

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604810M I Joint Strike Fighter Follow On Development - MC							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	-	10.399	59.265	-	59.265	120.028	157.257	168.502	171.946	Continuing	Continuing
2935: JSF Follow On Development - Marine Corps	0.000	-	10.399	59.265	-	59.265	120.028	157.257	168.502	171.946	Continuing	Continuing
Program MDAP/MAIS Code: 198												
A. Mission Description and Budget Item Justification												
The F-35 Lightning II Fighter program is developing a family of highly common, affordable, next generation, multi-role aircraft to meet the needs of the USMC, USN, USAF and international partners. The three variants are the F-35A Conventional Takeoff and Landing (CTOL); F-35B Short Takeoff and Vertical Landing (STOVL); and the F-35C Carrier Variant (CV). Maximum commonality among the variants, consistent with National Disclosure Policy, will minimize life cycle costs.												
F-35 Follow-on Development (FoD) provides continuing incremental upgrades of the three F-35 variants and associated ground equipment. The FoD acquisition strategy is based upon incremental block development of capabilities with each increment consisting of two development cycles. FoD will provide capability enhancements, required systems upgrades and cost improvements through an incremental acquisition approach. FoD capability planning includes an efficient transition from F-35 System Development and Demonstration (SDD) to FoD. As SDD development activities ramp down, the FoD program will assume responsibility for new development and the maintenance of associated developmental infrastructure. FoD capability planning includes Block 4A and 4B Engineering and Manufacturing Development efforts from FY16 through FY20 followed by DT and OT testing in 2020/2021 with IOC of capabilities in 2022.												
Additionally, the F-35 JSF Operational Requirements Document (ORD) calls for the F-35A (CTOL) Variant Air Vehicle to have the capabilities and provisions for Dual Capable Aircraft (DCA) operations in the first post SDD block upgrade. DCA refers to the capability to carry and deliver conventional and non-conventional weapons. DCA operation for the F-35A is internal carriage of two B-61s. Due to extensive certification requirements, the DCA capability planning and design will begin in Block 4A and continue through testing and to extensive certification requirements, the DCA capability planning and design will begin in Block 4A and continue through testing and certification in Block 4B.												
The United Kingdom, other International Partner nations, and Foreign Military Sales customers are also participants in the JSF program. The program shown here reflects USN, USMC, USAF, and International Partner funding.												
Funding at the accomplishment/planned program level is reported as the total of all services and partners as these activities support all aircraft variants.												
The 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 and USAF use.												
FY07: 1 CTOL flight test article FY08: 1 STOVL flight test article; 1 STOVL ground test article												

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy				Date: February 2015		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604810M / Joint Strike Fighter Follow On Development - MC				
FY09: 1 STOVL flight test article; 2 CTOL ground test articles FY10: 6 flight test articles: 3 CTOL, 2 STOVL, 1 CV; 3 ground test articles: 1 STOVL, 2 CV FY11: 4 flight test articles: 1 CTOL, 1 STOVL, 2 CV FY13: 1 CV flight test article						
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.						
B. Program Change Summary (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget		-	-	-	-	-
Current President's Budget		-	10.399	59.265	-	59.265
Total Adjustments		-	10.399	59.265	-	59.265
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	10.399			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-	-			
• Rate/Misc Adjustments		-	-	59.265	-	59.265
Change Summary Explanation						
Adjustments are funding realignments. In FY 2015 Appropriations Act, FoD moved to this Program Element, separate from System Development & Demonstration (SDD).						

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604810M / Joint Strike Fighter Follow On Development - MC				Project (Number/Name) 2935 / JSF Follow On Development - Marine Corps			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2935: JSF Follow On Development - Marine Corps	-	-	10.399	59.265	-	59.265	120.028	157.257	168.502	171.946	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Total cost including International partner contributions, USN, USMC, and USAF funding: FY2014 \$6.000M; FY15 \$55.698M; FY16 \$261.772M.

R-2A table shown above reflects service funding only.

R-2A (section B)/R-3 displays combined program for JSF Follow-on Development (FoD).

JSF FoD Includes:

USAF PE 0207142F BPAC 675346

USN PE 0604810N Project Unit 2936

USMC PE 0604810M Project Unit 2935

USN PE 0604800N Project Unit 9999(FY14): \$1.500M

USMC PE 0604800M Project Unit 9999 (FY14): \$1.500M

International Partnership Contributions

A. Mission Description and Budget Item Justification

F-35 FoD provides continuing incremental upgrades of the three F-35 variants and associated ground equipment. The FoD acquisition strategy is based upon incremental block development of capabilities with each increment consisting of two development cycles. FoD capability planning includes an efficient transition from F-35 System Development and

Demonstration (SDD) to Follow-on Development. As SDD development activities ramp down, the FoD program will assume responsibility for new development and the maintenance of associated developmental infrastructure. FoD capability planning includes Block 4A and 4B Engineering and Manufacturing Development efforts from FY16 through FY20 followed by

DT and OT testing in 2020/2021 with IOC of capabilities in 2022.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Air Vehicle Follow-on Development	4.333	55.698	259.435	-	259.435
Articles:	-	-	-	-	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy				Date: February 2015				
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604810M I Joint Strike Fighter Follow On Development - MC		Project (Number/Name) 2935 I JSF Follow On Development - Marine Corps				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Capability planning effort will focus on mission requirements analysis, early engineering, risk reduction and preparations leading to formal acquisition approval of Block 4. Program planning will consist of engineering and development support for defining, managing and the acquisition of capability enhancements required to address threats indicated in the Electronic Warfare Initial Capabilities Document (ICD) and the Fifth Generation Fighter Modernization ICD. FY 2014 Accomplishments: Follow-on Development (FoD) activity supports development and validation of FoD Increment 1 Capability Development Document. FY 2015 Plans: Requirements analysis and technical requirements development, systems engineering, and technical planning. A combined Systems Requirements Review and Systems Functional Review is planned followed by development of the Block 4 preliminary design. FY 2016 Base Plans: Requirements analysis and technical requirements development, systems engineering, and technical planning. A combined Systems Requirements Review and System Functional Review is planned followed by development of the Block 4 preliminary design. FY 2016 OCO Plans: N/A								
Title: Development Support Articles: FY 2014 Accomplishments: Technical and Analytical Support. FY 2015 Plans:				1.667 -	- -	2.337 -	- -	2.337 -

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy									Date: February 2015			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604810M / Joint Strike Fighter Follow On Development - MC				Project (Number/Name) 2935 / JSF Follow On Development - Marine Corps				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Initiate development support for defining, managing and acquiring the envisioned F-35B capability enhancements identified in approved requirements documents.												
FY 2016 Base Plans: Initiate development support for defining, managing and acquiring the F-35B capability enhancements identified in approved requirements documents.												
FY 2016 OCO Plans: N/A												
Accomplishments/Planned Programs Subtotals								6.000	55.698	261.772	-	261.772
0207142F JSF FOLLOW ON DEVELOPMENT								3.000	24.477	110.428	-	110.428
0604810N JSF FOLLOW ON DEVELOPMENT								-	10.622	47.579	-	47.579
International FoD								-	10.200	44.500	-	44.500
C261 JSF Block 4 Congressional Add								1.500	-	-	-	-
C260 JSF Block 4 Congressional Add								1.500	-	-	-	-
Navy Subtotals								-	10.399	59.265	-	59.265
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost	
• RDT&E/0604810N/2636: F-35C Follow-on Development	-	10.622	47.579	-	47.579	103.564	134.250	145.580	148.975	Continuing	Continuing	
• USAF/FOD/0207142F: USAF Follow-on Development	3.000	24.477	110.428	-	110.428	243.520	311.476	334.116	340.093	Continuing	Continuing	
• RDT&E/0604800N/9999: Congressional Add	1.500	-	-	-	-	-	-	-	-	-	1.500	
• RDT&E/0604800M/9999: Congressional Add	1.500	-	-	-	-	-	-	-	-	-	1.500	
• International: International FoD	-	10.200	44.500	-	44.500	128.965	157.602	169.315	171.636	Continuing	Continuing	
Remarks												

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604810M / Joint Strike Fighter Follow On Development - MC	Project (Number/Name) 2935 / JSF Follow On Development - Marine Corps

D. Acquisition Strategy

To enable the ability to adjust to potential discrepancies discovered during SDD Block 3 Test and Evaluation, the engineering and development planning support for FoD will be procured under a cost type contract. A fee provision will be used to target and motivate contractor performance. A separate Basic Ordering Agreement or Indefinite quantity/Indefinite Delivery contract is planned to provide a long term approach to upgrading and maintaining laboratories and test aircraft. Both Development Support and Management Services will primarily use CPFF Delivery Orders.

E. Performance Metrics

Overall FoD Performance Metrics will reflect Key Performance Parameters established in the F-35 FoD Capability Development Document.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy													Date: February 2015		
Appropriation/Budget Activity 1319 / 5							R-1 Program Element (Number/Name) PE 0604810M / Joint Strike Fighter Follow On Development - MC				Project (Number/Name) 2935 / JSF Follow On Development - Marine Corps				

Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Prime LM	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	2.463	Dec 2013	53.017	Dec 2014	258.654	Dec 2015	-		258.654	2,358.189	2,672.323	2,672.323
Prime LM IDIQ 13-D-0005	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	1.600	Dec 2013	-		-		-		-	-	1.600	1.600
Systems Engineering	Various	Various : Various	0.000	-		0.781	Dec 2014	0.781	Dec 2015	-		0.781	25.944	27.506	27.506
Subtotal			0.000	4.063		53.798		259.435		-		259.435	2,384.133	2,701.429	2,701.429

Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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	WR	NAWC AD : Patuxent, MD	0.000	-		-		1.355	Dec 2015	-		1.355	Continuing	Continuing	Continuing
Development Support	MIPR	Eglin AFB : Eglin AFB, FL	0.000	-		-		0.982	Dec 2015	-		0.982	-	0.982	-
Development Support	Various	Various : Various	0.000	1.667	Dec 2013	-		-		-		-	-	1.667	-
Subtotal			0.000	1.667		-		2.337		-		2.337	-	-	-

Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Functional Wyle	C/CPFF	Wyle : Arlington, VA	0.000	0.270	Dec 2013	1.900	Dec 2014	-		-		-	-	2.170	2.170
Subtotal			0.000	0.270		1.900		-		-		-	-	2.170	2.170

Remarks															
Cost to Complete, Total Cost, and Target Value are Continuing. When program baseline is established and development contract awarded, values will be established.															

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy									Date: February 2015				
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604810M / Joint Strike Fighter Follow On Development - MC				Project (Number/Name) 2935 / JSF Follow On Development - Marine Corps					
	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	0.000	6.000		55.698		261.772		-		261.772	-	-	-
0207142F JSF FOLLOW ON DEVELOPMENT	-	3.000		24.477		110.428		-		110.428			-
0604810N JSF FOLLOW ON DEVELOPMENT	-	-		10.622		47.579		-		47.579			-
International FoD	-	-		10.200		44.500		-		44.500			-
C261 JSF Block 4 Congressional Add	-	1.500		-		-		-		-			-
C260 JSF Block 4 Congressional Add	-	1.500		-		-		-		-			-
Project Cost Totals	0.000	-		10.399		59.265		-		59.265	-	-	-
Remarks													
FY 2014 reflects \$3.000M USAF/\$1.500 USN/\$1.500M USMC/\$0.000M International/Total \$6.000M													
FY 2015 reflects \$24.477 USAF/\$10.622 USN/\$10.399M USMC/\$10.200M International/Total \$55.698M													
FY 2016 reflects \$110.428 USAF/\$47.579 USN/\$59.2655M USMC/\$44.500M International/Total \$261.772M													
R-2A (section B)/R-3 displays total combined program (i.e. not Service-specific), including International partners.													
JSF Follow on Development Includes: USAF PE 0207142F BPAC 675346 USN PE 0604810N Project Unit 2936 USMC PE 0604810M Project Unit 2935 USN PE 0604800N Project Unit 9999 (FY14): \$1.500 USMC PE 0604800M Project Unit 999 (FY14) : \$1.500													

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy																		Date: February 2015																			
Appropriation/Budget Activity 1319 / 5										R-1 Program Element (Number/Name) PE 0604810M / Joint Strike Fighter Follow On Development - MC										Project (Number/Name) 2935 / JSF Follow On Development - Marine Corps																	
Proj 2935										FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
										1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Block 4																																					
Block 4A																																					

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604810M / <i>Joint Strike Fighter Follow On Development - MC</i>	Project (Number/Name) 2935 / <i>JSF Follow On Development - Marine Corps</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2935				
Block 4: CDD Validation	2	2015	2	2015
Block 4: Systems Engineering / Air System Preliminary Design	2	2016	4	2017
Block 4: Lab Upgrade	4	2016	4	2018
Block 4: Developmental Test Aircraft / Engine Upgrade	4	2016	4	2020
Block 4A: Requirements Decomposition and Risk Reduction	1	2015	4	2016
Block 4A: EMD	1	2016	4	2020
Block 4B: Requirements Decomposition and Risk Reduction	1	2017	3	2018
Block 4B: EMD	4	2018	4	2020