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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604329N / Small Diameter Bomb (SDB)							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	364.555	99.286	96.980	50.096	-	50.096	77.197	55.663	48.185	49.146	Continuing	Continuing
1663: SDB II F-18 Integration	98.371	47.282	31.875	3.947	-	3.947	8.177	4.581	3.088	3.147	Continuing	Continuing
3072: Small Diameter Bomb (SDB)	216.831	47.451	65.105	46.149	-	46.149	69.020	51.082	45.097	45.999	Continuing	Continuing
3082: JMM BRU	49.353	4.553	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	53.906
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) 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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Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		PE 0604329N / Small Diameter Bomb (SDB)			
B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	112.846	104.448	81.359	-	81.359
Current President's Budget	99.286	96.980	50.096	-	50.096
Total Adjustments	-13.560	-7.468	-31.263	-	-31.263
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-7.468			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-10.000	0.000			
• SBIR/STTR Transfer	-3.560	0.000			
• Program Adjustments	0.000	0.000	-31.201	-	-31.201
• Rate/Misc Adjustments	0.000	0.000	-0.062	-	-0.062
Change Summary Explanation					
The FY 2020 request was reduced by \$21.074M to account for the availability of prior year execution balances primarily as a result of unrealized SDB II weapon redesign in F35 integration. Funding also decreases from FY 2019 to FY 2020 as a result of the completion of Developmental Test and transition to Operational Test for SDB II F-18 Integration.					

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604329N / <i>Small Diameter Bomb (SDB)</i>				Project (Number/Name) 1663 / <i>SDB II F-18 Integration</i>			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
1663: <i>SDB II F-18 Integration</i>	98.371	47.282	31.875	3.947	-	3.947	8.177	4.581	3.088	3.147	Continuing	Continuing
Quantity of RDT&E Articles	53	40	18	-	-	-	-	-	-	-		

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 2020 Initial Operational Capability (IOC). In order to meet the IOC, testing will be limited to the F/A-18 E/F midboard stations. Following midboard station testing, the program will test SDB II and BRU-55 on inboard stations and the SDB II and BRU-61 four-place launcher on midboard and inboard stations.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: F/A-18 Integration	47.282	31.875	3.947	0.000	3.947
Articles:	40	18	-	-	-
FY 2019 Plans: Complete DT efforts for both weapon system and aircraft OFP. Contract with SDB Prime contractor for 15 SDB JTVs and 3 All Up Rounds (AUR) to support Operational Test which will begin in FY20.					
FY 2020 Base Plans: Execute Operational Test (OT).					
FY 2020 OCO Plans: N/A					
FY 2019 to FY 2020 Increase/Decrease Statement: Decrease from 2019 to 2020 reflects the completion of Developmental Test and transition to Operational Test.					
Accomplishments/Planned Programs Subtotals	47.282	31.875	3.947	0.000	3.947

C. Other Program Funding Summary (\$ in Millions)
 N/A

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-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / <i>Small Diameter Bomb (SDB)</i>	Project (Number/Name) 1663 / <i>SDB II F-18 Integration</i>

E. Performance Metrics

Earned value will be used for the contracted efforts.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy												Date: March 2019			
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					
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
OFP Development and Support	SS/IDIQ	Boeing : St. Louis, MO	52.484	7.341	Jan 2018	6.901	Nov 2018	0.214	Nov 2019	-		0.214	1.619	68.559	68.559
SDB II Prime Contractor Support	SS/IDIQ	Raytheon Missile Systems : Tuscon, AZ	9.287	13.388	Jun 2018	7.624	Feb 2019	0.202	Feb 2020	-		0.202	6.110	36.611	36.611
SDB II Integration Support	WR	NAWC AD : Patuxent River, MD	5.530	0.600	Nov 2017	2.023	Nov 2018	0.154	Dec 2019	-		0.154	Continuing	Continuing	Continuing
SDB II Software Support	WR	NAWC WD : China Lake, CA	14.145	19.756	Nov 2017	2.266	Nov 2018	0.100	Nov 2019	-		0.100	Continuing	Continuing	Continuing
JMM BRU Prime Contractor Support	SS/IDIQ	Raytheon Intelligence Information Systems, Inc. : Indianapolis, IN	11.172	0.000		0.000		0.000		-		0.000	0.000	11.172	11.172
Subtotal			92.618	41.085		18.814		0.670		-		0.670	Continuing	Continuing	N/A
Remarks															
Funding for Boeing includes software coding of Operational Flight Program Build, to include Universal Armament Interface (UAI) and F/A-18 E/F aircraft support required to meet the FY 2020 Initial Operating Capability (IOC). Incremental funding of contract award will support Operational Test (OT) which will begin first quarter FY 2020 as reflected on the R4. FY 2019 carryover funds will be used for support of FY 2020 efforts.															
Funding for SDB II (Raytheon Missile Systems) Prime Contractor includes support of Super Hornet Integration efforts. Incremental funding of contract award will support Operational Test (OT) which will begin first quarter FY 2020. FY 2019 carryover funds will be used for support of FY 2020 efforts.															
Contract with Raytheon Intelligence Information Systems (RIIS) terminated for convenience 19 October 2017.															
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Wind Tunnel Test	MIPR	various : various	4.875	3.250	Nov 2017	0.000		0.000		-		0.000	0.000	8.125	-
Development Test	WR	VX-23 : Patuxent River, MD	0.000	2.947	Jan 2018	6.597	Nov 2018	0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy													Date: March 2019		
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604329N / <i>Small Diameter Bomb (SDB)</i>				Project (Number/Name) 1663 / <i>SDB II F-18 Integration</i>					

Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test	WR	VX-31 : China Lake, CA	0.000	0.000		6.464	Nov 2018	0.000		-		0.000	Continuing	Continuing	Continuing
Operational Test	WR	COMOPTEVFOR : Norfolk, VA	0.000	0.000		0.000		3.277	Nov 2019	-		3.277	Continuing	Continuing	Continuing
Wind Tunnel Test	MIPR	NASA Ames : Moffett Field, CA	0.878	0.000		0.000		0.000		-		0.000	0.000	0.878	-
Subtotal			5.753	6.197		13.061		3.277		-		3.277	Continuing	Continuing	N/A

Remarks
Incremental funding will support Operational Test (OT) which will begin first quarter FY 2020 as reflected on the R4.

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	98.371	47.282		31.875		3.947		-		3.947	Continuing	Continuing	N/A

Remarks

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PE 0604329N: *Small Diameter Bomb (SDB)*
Navy

R-1 Line #121

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

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

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2020PB - 0604329N - 1663

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / <i>Small Diameter Bomb (SDB)</i>	Project (Number/Name) 1663 / <i>SDB II F-18 Integration</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F/A-18 E/F SDB II Integration</i>				
Acquisition Milestones: IOC	4	2020	4	2020
Systems Development: OFP Development and Integration	1	2018	3	2018
Test & Evaluation: Test Article Deliveries	1	2018	1	2020
Test & Evaluation: Developmental Test	3	2018	4	2019
Test & Evaluation: Operational Test	1	2020	4	2020
Test & Evaluation: BRU-55 Inboard Station Testing	1	2021	4	2024
Test & Evaluation: BRU-61 Testing	1	2021	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
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)			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
3072: Small Diameter Bomb (SDB)	216.831	47.451	65.105	46.149	-	46.149	69.020	51.082	45.097	45.999	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 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 for DoN support on the DoN threshold platforms, F-35B and F-35C. The USMC requirement to field SDB II on F-35B is in F-35 Operational Flight Plan (OFP) Block 4.1. The F-35C is being conducted as part of Block 4.2. Commencing FY 2018, the F-35 integration will be using BRU-61 vice BRU-77 to carry the SDB II.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: SDB II Weapon Support Articles: Description: 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. FY 2019 Plans: Begin Flight Sciences and Flight Test support and analysis for Development Test (DT). Testing includes, ejection tests, environmental & loads analysis and release envelope clearance. FY 2020 Base Plans: Continue Flight Sciences and Flight Test support and analysis for Development Test (DT). Testing includes, ejection tests, environmental & loads analysis and release envelope clearance. FY 2020 OCO Plans:								25.948	35.157	31.927	0.000	31.927
								-	-	-	-	-

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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)				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
N/A												
FY 2019 to FY 2020 Increase/Decrease Statement: Decrease from FY 2019 to FY 2020 reflects changes in Developmental Test (DT) and related support due to unrealized weapon redesign efforts and availability of prior year execution balances.												
Title: JSF Integration								21.503	29.948	14.222	0.000	14.222
Articles:								-	-	-	-	-
Description: 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.												
FY 2019 Plans: Conduct F-35 OFP Block 4 Flight Sciences which conducts aircraft environment test, Ground Vibration, and Jettison testing to prove the weapon can safely separate from the aircraft without damaging the aircraft and establishes weapon carriage and release envelopes. Begin DT flights.												
FY 2020 Base Plans: Continue F-35 OFP Block 4 Flight Sciences which conducts aircraft environment test, Ground Vibration, and Jettison testing to prove the weapon can safely separate from the aircraft without damaging the aircraft and establishes weapon carriage and release envelopes. Continue DT flights.												
FY 2020 OCO Plans: N/A												
FY 2019 to FY 2020 Increase/Decrease Statement: Decrease from FY 2019 to FY 2020 is due to the completion of Universal Armament Interface (UAI) software coding in FY 2019 and to account for the availability of prior year execution balances.												
Accomplishments/Planned Programs Subtotals								47.451	65.105	46.149	0.000	46.149
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost	
• RDTE,AF/0604329F: Small Diameter Bomb	38.979	73.158	31.241	-	31.241	17.311	27.427	27.927	28.430	0.000	1,339.472	

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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)			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• MPAF/0207327F: Small Diameter Bomb	82.705	72.506	143.935	-	143.935	336.512	310.233	324.740	0.000	0.000	1,362.992
• WPN/BLI2238: Small Diameter Bomb II	20.968	91.272	118.466	-	118.466	114.710	116.981	119.455	121.840	74.439	778.131
• APN/BLI0720: War Consumables	0.000	0.000	17.247	-	17.247	17.381	17.726	17.820	18.176	Continuing	Continuing
Remarks											
SDB II Lots 1-3 are USAF only procurements. The DON procurements begin with Lot 4 in FY 2018.											
APN funding is the BRU-61 line within the 0720 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 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. Lot 4 is the first DoN procurement and was awarded April 2018 for 90 DoN weapons. Lot 5 was awarded 18 December 2018 for 750 DoN weapons.											
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.											
E. Performance Metrics											
Earned value management has been implemented on the EMD contract with Raytheon.											

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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)					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development - SDB II EMD	C/FPIF	Raytheon : Tucson, AZ	38.114	24.002	Mar 2018	20.147	Mar 2019	10.754	Mar 2020	-		10.754	27.621	120.638	120.638
Aircraft Integration - JSF	C/CPFF	Lockheed Martin : Fort Worth, TX	36.825	3.000	Mar 2018	0.163	Mar 2019	0.000		-		0.000	0.000	39.988	39.988
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	-
Hardware Development - BRU-61	C/CPFF	Boeing : St. Charles, MO	4.259	0.000		5.000	Mar 2019	7.000	Mar 2020	-		7.000	13.000	29.259	29.259
Subtotal			90.436	27.002		25.310		17.754		-		17.754	40.621	201.123	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 OFP, UAI software coding, nor test missions which are represented in Support and Test sections, respectively. Funding to Boeing for BRU-61 modifications required to carry SDB II on Navy and Marine Corps aircraft. Prior year efforts were to provide data and support to the BRU-77 contractor.															
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development - JSF	C/CPFF	Lockheed Martin : Ft. Worth, TX	30.525	4.677	Jan 2018	11.046	Jan 2019	12.843	Jan 2020	-		12.843	33.673	92.764	92.764
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	-
Subtotal			47.935	4.677		11.046		12.843		-		12.843	33.673	110.174	N/A
Remarks															
Studies and Analyses include Navy activities to define Concept of Operations (CONOPS) and better define Navy-specific and interoperability requirements, such as weapon data link advanced concept technology demonstration, seeker trade studies, and data link trade studies. Prior year Software Development efforts are in support of JSuW Joint Capability Technology Demonstrations incorporation of J.11 Message Set into Strike Weapons and Weapon Data Link Network efforts.															

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Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development for F-35 is the UAI, OFP, and mission planning which supports the SDB II program.															
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various : Various	4.717	0.000		7.842	Nov 2018	7.093	Nov 2019	-		7.093	21.002	40.654	-
Operational Test & Evaluation - SDBII	WR	COMOPTEVFOR : China Lake, CA	1.010	0.000		0.000		0.000		-		0.000	23.959	24.969	-
Developmental Test & Evaluation - SDB II	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	1.907	Mar 2018	14.739	Mar 2019	3.517	Mar 2020	-		3.517	7.782	27.945	27.945
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	-
RMS Flight Test Support	C/CPFF	Raytheon Missile Systems : Tucson, AZ	0.000	4.273	Jun 2018	0.000		0.000		-		0.000	0.000	4.273	-
Subtotal			13.776	6.180		22.581		10.610		-		10.610	52.743	105.890	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 OFP. Developmental Test squadrons and locations for F-35B and F-35C are still uncertain as squadrons are being established. Incremental funding of contract awards will support Developmental Test (DT) which begins in the fourth quarter FY 2019 as reflected on the R4.															
Raytheon will perform Captive Flight Test (CFT) to gather seeker data to be used during DT. The Air Force conducted CFT prior to F-15 DT.															
Operational test is scheduled to begin in FY 2021 to support FY 2022 IOC.															
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Services	Various	Various : Various	3.877	0.772	Nov 2017	0.691	Nov 2018	0.457	Nov 2019	-		0.457	Continuing	Continuing	Continuing

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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)					
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Support	WR	NAWC WD : China Lake,CA	33.662	3.702	Nov 2017	2.422	Nov 2018	2.725	Nov 2019	-		2.725	Continuing	Continuing	Continuing
Government Support	WR	Various : Various	11.993	2.547	Nov 2017	0.750	Nov 2018	0.125	Nov 2019	-		0.125	Continuing	Continuing	Continuing
Program Management Support	WR	Various : Various	12.891	2.532	Nov 2017	2.225	Nov 2018	1.555	Nov 2019	-		1.555	Continuing	Continuing	Continuing
Travel	WR	NAVAIR : Patuxent River, MD	2.261	0.039	Oct 2017	0.080	Oct 2018	0.080	Oct 2019	-		0.080	Continuing	Continuing	Continuing
Subtotal			64.684	9.592		6.168		4.942		-		4.942	Continuing	Continuing	N/A
Remarks															
Increase in FY 2019 for government support provides support for Development Test which is scheduled to begin fourth quarter FY 2019.															
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			216.831	47.451		65.105		46.149		-		46.149	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy

Date: March 2019

Appropriation/Budget Activity

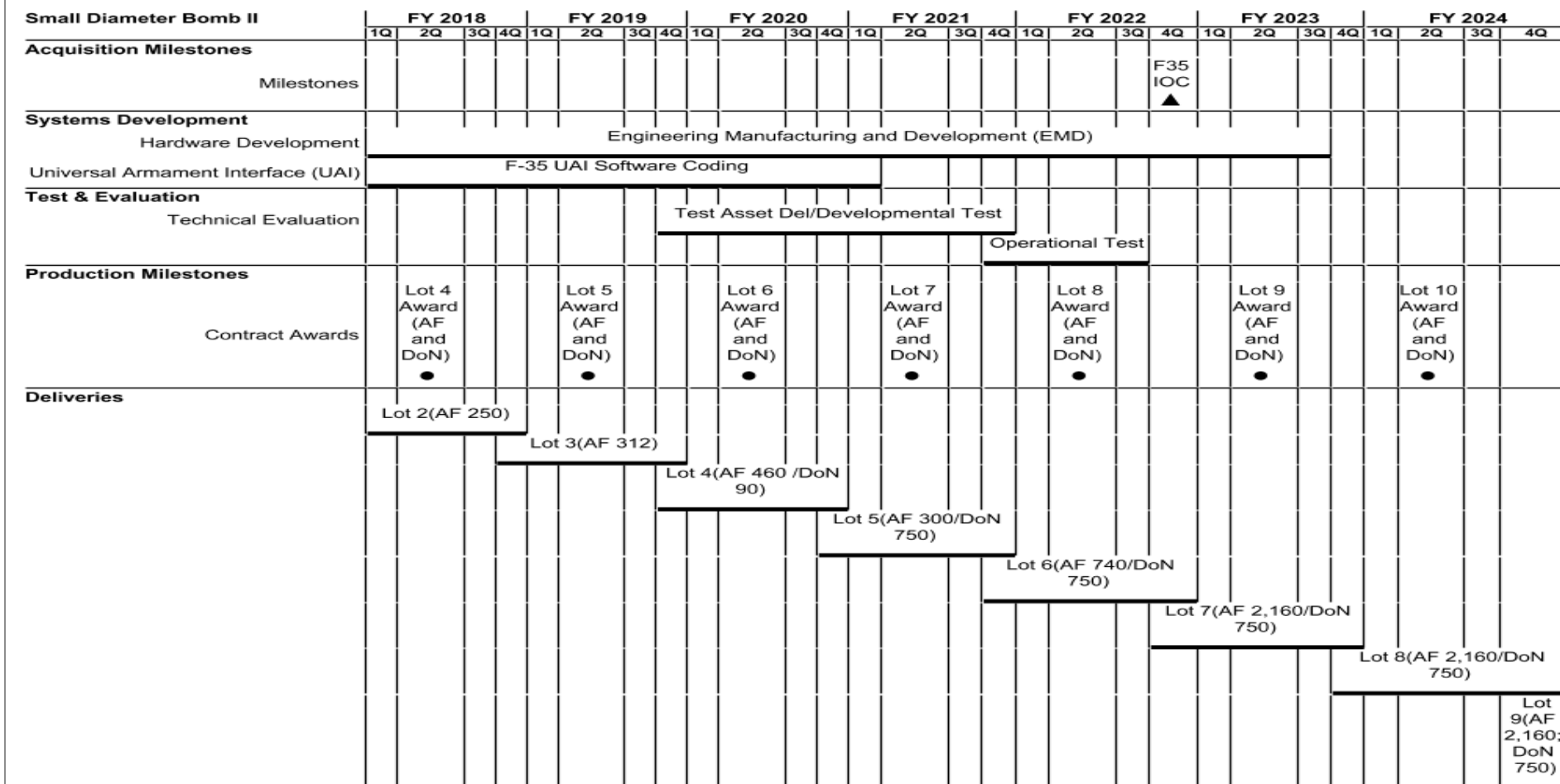
1319 / 5

R-1 Program Element (Number/Name)

PE 0604329N / Small Diameter Bomb (SDB)

Project (Number/Name)

3072 / Small Diameter Bomb (SDB)



2020PB - 0604329N - 3072

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / <i>Small Diameter Bomb (SDB)</i>	Project (Number/Name) 3072 / <i>Small Diameter Bomb (SDB)</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Small Diameter Bomb II</i>				
Acquisition Milestones: Milestones: F-35 IOC	4	2022	4	2022
Systems Development: Hardware Development: Engineering Manufacturing and Development (EMD)	1	2018	3	2023
Systems Development: Universal Armament Interface (UAI): F-35 OFP Software Coding	1	2018	1	2021
Test & Evaluation: Technical Evaluation: Test Asset Deliveries/Developmental Test	4	2019	4	2021
Test & Evaluation: Technical Evaluation: Operational Test	4	2021	3	2022
Production Milestones: Contract Awards: Lot 4 Award (AF and DoN)	2	2018	2	2018
Production Milestones: Contract Awards: Lot 5 Award (AF and DoN)	2	2019	2	2019
Production Milestones: Contract Awards: Lot 6 Award (AF and DoN)	2	2020	2	2020
Production Milestones: Contract Awards: Lot 7 Award (AF and DoN)	2	2021	2	2021
Production Milestones: Contract Awards: Lot 8 Award (AF and DoN)	2	2022	2	2022
Production Milestones: Contract Awards: Lot 9 Award (AF and DoN)	2	2023	2	2023
Production Milestones: Contract Awards: Lot 10 Award (AF and DoN)	2	2024	2	2024
Deliveries: Lot 2 Del (AF only 250 units)	1	2018	4	2018
Deliveries: Lot 3 Del (AF only 312 units)	4	2018	4	2019
Deliveries: Lot 4 Del (AF 460; DoN 90 units)	4	2019	4	2020
Deliveries: Lot 5 Del (AF 300; DoN 750 units)	4	2020	4	2021
Deliveries: Lot 6 Del (AF 740; DoN 750 units)	4	2021	4	2022
Deliveries: Lot 7 Del (AF 2,160; DoN 750 units)	4	2022	4	2023
Deliveries: Lot 8 Del (AF 2,160; DoN 750 units)	4	2023	4	2024
Deliveries: Lot 9 Del (AF 2,160; DoN 750 units)	4	2024	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604329N / <i>Small Diameter Bomb (SDB)</i>				Project (Number/Name) 3082 / <i>JMM BRU</i>			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
3082: <i>JMM BRU</i>	49.353	4.553	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	53.906
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Miniature Munitions Bomb Rack Unit (JMM BRU) is an Air Force (AF) led ACAT III program. It is required for the Department of the Navy's (DON) carriage of the SDB II weapon in the internal bay of the F-35B and F-35C and operation in the DON environment. The SDB II Capability Development Document (CDD) states that SDB II must be operable on the Miniature Munitions Smart Rack BRU-61/A. The BRU-61/A, currently in sustainment for the AF, does not meet the needs to operate with SDB II within the F-35 internal bay in the DON environment. The JMM BRU (BRU-77) fills the capability gap required by the DON. Efforts include development of a dual power capability to meet the SDB II operating environment on the F-35. The USMC requirement to field SDB II on F-35B is in F-35 Operational Flight Plan (OFP) Block 4.1. The F-35C is being conducted as part of Block 4.2.

The BRU-77 contract was terminated for convenience 19 Oct 2017. FY 2018 funding remains for termination costs. The requirement will now be supported by BRU-61 budgeted within PU 3072.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Joint Miniature Munitions Bomb Rack (JMM BRU) Prime Contractor	4.553	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: Prime Contractor Support of JMM BRU (BRU-77) TD/EMD contract.					
FY 2019 Plans: N/A					
FY 2020 Base Plans: N/A					
FY 2020 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	4.553	0.000	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)
N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / <i>Small Diameter Bomb (SDB)</i>	Project (Number/Name) 3082 / <i>JMM BRU</i>
<p>C. Other Program Funding Summary (\$ in Millions)</p> <p><u>Remarks</u></p> <p>D. Acquisition Strategy The JMM BRU is an Air Force led ACAT III program. Competitive source selection conducted with Technology Development contract award 3QFY 2013. Milestone B was completed and Engineering, Manufacturing, and Development (EMD) contract awarded 4QFY 2015.</p> <p>E. Performance Metrics Earned value management is being implemented on the TD/EMD contract.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy												Date: March 2019			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604329N / Small Diameter Bomb (SDB)				Project (Number/Name) 3082 / JMM BRU					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Miniature Munitions Bomb Rack Unit (JMM BRU)	C/FPIF	Raytheon Technical Services Company LLC : Indianapolis, IN	26.245	4.553	Mar 2018	0.000		0.000		-		0.000	0.000	30.798	30.798
Subtotal			26.245	4.553		0.000		0.000		-		0.000	0.000	30.798	N/A
Remarks JMM BRU contract with Raytheon Intelligence Information Systems (RIIS, formerly RTSC) was terminated for convenience 19 October 2017. FY 2018 funding remains for contract termination costs.															
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CAATS	Various	NAWC AD : Lakehurst	2.517	0.000		0.000		0.000		-		0.000	0.000	2.517	-
Subtotal			2.517	0.000		0.000		0.000		-		0.000	0.000	2.517	N/A
Remarks JMM BRU contract with Raytheon Intelligence Information Systems (RIIS, formerly RTSC) was terminated for convenience 19 October 2017. FY 2018 funding remains for contract termination costs.															
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test	Various	Various : Various	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Subtotal			0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	N/A
Remarks JMM BRU contract with Raytheon Intelligence Information Systems (RIIS, formerly RTSC) was terminated for convenience 19 October 2017. FY 2018 funding remains for contract termination costs.															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy												Date: March 2019			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604329N / <i>Small Diameter Bomb (SDB)</i>						Project (Number/Name) 3082 / <i>JMM BRU</i>			

Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Support	Various	Various : Various	20.591	0.000		0.000		0.000		-		0.000	0.000	20.591	-
Subtotal			20.591	0.000		0.000		0.000		-		0.000	0.000	20.591	N/A

Remarks
JMM BRU contract with Raytheon Intelligence Information Systems (RIIS, formerly RTSC) was terminated for convenience 19 October 2017. FY 2018 funding remains for contract termination costs.

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	49.353	4.553		0.000		0.000		-		0.000	0.000	53.906	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy											Date: March 2019																															
Appropriation/Budget Activity 1319 / 5											R-1 Program Element (Number/Name) PE 0604329N / Small Diameter Bomb (SDB)								Project (Number/Name) 3082 / JMM BRU																							
Proj 3082											FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024							
											1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
JMM BRU											Termination of EMD Contract ●																															
2020DON - 0604329N - 3082																																										

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / Small Diameter Bomb (SDB)	Project (Number/Name) 3082 / JMM BRU

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3082				
JMM BRU: Termination for Convenience	1	2018	1	2018