

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604800N I JT Strike Fighter (JSF) - EMD							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	49,382.978	512.662	108.931	65.494	-	65.494	1.499	0.328	0.323	0.345	0.000	50,072.560
2261: Joint Strike Fighter EMD	49,044.533	489.144	103.144	60.537	-	60.537	1.499	0.328	0.323	0.345	0.000	49,699.853
3352: F-35C Sustainment/ Capability Enhancements	338.445	23.518	5.787	4.957	-	4.957	0.000	0.000	0.000	0.000	0.000	372.707
Program MDAP/MAIS Code: Project MDAP/MAIS Code(s): 198												
A. Mission Description and Budget Item Justification												
<p>The F-35 Joint Strike Fighter (JSF) Program will develop and field an affordable, highly common family of next generation strike aircraft for the USN, USAF, USMC and allies. The three variants are the F-35A conventional takeoff and landing; F-35B short takeoff and vertical landing; and the F-35C Aircraft Carrier suitable variant. The F-35A will be a stealthy multi-role aircraft, primary air-to-ground for the Air Force to replace the F-16 and A-10 and complement the F-22. The F-35B variant will be a multi-role strike fighter aircraft to replace the AV-8B and F/A-18 for the Marine Corps, replace the Sea Harrier and GR 7 for the United Kingdom, and replace the AV-8 currently employed by the Italian Navy. The F-35C will provide the Department of the Navy a multi-role, stealthy strike fighter aircraft to complement the F/A-18E/F.</p> <p>The United Kingdom, Italy, Netherlands, Turkey, Canada, Australia, Denmark, Norway, and Foreign Military Sales customers are also participants in the JSF program. The program shown here reflects USN, USMC, USAF, and International Partner funding.</p> <p>Funding at the accomplishment/planned program level is reported as the total of all services and partners as these activities support all aircraft variants.</p> <p>The System Development and Demonstration (SDD) budget funds a total quantity of 20 RDT&amp;E test articles to include 6 ground test articles and 14 flight test articles for USN, USMC, and USAF use.</p> <p>FY07: 1 F-35A flight test article FY08: 1 F-35B flight test article; 1 F-35B ground test article FY09: 1 F-35B flight test article; 2 F-35A ground test articles FY10: 6 flight test articles: 3 F-35A, 2 F-35B, 1 F-35C; 3 ground test articles: 1 F-35B, 2 F-35C FY11: 4 flight test articles: 1 F-35A, 1 F-35B, 2 F-35C FY13: 1 F-35C flight test article</p> <p>JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SDD 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.</p>												

**UNCLASSIFIED**

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy				Date: February 2018	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		PE 0604800N / JT Strike Fighter (JSF) - EMD			
B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	528.716	108.931	66.174	-	66.174
Current President's Budget	512.662	108.931	65.494	-	65.494
Total Adjustments	-16.054	0.000	-0.680	-	-0.680
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-16.054	0.000			
• Rate/Misc Adjustments	0.000	0.000	-0.680	-	-0.680

# UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 2261 / Joint Strike Fighter EMD			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
2261: Joint Strike Fighter EMD	49,044.533	489.144	103.144	60.537	-	60.537	1.499	0.328	0.323	0.345	0.000	49,699.853
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 198												
Note Total cost including United States Navy (USN), United States Marine Corps (USMC), International partner contributions and United States Air Force (USAF) funding are: FY17 \$1,394.043M, FY18 \$ 527.873M and FY19 \$196.622M R-2 data reflects variant unique funding only.  R-2A(section B)/R-3 displays total combined Program (i.e. not Service specific), including International partners.  JSF EMD Includes: USAF PE 0604800F BPAC 653831 USN PE 0604800N Project Unit 2261 USMC PE 0604800M Project Unit 2262  D&S Includes: USAF PE 0604800F BPAC 653832 USN PE 0604800N Project Unit 3352 USMC PE 0604800M Project Unit 3350												
A. Mission Description and Budget Item Justification The F-35 Joint Strike Fighter (JSF) Program will develop and field an affordable, highly common family of next generation strike aircraft for the USN, USAF, USMC and allies. The three variants are the F-35A conventional takeoff and landing; F-35B short takeoff and vertical landing; and the F-35C Aircraft Carrier suitable variant. The F-35A will be a stealthy multi-role aircraft, primary air-to-ground for the Air Force to replace the F-16 and A-10 and complement the F-22. The F-35B variant will be a multi-role strike fighter aircraft to replace the AV-8B and F/A-18 for the Marine Corps, replace the Sea Harrier and GR 7 for the United Kingdom, and replace the AV-8 currently employed by the Italian Navy. The F-35C will provide the Department of the Navy a multi-role, stealthy strike fighter aircraft to complement the F/A-18E/F.  The United Kingdom, Italy, Netherlands, Turkey, Canada, Australia, Denmark, Norway, and Foreign Military Sales customers are also participants in the JSF program. The program shown here reflects USN, USMC, USAF, and International Partner funding.  The top-line Program Element reflects the unique variant for each Service. Funding at the accomplishment/planned program level is reported as the total of all services and partners as these activities support all aircraft variants.												

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy				Date: February 2018		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD		Project (Number/Name) 2261 / Joint Strike Fighter EMD		
The System Development and Demonstration (SDD) budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for USN, USAF, and USMC use.						
FY07: 1 F-35A flight test article FY08: 1 F-35B flight test article; 1 F-35B ground test article FY09: 1 F-35B flight test article; 2 F-35A ground test articles FY10: 6 flight test articles: 3 F-35A, 2 F-35B, 1 F-35C; 3 ground test articles: 1 F-35B, 2 F-35C FY11: 4 flight test articles: 1 F-35A, 1 F-35B, 2 F-35C FY13: 1 F-35C flight test article						
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: System Development and Demonstration (SDD)		883.024	331.782	164.165	0.000	164.165
Articles:		-	-	-	-	-
Description: SDD execution of the Air System (Lockheed Martin) including International Commonality Efforts; includes airframe, vehicle and mission systems, autonomic logistics, systems engineering & test efforts.						
FY 2018 Plans: Continue SDD execution of Air System Lockheed Martin, including International Commonality Effort which includes, airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS in accordance with variant IOC.						
FY 2019 Base Plans: Continue SDD execution of Air System Lockheed Martin, including International Commonality Effort which includes, airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS in accordance with variant IOC.						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: FY19 funding decrease is due to reduction in domestic and International controls as SDD phase draws to closure.						
Title: F135 Propulsion System		120.000	0.000	0.000	0.000	0.000
Articles:		-	-	-	-	-

## UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018			
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD		Project (Number/Name) 2261 / Joint Strike Fighter EMD		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
<p><b>Description:</b> SDD execution of the F135 Propulsion System (Pratt &amp; Whitney) including International Commonality Effort; includes testing, autonomic logistics, integration &amp; performing technology maturation efforts.</p> <p><b>FY 2018 Plans:</b> N/A</p> <p><b>FY 2019 Base Plans:</b> N/A</p> <p><b>FY 2019 OCO Plans:</b> N/A</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> FY19 funding decrease is due to reduction in domestic and International controls as SDD phase draws to closure.</p>						
<p><b>Title:</b> Systems Engineering (SE)</p> <p><b>Articles:</b></p> <p><b>Description:</b> SDD SE including systems operations requirements analysis, program integration, requirements integration, and interoperability support.</p> <p><b>FY 2018 Plans:</b> Continue SDD SE, including systems operations requirements analysis, program integration, requirements integration, and interoperability support.</p> <p><b>FY 2019 Base Plans:</b> N/A</p> <p><b>FY 2019 OCO Plans:</b> N/A</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> FY19 funding decrease is due to reduction in domestic and International controls as SDD phase draws to closure.</p>		28.181 -	0.912 -	0.000 -	0.000 -	0.000 -
<p><b>Title:</b> Test and Evaluation (T&amp;E)</p> <p><b>Articles:</b></p>		281.672 -	143.809 -	4.293 -	0.000 -	4.293 -

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy				Date: February 2018		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD		Project (Number/Name) 2261 / Joint Strike Fighter EMD		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
<p><b>Description:</b> Government DT&amp;E/Operational Testing (OT) in support of first flight of test aircraft. Elements of DT&amp;E include preparation for flight testing and weapons integration testing.</p> <p><b>FY 2018 Plans:</b> Continue government DT&amp;E/OT in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand air vehicle envelope and support mission systems testing. Elements of DT&amp;E include flight testing, weapons integration testing, and component capabilities testing.</p> <p><b>FY 2019 Base Plans:</b> Continue government DT&amp;E/OT in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand air vehicle envelope and support mission systems testing. Elements of DT&amp;E include flight testing, weapons integration testing, and component capabilities testing.</p> <p><b>FY 2019 OCO Plans:</b> N/A</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> FY19 funding decrease is due to reduction in domestic and International controls as SDD phase draws to closure.</p>						
<p><b>Title:</b> Development Support</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.</p> <p><b>FY 2018 Plans:</b> Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.</p> <p><b>FY 2019 Base Plans:</b> Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.</p> <p><b>FY 2019 OCO Plans:</b></p>		80.945 -	10.676 -	0.764 -	0.000 -	0.764 -

## UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy				Date: February 2018		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD		Project (Number/Name) 2261 / Joint Strike Fighter EMD		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: FY19 funding decrease is due to reduction in domestic and International controls as SDD phase draws to closure.						
Title: Autonomic Logistics Information System (ALIS)		0.221	40.694	27.400	0.000	27.400
Articles:		-	-	-	-	-
Description: SDD execution of Autonomic Logistics Information System (ALIS) develops the information infrastructure used to transmit health and maintenance action information for the aircraft to the appropriate users.						
FY 2018 Plans: Continue SDD execution of ALIS to develop the information infrastructure used to transmit health and maintenance action information for the aircraft to the appropriate users.						
FY 2019 Base Plans: Continue SDD execution of ALIS to develop the information infrastructure used to transmit health and maintenance action information for the aircraft to the appropriate users.						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: FY19 funding decrease is due to reduction in domestic and International controls as SDD phase draws to closure.						
Accomplishments/Planned Programs Subtotals		1,394.043	527.873	196.622	0.000	196.622
Joint Strike Fighter 0604800F		386.941	255.745	69.519	-	69.519
Joint Strike Fighter 0604800M		495.958	141.534	66.566	-	66.566
International Partner		22.000	27.450	-	-	-
Navy Subtotals		489.144	103.144	60.537	0.000	60.537

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy									Date: February 2018		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 2261 / Joint Strike Fighter EMD			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• RDT&E/0604800F: F-35A Joint Strike Fighter SDD	386.941	255.745	69.519	-	69.519	7.793	5.596	0.000	0.000	0.000	22,245.963
• International: International Partner (SDD)	22.000	27.450	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5,013.463
• APAF/0207142F BP10: F-35A USAF CTOL	4,667.894	4,544.684	4,253.696	-	4,253.696	4,209.813	4,862.684	4,796.042	0.000	148,685.767	202,884.710
• RDT&E/0604800M/2262: F-35B JT Strike Fighter (JSF) - EMD	495.958	141.534	66.566	-	66.566	1.713	0.542	0.558	0.569	0.000	49,751.973
• APN/0605B: F-35B Joint Strike Fighter STOVL Spares	123.252	105.671	92.198	-	92.198	160.150	140.989	143.809	0.000	Continuing	Continuing
• APN/0605C: F-35C Joint Strike Fighter CV Spares	26.076	84.591	44.971	-	44.971	52.858	303.608	309.680	0.000	Continuing	Continuing
• MILCON 0207142F: USAF MILCON Operations	305.700	181.250	175.150	-	175.150	154.400	0.000	0.000	0.000	0.000	1,602.550
• APAF/0207142F BP11: USAF Modification Funding	115.811	68.270	230.448	-	230.448	279.814	259.978	301.899	0.000	0.000	1,665.794
• FOD/0207142F: USAF Follow-on-Development (FoD)	50.970	299.408	396.821	-	396.821	504.971	418.988	343.147	283.292	Continuing	Continuing
• 0207142F/USAF BP16: USAF Joint Strike Fighter Initial Spares	362.792	320.831	319.151	-	319.151	416.722	399.361	394.654	0.000	4,175.007	7,849.413
• USAF/OPAF 0207142F: USAF OPAF	2.333	3.326	3.310	-	3.310	2.993	2.463	2.507	0.000	Continuing	Continuing
• APN/0592: F-35B STOVL Serious	24.350	34.963	36.618	-	36.618	38.582	47.609	50.163	53.742	Continuing	Continuing
• APN/0593: F-35C CV Serious	21.733	31.689	21.236	-	21.236	13.136	12.435	12.683	12.938	Continuing	Continuing
• RDT&E/0604800M/3350: F-35B Sustainment/ Capability Enhancements	23.435	11.400	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	373.280
• USAF SDD BP 653832: Deployability and Suitability Enhancements	45.243	37.202	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	239.440
• PAF/0207142F BP10: F-35A JSF CTOL Advance Procurement	404.500	780.300	405.200	-	405.200	1,003.600	965.300	414.700	0.000	20,154.954	26,885.296



**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy									Date: February 2018		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 2261 / Joint Strike Fighter EMD			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• DCA/0207142F 676011: Dual Capable Aircraft (DCA)	25.743	35.122	47.016	-	47.016	49.026	67.040	62.599	0.000	Continuing	Continuing
• APN/0147: F-35C Joint Strike Fighter CV	1,360.880	663.232	1,341.369	-	1,341.369	1,938.799	2,793.290	2,963.544	2,973.130	26,243.243	54,674.071
• APN/0152C: F-35B Joint Strike Fighter STOVL AP	233.648	413.450	228.492	-	228.492	215.704	209.222	225.245	229.749	1,651.860	4,696.946
• APN/0152: F-35B Joint Strike Fighter STOVL	2,504.927	2,631.787	2,635.111	-	2,635.111	2,700.264	2,658.313	2,666.245	2,851.920	20,419.570	47,203.890
• DoN MILCON: DoN JSF MILCON	230.900	64.660	121.990	-	121.990	119.800	0.000	0.000	0.000	642.400	1,406.074
• International 2: Intl Production/ Reprogramming Lab	185.641	124.114	151.776	-	151.776	150.588	149.848	87.119	0.000	Continuing	Continuing
• OPN/4268: Logistics Information System (ALIS)	29.528	63.277	39.374	-	39.374	51.457	54.934	70.046	71.314	Continuing	Continuing
• MC/0207597F: USAF MILCON Training	20.000	70.350	11.000	-	11.000	0.000	0.000	0.000	0.000	0.000	166.750
• International 3: International R&D FoD/D&S	84.602	158.273	159.649	-	159.649	162.023	167.383	160.111	0.000	Continuing	Continuing
• OPN 902010 S8JC: Aviation Support Equipment (ALIS)	0.881	2.297	2.321	-	2.321	0.139	1.977	0.000	0.000	Continuing	Continuing
• USAF O&M: USAF O&M	425.978	516.569	731.134	-	731.134	909.930	985.790	1,089.394	0.000	Continuing	Continuing
• USAF MILCON 0502635F: USAF MILCON Air National Guard	15.100	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	15.100
• USN 2936: F-35C Follow- on Development (CV)	63.387	139.942	224.712	-	224.712	228.707	188.678	120.192	0.000	Continuing	Continuing
• International Unique: Intl Unique (SDD)	32.374	15.566	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	481.617
Remarks											
D. Acquisition Strategy											
The SDD program consists of a cost-reimbursement contract awarded to Lockheed Martin Aeronautics Company to develop the F-35 Air System, consisting of three aircraft variants and its associated logistics support system, for the U.S. Services and international participants. Similarly, a cost-reimbursement contract was awarded to Pratt & Whitney to develop the F135 propulsion system. Ground and flight testing will be conducted during development to accomplish validation and verification, with											

# UNCLASSIFIED

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800N / <i>JT Strike Fighter (JSF) - EMD</i>	<b>Project (Number/Name)</b> 2261 / <i>Joint Strike Fighter EMD</i>
<p>the extensive use of modeling and simulation to offset the risk of this large, complex, and concurrent lifecycle program. A comprehensive logistics support environment, including an integrated training system for aircrew, maintenance, and support personnel, is also being developed.</p> <p>On 25 April 2011, the Department of Defense terminated the development of the General Electric Rolls-Royce Fighter Engine Team F136 propulsion system.</p> <p>The F-35 Program has made international involvement a key element of the acquisition strategy. This includes international partnership in the development, production, and sustainment phases of the lifecycle. Additional international participation includes Foreign Military Sales arrangements.</p> <p>In Fiscal Year 2007, separate cost-type contracts were awarded to Lockheed Martin Aeronautics Company and Pratt &amp; Whitney to begin low rate initial production for F-35 air vehicles, propulsion systems, and sustainment for the fielded systems. Transition to fixed-price-type procurement contracts occurred with the fourth low rate lot. To provide logistics support for delivered aircraft, Performance-Based Logistics cost-type contracts will be awarded to Lockheed Martin Aeronautics Company and Pratt &amp; Whitney.</p> <p>At the completion of Low Rate Initial Production, a Defense Acquisition Board review, and Milestone Decision Authority approval, the F-35 Program will enter Full Rate Production. Fixed-price procurement contracts will be awarded for F-35 air vehicles and propulsion systems for the U.S. Services and international participants. Multiyear procurement authority for the F-35 Air System will be requested for Full Rate Production. Concurrently, a fixed-price-type Performance Based Logistics contracts for sustainment will be requested to support multi-Service and multi-national requirements.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>The following are the key performance parameters from the F-35 Selected Acquisition Report:</p> <p>Performance Metrics reflect Key Program Performance data.</p> <p>Combat Radius</p> <p>F-35A Meets/Exceeds Tripwire Requirement</p> <p>F-35B Meets/Exceeds Tripwire Requirement</p> <p>F-35C Meets/Exceeds Tripwire Requirement</p> <p>CV Recovery Performance</p> <p>Maximum Approach Speed at required carrier landing weight</p> <p>Mission Reliability</p> <p>F-35A Meets/Exceeds Tripwire Requirement</p> <p>F-35B Meets/Exceeds Tripwire Requirement</p> <p>F-35C Meets/Exceeds Tripwire Requirement</p>		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD	Project (Number/Name) 2261 / Joint Strike Fighter EMD
Sortie Generation Rate F-35A Meets Tripwire Requirement F-35B Meets Tripwire Requirement F-35C Meets Tripwire Requirement  Logistics Footprint F-35A Less than or equal to 8 C-17 equivalents F-35B Less than or equal to 8 C-17 equivalents F-35C Less than or equal to 38,800 cu ft., 217 ST		

**UNCLASSIFIED**

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 2261 / Joint Strike Fighter EMD					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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 - SDD	C/CPIF	Lockheed Martin : Ft. Worth, TX	31,298.696	731.806	Dec 2016	274.720	Dec 2017	161.665	Dec 2018	-		161.665	16.771	32,483.658	32,483.658
Primary Hardware Development - Award Fee	C/CPIF	Lockheed Martin : Ft. Worth, TX	1,727.259	11.430	Dec 2016	35.000	Dec 2017	2.500	Dec 2018	-		2.500	0.000	1,776.189	1,776.189
Primary Hardware Development - ALIS	C/CPIF	Lockheed Martin : Ft. Worth, TX	462.317	0.221	Dec 2016	40.694	Dec 2017	27.400	Dec 2018	-		27.400	0.000	530.632	530.632
Primary Hardware Development - 0031	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.337	0.506	Dec 2016	0.169	Dec 2017	0.000		-		0.000	0.000	1.012	1.012
Primary Hardware Development - 0020	C/CPFF	Lockheed Martin : Ft. Worth, TX	81.838	139.281	Dec 2016	21.893	Dec 2017	0.000		-		0.000	0.000	243.012	243.012
Primary Hardware Development - SDD	C/CPIF	Pratt and Whitney : Hartford, CT	7,296.328	105.448	Dec 2016	0.000		0.000		-		0.000	0.000	7,401.776	7,401.776
Primary Hardware Development - Award Fee	C/CPIF	Pratt and Whitney : Hartford, CT	677.646	14.552	Dec 2016	0.000		0.000		-		0.000	0.000	692.198	692.198
Systems Engineering	Various	Various : Various	435.371	23.577	Nov 2016	0.911	Dec 2017	0.000		-		0.000	0.000	459.859	459.859
Prior Year No Longer Funded in FYDP	Various	Various : Various	2,909.122	0.000		0.000		0.000		-		0.000	0.000	2,909.122	2,909.122
Subtotal			44,888.914	1,026.821		373.387		191.565		-		191.565	16.771	46,497.458	N/A
Remarks															
Contract type prior to 2013 was CPAF.															
Cumulative Award Fee earned in prior years for Lockheed Martin is 97%.															
Cumulative Award Fee earned in prior years for Pratt and Whitney is 98%.															
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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 Support - AFFTC/Eglin	Various	Eglin AFB : Eglin, FL	138.926	1.834	Nov 2016	0.830	Nov 2017	0.000		-		0.000	0.000	141.590	-
Development Support - AFLCMC/AFRL	Various	AFLCMC/AFRL : Various	75.829	3.133	Nov 2016	0.000		0.000		-		0.000	0.000	78.962	-

**UNCLASSIFIED**

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 2261 / Joint Strike Fighter EMD					
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Engine Test and Evaluation Support - AEDC/Fuel	Various	Various : Various	199.947	3.771	Nov 2016	0.000		0.000		-		0.000	0.000	203.718	-
Development Support - Miscellaneous	Various	Various : Various	123.516	12.356	Nov 2016	2.927	Nov 2017	0.764	Nov 2018	-		0.764	0.000	139.563	-
Software Development Support	Various	NAWC WD : China Lake, CA	163.175	4.312	Nov 2016	0.000		0.000		-		0.000	0.000	167.487	-
Development Support	Various	NAWC AD : Patuxent River, MD	505.484	41.726	Nov 2016	6.913	Nov 2017	0.000		-		0.000	0.000	554.123	-
Prior Year No Longer Funded in FYDP	Various	Various : Various	77.641	0.000		0.000		0.000		-		0.000	0.000	77.641	-
Subtotal			1,284.518	67.132		10.670		0.764		-		0.764	0.000	1,363.084	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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 and Evaluation	Various	NAWC WD : China Lake, CA	40.545	2.712	Nov 2016	0.000		0.000		-		0.000	0.000	43.257	-
Developmental Test and Evaluation	Various	NAWC AD : Patuxent River, MD	752.168	54.944	Nov 2016	4.400	Nov 2017	0.000		-		0.000	0.000	811.512	-
Developmental Test and Evaluation	Various	Edwards AFB : Edwards AFB, CA	683.943	54.976	Nov 2016	4.400	Nov 2017	0.000		-		0.000	0.000	743.319	-
Developmental Test and Evaluation - Other (including Classified PIDs)	Various	Other (incl Classified PIDs) : Various	241.272	30.602	Nov 2016	2.400	Nov 2017	0.000		-		0.000	0.000	274.274	-
Operational Test and Evaluation Support	Various	OT-AFOTEC/ AFFTC : Kirkland AFB, NM/Eglin AFB, FL	204.545	35.436	Nov 2016	41.976	Nov 2017	2.150	Nov 2018	-		2.150	0.000	284.107	-
Operational Test and Evaluation Support	Various	OT-JITC/OPTEC : Various	61.243	42.956	Nov 2016	71.886	Nov 2017	2.143	Nov 2018	-		2.143	0.000	178.228	-

## UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 2261 / Joint Strike Fighter EMD					
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Operational Test and Evaluation Support	Various	OT-CHLK : China Lake, CA	3.999	9.912	Nov 2016	15.392	Nov 2017	0.000		-		0.000	0.000	29.303	-
Operational Test and Evaluation Support	Various	OT-Various : Various	7.823	2.775	Nov 2016	3.274	Nov 2017	0.000		-		0.000	0.000	13.872	-
Prior Year No Longer Funded in FYDP	Various	Various : Various	27.829	0.000		0.000		0.000		-		0.000	0.000	27.829	-
Subtotal			2,023.367	234.313		143.728		4.293		-		4.293	0.000	2,405.701	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Security System High BOS	C/FP	Mantech : Arlington, VA	7.845	8.037	Dec 2016	0.000		0.000		-		0.000	0.000	15.882	15.882
AFLCMC Civilian Pay	Various	AFLCMC CIVPAY : Wright Patterson, AFB, OH	120.311	10.270	Oct 2016	0.000		0.000		-		0.000	0.000	130.581	-
Program Management Support	C/CPFF	Allutiiq : Arlington, VA	2.213	0.192	Dec 2016	0.000		0.000		-		0.000	0.000	2.405	2.405
Facilities BOSS	WR	Various : Various	32.772	9.013	Dec 2016	0.000		0.000		-		0.000	0.000	41.785	-
CIO ODCs	Various	Various : Various	13.021	7.256	Dec 2016	0.000		0.000		-		0.000	0.000	20.277	-
Travel	Various	Various : Various	24.830	2.343	Oct 2016	0.088	Dec 2017	0.000		-		0.000	0.000	27.261	-
Program Management Support	Various	Jacobs BOSS : Arlington, VA	50.440	24.686	Dec 2016	0.000		0.000		-		0.000	0.000	75.126	-
OPS - Cost/FM/EV ACT-I	Various	OPS - Cost/FM/EV : Arlington, VA	2.000	3.845	Dec 2016	0.000		0.000		-		0.000	0.000	5.845	-
Program Management Support	Various	Andrews AFB : Camp Springs, MD	0.358	0.135	Dec 2016	0.000		0.000		-		0.000	0.000	0.493	-
Prior Year No Longer Funded in FYDP	Various	Various : Various	593.944	0.000		0.000		0.000		-		0.000	0.000	593.944	-
Subtotal			847.734	65.777		0.088		0.000		-		0.000	0.000	913.599	N/A

**UNCLASSIFIED**

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy										Date: February 2018				
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 2261 / Joint Strike Fighter EMD						
	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract	
Cost Category Subtotals	49,044.533	1,394.043		527.873		196.622		-		196.622	16.771	51,179.842	N/A	
Joint Strike Fighter 0604800F	-	386.941		255.745		69.519		-		69.519			-	
Joint Strike Fighter 0604800M	-	495.958		141.534		66.566		-		66.566			-	
International Partner	-	22.000		27.450		-		-		-			-	
Project Cost Totals	49,044.533	489.144		103.144		60.537		-		60.537	16.771	51,179.842	-	

**Remarks**

Subtotals and totals may not add due to rounding.

NOTE 1: Prior Years reflect \$21,601.831M USAF/\$19,311.879M USN/\$3,166.810M USMC /\$4,964.013 International/Total \$49,044.533M  
FY 2017 reflects \$386.941M USAF/\$489.144M USN/\$495.958M USMC/\$22.000M International/Total \$1,394.043M  
FY 2018 reflects \$255.745M USAF/\$103.144M USN/\$141.534M USMC/\$27.450M International/Total \$ 527.873M  
FY 2019 reflects \$ 69.519M USAF/\$ 60.537M USN/\$ 66.566M USMC/\$ 0.000M International/Total \$ 196.622M

JSF EMD Includes:

USAF PE 0604800F BPAC 653831  
USN PE 0604800N Project Unit 2261  
USMC PE 0604800M Project Unit 2262

D&S Includes:

USAF PE 0604800F BPAC 653832  
USN PE 0604800N Project Unit 3352  
USMC PE 0604800M Project Unit 3350

# UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy

Date: February 2018

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604800N / JT Strike Fighter (JSF) - EMD

Project (Number/Name)

2261 / Joint Strike Fighter EMD

JSF Variants - CV, STOVL & CTOL	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
Acquisition Milestones								F-35C IOC ▲																				
Test & Evaluation	Block 3F DT&E/Cert																											
						Initial Operational Test and Evaluation (IOT&E)																						
Defense Acquisition Reviews					IPR ■				IPR ■				IPR ■				IPR ■				IPR ■							
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft)													LRIP 10 (AF 47, USN 6, USMC 15)															
													LRIP 11 (AF 48, USN 8, USMC 18)															
													LRIP 12 (AF 46, USN 4, USMC 20)															
																	LRIP 13 (AF 48, USN 9, USMC 20)						LRIP 14 (AF 48, USN 16, USMC 20)					
																											LRIP 15 (AF 54, USN 24, USMC 20)	

2019PB - 0604800N - 2261



# UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD	Project (Number/Name) 2261 / Joint Strike Fighter EMD	

## Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>JSF Variants - CV, STOVL &amp; CTOL</b>				
Acquisition Milestones: F-35C Initial Operational Capability	4	2018	4	2018
Test & Evaluation: Test and Evaluation: Block 3F DT&E/Cert	1	2017	2	2018
Test & Evaluation: Test and Evaluation: Initial Operational Test and Evaluation (IOT&E)	2	2018	1	2020
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-17	1	2018	1	2018
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-18	1	2019	1	2019
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-19	1	2020	1	2020
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-20	1	2021	1	2021
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-21	1	2022	1	2022
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 10 Full Funding / Production / Delivery	2	2019	2	2020
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 11 Full Funding / Production / Delivery	1	2020	1	2021
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 12 Full Funding / Production / Delivery	2	2020	2	2021
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 13 Full Funding / Production / Delivery	2	2021	1	2022
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 14 Full Funding / Production / Delivery	2	2022	4	2023

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy			Date: February 2018		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD		Project (Number/Name) 2261 / Joint Strike Fighter EMD	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 15 Full Funding / Production / Delivery		2	2023	4	2023

# UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3352 / F-35C Sustainment/Capability Enhancements			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
3352: F-35C Sustainment/ Capability Enhancements	338.445	23.518	5.787	4.957	-	4.957	0.000	0.000	0.000	0.000	0.000	372.707
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 198												
Note Total cost including United States Navy (USN), United States Marine Corps (USMC), United States Air Force (USAF) and International Partner contributions funding is: FY17 \$125.862M, FY18 \$61.270M and FY19 \$ 4.957M.  R-2A table shown above reflect service funding only.  R-2A (section B)/R-3 displays total combined program (i.e. not Service-specific), including International partners.  D&S Includes: USAF PE 64800F BPAC 653832 USN PE 0604800N Project Unit 3352 USMC PE 0604800M Project Unit 3350												
A. Mission Description and Budget Item Justification Funds enhancements to the deployability and suitability of the air system such as low observable (LO) maintenance enhancements, security architecture updates, redesign of obsolete items, and integrated training simulators. These enhancements will provide vital on-demand support to the war-fighter within a deployed environment and are not funded via the existing System Development and Demonstration (SDD) program or tied to Block 4 Operational Flight Program development. Funding will result in achieving targeted suitability, maintainability, and affordability returns employing the F-35 in deployed or austere locations.  -Funding at the accomplishment/planned program level is reported as the total of all services as these activities support all aircraft variants. By agreement, USN and USMC funding shares are approximately equal and when combined are equal to the USAF share.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	
Title: Sustainment and Capability Enhancements							75.280	26.030	4.957	0.000	4.957	
Articles:							-	-	-	-	-	
Description: Apply disciplined systems engineering, refinement of requirements, develop and acquire												

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018			
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD		Project (Number/Name) 3352 / F-35C Sustainment/Capability Enhancements		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
suitability and maintainability of the air system such as decentralized maintenance capabilities, LO maintenance enhancements, security architecture updates, redesign of obsolete items and integrated training simulators.						
<b>FY 2018 Plans:</b> Continue to conduct systems engineering, technical maturation, integration and test planning for suitability and deployability enhancements. Continue to perform sustaining engineering, development and test activities necessary to gain capacity, compatibility, and expansion in wiring, power, wing conduits, etc. in support of electronic warfare. This includes funding for suitability enhancements such as Standard Operating Unit Version 2 and Band 2/5 efforts.						
<b>FY 2019 Base Plans:</b> Continue to conduct systems engineering, technical maturation, integration and test planning for suitability and deployability enhancements. Continue to perform sustaining engineering, development and test activities necessary to gain capacity, compatibility, and expansion in wiring, power, wing conduits, etc. in support of electronic warfare. This includes funding for suitability enhancements related to Distributed Mission Training (DMT).						
<b>FY 2019 OCO Plans:</b> N/A						
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> FY19 Sustainment/Capability Enhancements funding decrease is due to reduction in domestic and International controls in conjunction with SDD phase drawing to closure.						
<b>Title:</b> Development Support		3.556	1.000	0.000	0.000	0.000
<b>Articles:</b>		-	-	-	-	-
<b>Description:</b> SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.						
<b>FY 2018 Plans:</b> Complete SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. Development Support decrease is due to across the board reduction between both services.						
<b>FY 2019 Base Plans:</b>						

## UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy				Date: February 2018				
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD		Project (Number/Name) 3352 / F-35C Sustainment/Capability Enhancements				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A								
FY 2019 OCO Plans: N/A								
FY 2018 to FY 2019 Increase/Decrease Statement: FY19 Sustainment/Capability Enhancements funding decrease is due to reduction in domestic and International controls in conjunction with SDD phase drawing to closure.								
Title: Development Test and Evaluation				1.440	0.500	0.000	0.000	0.000
Articles:				-	-	-	-	-
Description: Verification and testing for deployability and suitability enhancements.								
FY 2018 Plans: Complete to initiate government test and evaluaton of capability enhancements for Deployable Autonomic Logistics Information System, and LO maintenance enhancements.								
FY 2019 Base Plans: N/A								
FY 2019 OCO Plans: N/A								
FY 2018 to FY 2019 Increase/Decrease Statement: FY19 Sustainment/Capability Enhancements funding decrease is due to reduction in domestic and International controls in conjunction with SDD phase drawing to closure.								
Title: Autonomic Logistics Information System				45.586	33.740	0.000	0.000	0.000
Articles:				-	-	-	-	-
Description: SDD execution of Autonomic Logistics Information System (ALIS) develops the information infrastructure used to transmit health and maintenance action information for the aircraft to the appropriate users.								
FY 2018 Plans:								

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy									Date: February 2018		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3352 / F-35C Sustainment/Capability Enhancements			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Complete SDD execution of Autonomic Logistics Information System (ALIS) develops the information infrastructure used to transmit health and maintenance action information for the aircraft to the appropriate users.  FY 2019 Base Plans: N/A  FY 2019 OCO Plans: N/A  FY 2018 to FY 2019 Increase/Decrease Statement: FY19 Sustainment/Capability Enhancements funding decrease is due to reduction in domestic and International controls in conjunction with SDD phase drawing to closure.											
Accomplishments/Planned Programs Subtotals							125.862	61.270	4.957	0.000	4.957
Joint Strike Fighter 0604800M 3350							23.435	11.400	-	-	-
International Partner							31.947	6.881	-	-	-
Joint Strike Fighter 0604800F							46.962	37.202	-	-	-
Navy Subtotals							23.518	5.787	4.957	0.000	4.957
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• RDT&E/0604800F: F-35A Joint Strike Fighter SDD	386.941	255.745	69.519	-	69.519	7.793	5.596	0.000	0.000	0.000	22,245.963
• International: International Partner (SDD)	22.000	27.450	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5,013.463
• APAF/0207142F BP10: F-35A USAF CTOL	4,667.894	4,544.684	4,253.696	-	4,253.696	4,209.813	4,862.684	4,796.042	0.000	148,685.767	202,884.710
• RDT&E/0604800M/2262: F-35B JT Strike Fighter (JSF) - EMD	495.958	141.534	55.566	-	55.566	1.713	0.542	0.558	0.569	0.000	49,740.973
• APN/0605B: F-35B Joint Strike Fighter STOVL Spares	123.252	105.671	92.198	-	92.198	160.150	140.989	143.809	0.000	Continuing	Continuing

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy									Date: February 2018		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3352 / F-35C Sustainment/Capability Enhancements			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• APN/0605C: F-35 Joint Strike Fighter CV Spares	26.076	84.591	44.971	-	44.971	52.858	303.608	309.680	0.000	Continuing	Continuing
• MILCON 0207142F: USAF MILCON Operations	305.700	181.250	175.150	-	175.150	154.400	0.000	0.000	0.000	0.000	1,602.550
• APAF/0207142F BP11: USAF Modification Funding	115.811	68.270	230.448	-	230.448	279.814	259.978	301.899	0.000	0.000	1,665.794
• FOD/0207142F: USAF Follow-on Development (FoD)	50.970	299.408	396.821	-	396.821	504.971	418.988	343.147	283.292	Continuing	Continuing
• 0207142F/USAF BP16: USAF Joint Strike Fighter Initial Spares	362.792	320.831	319.151	-	319.151	416.722	399.361	394.654	0.000	4,175.007	7,849.413
• USAF/OPAF 0207142F: USAF OPAF	2.333	3.326	3.310	-	3.310	2.993	2.463	2.507	0.000	Continuing	Continuing
• APN/0592: F-35B STOVL Series	24.350	34.963	36.618	-	36.618	38.582	47.609	50.163	53.742	Continuing	Continuing
• APN/0593: F-35C CV Series	21.733	31.689	21.236	-	21.236	13.136	12.435	12.683	12.938	Continuing	Continuing
• RDT&E/0604800M/3350: F-35B Sustainment/Capability Enhancements	23.435	11.400	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	373.280
• USAF SDD BP 653832: Deployability and Suitability Enhancements	46.962	37.202	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	238.599
• PAF/0207142F BP10: F-35A CTOL Advance Procurement	404.500	780.300	405.200	-	405.200	1,003.600	965.300	414.700	0.000	20,154.954	26,885.296
• DCA/0207142F 676011: Dual Capable Aircraft (DCA)	25.743	35.122	78.016	-	78.016	92.026	95.040	37.599	11.725	Continuing	Continuing
• APN/0147: F-35C Joint Strike Fighter CV	1,360.880	663.232	1,341.369	-	1,341.369	1,938.799	2,793.290	2,963.544	2,973.130	26,243.243	54,674.071
• APN/0152C: F-35B Joint Strike Fighter STOVL AP	233.648	413.450	228.492	-	228.492	215.704	209.222	225.245	229.749	1,651.860	4,696.946
• APN/0152: F-35B Joint Strike Fighter STOVL	2,504.927	2,631.787	2,635.111	-	2,635.111	2,700.264	2,658.313	2,666.245	2,851.920	20,419.570	47,203.890
• DoN MILCON: DoN JSF MILCON	230.900	64.660	121.990	-	121.990	119.800	0.000	0.000	0.000	642.400	1,406.074

# UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018	
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3352 / F-35C Sustainment/Capability Enhancements			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• International 2: International Procduction/Reprogramming Lab	185.641	124.114	151.776	-	151.776	150.588	149.848	87.119	0.000	Continuing	Continuing
• OPN/4268: Logistics Information System (ALIS)	29.528	63.277	39.374	-	39.374	51.957	55.434	70.046	71.314	Continuing	Continuing
• MC/0207597F: USAF MILCON Training	20.000	70.350	11.000	-	11.000	0.000	0.000	0.000	0.000	0.000	166.750
• International 3: International FoM/D&S	84.602	158.273	159.649	-	159.649	162.023	167.383	160.111	0.000	Continuing	Continuing
• OPN 902010 S8JC: Aviation Support Equipment (ALIS)	0.881	2.297	2.321	-	2.321	0.139	1.977	0.000	0.000	Continuing	Continuing
• USAF O&M: USAF O&M	425.978	516.569	731.134	-	731.134	909.930	985.790	1,089.394	0.000	Continuing	Continuing
• USAF MILCON 0502635F: USAF MILCON Air National Guard	15.100	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	15.100
• USN 2936: F-35C Follow-on Development (CV)	63.387	139.942	224.712	-	224.712	228.707	188.678	120.192	0.000	Continuing	Continuing
• International Unique: Intl Unique (SDD/PSFD)	32.374	15.566	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	481.617
Remarks											
D. Acquisition Strategy											
Implement Joint Strike Fighter Joint Executive Steering Board/Configuration Steering Board approved enhancements through existing contracts using the engineering change proposal process. When appropriate, new cost type contracts may be established.											
E. Performance Metrics											
The following are the key performance parameters from the F-35 Selected Acquisition Report:											
Performance Metrics reflect Key Program Performance data.											
Combat Radius											
F-35A Meets/Exceeds Tripwire Requirement											
F-35B Meets/Exceeds Tripwire Requirement											
F-35C Meets/Exceeds Tripwire Requirement											



# UNCLASSIFIED

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800N / <i>JT Strike Fighter (JSF) - EMD</i>	<b>Project (Number/Name)</b> 3352 / <i>F-35C Sustainment/Capability Enhancements</i>
<p>F-35B Performance</p> <p>Flat Deck (High-High-High Profile Fuel) Meets Requirement In Tripwire Band</p> <p>Ski Jump (High-Medium-Medium-High Profile Fuel) Meets Requirement In Tripwire Band</p> <p>Vertical Landing Bring Back Meets Requirement In Tripwire Band</p> <p>F-35C Recovery</p> <p>Maximum Approach Speed Meets Requirement In Tripwire Band</p> <p>Interoperability</p> <p>Net Ready Criteria- Meets Requirement In Tripwire Band</p> <p>Radio Frequency Signature Meets/Exceeds Tripwire Requirement</p> <p>Force Protection</p> <p>CB Pilot Protection (New Key Performance Parameters Per CN3) - Meets/Exceeds Tripwire Requirement</p> <p>Mission Reliability</p> <p>F-35A Meets/Exceeds Tripwire Requirement</p> <p>F-35B United States Marine Corps (USMC) Meets/Exceeds Tripwire Requirement</p> <p>F-35B United Kingdom (UK) Meets/Exceeds Tripwire Requirement</p> <p>F-35C Exceeds Operational Requirements Document Objective</p> <p>Sortie Generation Rate</p> <p>F-35A Meets/Exceeds Tripwire Requirement</p> <p>F-35B USMC Meets/Exceeds Tripwire Requirement</p> <p>F-35B UK Meets/Exceeds Tripwire Requirement</p> <p>F-35C Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprints</p> <p>F-35A Meets/Exceeds Tripwire Requirement</p> <p>F-35B USMC Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprint- Volume</p> <p>F-35B USMC Exceeds ORD Objective</p>		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD	Project (Number/Name) 3352 / F-35C Sustainment/Capability Enhancements
F-35B UK Meets/Exceeds Tripwire Requirement F-35C Exceeds Operational Requirements Document (ORD) Objective  Logistics Footprint-Weight F-35B USMC Exceeds ORD Objective F-35B UK Meets/Exceeds Tripwire Requirement F-35C Exceeds ORD Objective		

**UNCLASSIFIED**

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3352 / F-35C Sustainment/Capability Enhancements					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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 - 3002 SDD	C/CPFF	Lockheed Martin : Fort Worth, TX	44.233	45.572	Mar 2017	23.655	Mar 2018	4.957	Mar 2019	-		4.957	0.000	118.417	116.732
Primary Hardware Development - 3002 ALIS	C/CPFF	Lockheed Martin : Fort Worth, TX	144.378	40.768	Mar 2017	33.740	Mar 2018	0.000		-		0.000	0.000	218.886	218.886
Primary Hardware Development -14-C-002 Band 2/5	C/CPFF	Lockheed Martin : Fort Worth, TX	98.639	34.526	Mar 2017	2.375	Mar 2018	0.000		-		0.000	0.000	135.540	135.540
Subtotal			287.250	120.866		59.770		4.957		-		4.957	0.000	472.843	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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 Support	Various	AFLCMC : Eglin AFB	33.501	0.000		0.000		0.000		-		0.000	0.000	33.501	-
Development Support	Various	Various : Various	12.368	2.410	Mar 2017	1.000	Mar 2018	0.000		-		0.000	0.000	15.778	-
Subtotal			45.869	2.410		1.000		0.000		-		0.000	0.000	49.279	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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	WR	Various : Various	2.010	0.976	Mar 2017	0.500	Mar 2018	0.000		-		0.000	0.000	3.486	-
Subtotal			2.010	0.976		0.500		0.000		-		0.000	0.000	3.486	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Program Support	Various	Various : Various	3.316	1.610	Mar 2017	0.000		0.000		-		0.000	0.000	4.926	-

**UNCLASSIFIED**

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3352 / F-35C Sustainment/Capability Enhancements					
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Subtotal			3.316	1.610		0.000		0.000		-		0.000	0.000	4.926	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals			338.445	125.862		61.270		4.957		-		4.957	0.000	530.534	N/A
Joint Strike Fighter 0604800M 3350			-	23.435		11.400		-		-		-			-
International Partner			-	31.947		6.881		-		-		-			-
Joint Strike Fighter 0604800F			-	46.962		37.202		-		-		-			-
Project Cost Totals			338.445	23.518		5.787		4.957		-		4.957	0.000	530.534	-
Remarks															
NOTE: Prior Years reflect \$154.435M USAF/\$68.518M USN/\$58.740M USMC/\$56.752M International/Total \$338.445M FY 2017 reflects \$46.962M USAF/\$23.518M USN/\$23.435M USMC/\$31.947M International/Total \$125.862M FY 2018 reflects \$37.202M USAF/\$ 5.787M USN/\$11.400M USMC/\$ 6.881M International/Total \$ 61.270M FY 2019 reflects \$ 0.000M USAF/\$ 4.957M USN/\$ 0.000M USMC/\$ 0.000M International/Total \$ 4.957M															
R-2A (section B)/R-3 displays total combined program (i.e. not Service-specific), including International partners.															
JSF EMD Includes: USAF PE 0604800F BPAC 653831 USN PE 0604800N Project Unit 2261 USMC PE 0604800M Project Unit 2262															
D&S Includes: USAF PE 0604800F BPAC 653832 USN PE 0604800N Project Unit 3352 USMC PE 0604800M Project Unit 3350															

# UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy

Date: February 2018

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604800N / JT Strike Fighter (JSF) - EMD

Project (Number/Name)

3352 / F-35C Sustainment/Capability Enhancements

Proj 3352

FY 2017

FY 2018

FY 2019

FY 2020

FY 2021

FY 2022

FY 2023

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

1Q

2Q

3Q

4Q

D&S

SOUv2

Band 2/5

Security Architecture

OMS

DMT/DMO

2019DON - 0604800N - 3352

**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Navy			<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800N / <i>JT Strike Fighter (JSF) - EMD</i>	<b>Project (Number/Name)</b> 3352 / <i>F-35C Sustainment/Capability Enhancements</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 3352</i></b>				
D&S: Standard Operating Unit (SOUv2)	1	2017	4	2018
D&S: Band 2/5	1	2017	3	2018
D&S: Security Architecture	1	2017	3	2018
D&S: Offboard Mission Support (OMS) Redesign	1	2017	4	2018
D&S: Distributed Mission Training/Distributed Mission Operations (DMT/DMO)	1	2017	4	2021