mission Systems	3	2023	3	2024
Test & Evaluation: Technical Evaluation: F-35B/C OT	3	2024	1	2025
Test & Evaluation: Technical Evaluation: F-35B/C BRU-61C/A External Carriage Integration	2	2025	3	2027
Test & Evaluation: Technical Evaluation: F-35B/C BRU-61C/A External Flight Testing	3	2025	4	2027
BRU-61: System Design and Qualification: System Design and Qualification	1	2021	4	2023
BRU-61: System Design and Qualification: CDR	2	2022	2	2022
BRU-61: System Design and Qualification: BRU-61C/A F/A-18E/F Integration	3	2024	1	2026
BRU-61: System Design and Qualification: BRU-61C/A F/A-18E/F Flight Test	1	2026	4	2027
BRU-61: BRU-61 Production: Lot 1 Award	2	2023	2	2023
BRU-61: BRU-61 Production: Lot 2 Award	2	2024	2	2024

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**Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i> )	<b>Project (Number/Name)</b> 3072 / <i>Small Diameter Bomb (SDB)</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
BRU-61: BRU-61 Production: Lot 3 Award	2	2025	2	2025
BRU-61: BRU-61 Production: Lot 4 Award	2	2026	2	2026
BRU-61: BRU-61 Production: Lot 5 Award	2	2027	2	2027
BRU-61: BRU-61 Deliveries: Lot 1 Del	4	2024	3	2025
BRU-61: BRU-61 Deliveries: Lot 2 Del	4	2025	3	2026
BRU-61: BRU-61 Deliveries: Lot 3 Del	4	2026	3	2027
BRU-61: BRU-61 Deliveries: Lot 4 Del	4	2027	4	2027
SDB II Production Milestones: SDB II Contract Awards: Lot 6 Award (AF and DoN)	1	2021	1	2021
SDB II Production Milestones: SDB II Contract Awards: Lot 7 Award (AF and DoN)	3	2021	3	2021
SDB II Production Milestones: SDB II Contract Awards: Lot 8 Award (AF and DoN)	1	2022	1	2022
SDB II Production Milestones: SDB II Contract Awards: Lot 9 Award (AF and DoN)	2	2023	2	2023
SDB II Production Milestones: SDB II Contract Awards: Lot 10 Award (AF and DoN)	2	2024	2	2024
SDB II Production Milestones: SDB II Contract Awards: Lot 11 Award (AF and DoN)	2	2025	2	2025
SDB II Production Milestones: SDB II Contract Awards: Lot 12 Award (AF and DoN)	2	2026	2	2026
SDB II Production Milestones: SDB II Contract Awards: Lot 13 Award (AF and DoN)	2	2027	2	2027
SDB II Deliveries: Lot 4 Del (AF 570/DoN 90)	1	2021	2	2021
SDB II Deliveries: Lot 5 Del (AF 510/DoN 750)	2	2021	4	2021
SDB II Deliveries: Lot 6 Del (AF 747/DoN 461)	4	2021	4	2022
SDB II Deliveries: Lot 7 Del (AF 743/DoN 248)	4	2022	4	2023
SDB II Deliveries: Lot 8 Del (AF 976/DoN 164)	4	2023	4	2024
SDB II Deliveries: Lot 9 Del (AF 761/DoN 481)	4	2024	4	2025
SDB II Deliveries: Lot 10 Del (AF 770/DoN 487)	4	2025	4	2026
SDB II Deliveries: Lot 11 Del (AF 801/DoN 389)	4	2026	4	2027