Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-198

F-35

As of December 31, 2009

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Program Information

Designation And Nomenclature (Popular Name)

F-35 Lightning II (previously Joint Strike Fighter)

DoD Component

DOD

Joint Participants

United States Air Force (USAF); United States Navy (USN); United States Marine Corps (USMC); Defense Advanced Research Projects Agency (DARPA); United Kingdom; Norway; Denmark; The Netherlands; Canada; Italy; Australia; Turkey

The F-35 Program is a joint DoD program for which Service Acquisition Executive (SAE) Authority alternates between the Department of the Navy and the Department of the Air Force, and currently resides with the Air Force.

Responsible Office

Responsible Office

Maj Gen C.D. Moore
F-35 Lightning II Program Office
200 12th St South
Suite 600
Arlington, VA 22202-5402
cd.moore@jsf.mil

Phone 703-602-7640
Fax 703-602-7649
DSN Phone 332-7640
DSN Fax --

Date Assigned June 15, 2009

References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated October 26, 2001

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated March 30, 2007

Mission and Description

The F-35 Joint Strike Fighter (JSF) Program will develop and field an affordable, highly common family of next-generation strike aircraft for the United States Navy, Air Force, Marine Corps and allies. The three variants are the F-35A Conventional Takeoff and Landing (CTOL); F-35B Short Takeoff and Vertical Landing (STOVL); and the

F-35C Aircraft Carrier suitable Variant (CV). The CTOL will be a stealthy multi-role aircraft, primary air-to-ground for the Air Force to replace the F-16 and A-10 (Service intent) and complement the F-22. The STOVL variant will be a multi-role strike fighter aircraft to replace the AV-8B and F/A-18A/C/D for the Marine Corps, and replace the Sea Harrier and GR-7 for the United Kingdom Royal Navy and Royal Air Force, respectively. The CV will provide the Navy a multi-role, stealthy strike fighter aircraft to complement the F/A-18E/F. The cornerstone of the JSF Program is affordability -- reducing the development cost, production cost, and cost of ownership of the JSF family of aircraft. The program was structured from the beginning to be a model of acquisition reform, with an emphasis on jointness, technology maturation and concept demonstrations, and early cost and performance trades integral to the weapon system requirements definition process.

Executive Summary

The F-35 Program has completed over eight years of System Development and Demonstration (SDD), and issued procurement contracts for four lots of Low Rate Initial Production (LRIP) aircraft. The program continues technical progress focused on developing, and delivering to the warfighter, incremental blocks of increasing capability. As of January 19, 2010, nine SDD jets (four flight test and five ground test) are delivered to the Test Program, five SDD jets are rolled-out to Flight Line testing, twenty-eight aircraft are in Assembly Build (i.e., five SDD, two LRIP I, twelve LRIP II, and nine LRIP III), and fabrication had begun on the remaining LRIP III jets and initial LRIP IV jets. The first Short Takeoff and Vertical Landing (STOVL) variant flight test jets, BF-1 and BF-2, initially flew in June 2008 and February 2009, respectively. Four test jets (AA-1, BF-1, BF-2, and AF-1) accumulated 187 total flight test hours through January 15, 2010. Extensive structural static testing is completed, without incident and matching predictions (static testing for STOVL and Conventional Takeoff and Landing (CTOL) are 100% and 68% complete, respectively.) Approximately 80% of software code (of total 18.8 million lines of code planned) is completed. All mission systems hardware/software components are flying and maturing. Systems integration testing continues on plan via flight tests, a flying lab, and extensive ground-lab testing, with over 150,000 hours of ground-lab testing completed to-date. A significant amount of ship integration work has been accomplished. While the SDD jets are taking longer to build than planned, they are setting new standards for quality, and manufacturing efficiencies continue to improve with each jet. The F135 engine development program has completed approximately 13,200 test hours. The prior engine turbine blade design issue has been resolved. Two F136 engines are in test with approximately fifty-two ground test hours accomplished. All variants are projected to meet their respective Key Performance Parameters. The Fiscal Year 2011 President’s Budget (PB-11) request omitted funding for continued F136 engine development.

On February 1, 2010, the Secretary of Defense announced a comprehensive program restructure to stabilize schedule and cost. Key aspects of the restructure, reflected in PB-11, include the following: extend the SDD development test schedule through March 2015, and move Milestone C (Full Rate Production) to April 2016 commensurate with completion of Initial Operational Test and Evaluation (IOT&E); add a ninth LRIP lot; add one incrementally funded carrier variant (CV) to the SDD program in order to expand development testing capacity; expand JSF software integration capability by adding an additional software integration line; utilize up to three LRIP aircraft in support of development testing; fully fund the SDD program to the OSD-led Joint Estimating Team’s (JET) current estimate; lower the planned procurement quantity profile through 2015; and fund the Future Years Defense Program (FYDP) buy profile to the JET's current estimate. Production costs reported in the SAR beyond the FYDP are currently based on Joint Program Office estimates and will be updated pending the Department's ongoing cost review. The Services’ operational communities are assessing the impact of program changes on Initial Operational Capability (IOC) planning. No fundamental technology or manufacturing problems were discovered in the recent Department review of the program, nor were the performance requirements for the F-35 changed as a result of the review. If the contractors can execute the development program and/or deliver aircraft at lower costs (in line with their previous commitments), the Department of Defense plans to work with the Congress to procure additional aircraft within the F-35 budget. Cumulative cost and schedule pressures result in a critical (50%+) Nunn-McCurdy breach to the original baseline for the both the Program Acquisition Unit Cost (PAUC) and Average Procurement Unit Cost (APUC). The breach is currently reported at 57% for both the PAUC and APUC and reflects the comprehensive program restructure. Consistent with Nunn-McCurdy recertification requirements, a complete Independent Cost Estimate is in process. The Department expects this analysis will result in increases to the stated PAUC and APUC estimates. The projected range of estimates are $97 - $115 million (PAUC) and $79 - $95 million (APUC) in Base Year 2002 dollars. This equates to a unit cost growth from the Milestone B baseline (October 2001) of 57% - 86% and 57% - 89% for PAUC and APUC, respectively. The Secretary of the Air Force notified the congressional defense committees of the breaches on March 26, 2010. A department–wide Review of the Program continues. The APB will be updated after completion of the Department-wide Review.

The F-35 remains the Department of Defense's largest cooperative program, with eight other Partner countries participating with the U.S. under Memorandums of Understanding for SDD and for Production, Sustainment and Follow-on Development. Israel submitted a Letter of Request in July 2009 for unique development scope and acquisition of seventy-five aircraft. Negotiations are ongoing for a Letter of Offer and Acceptance; DoD anticipates

procurement would commence No Earlier Than LRIP VII. Several Foreign Military Sales type study efforts continue for several nations outside the Partnership.

The program restructure described above includes additional funding and time to address software risk.

Threshold Breaches

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

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

Explanation of Breach

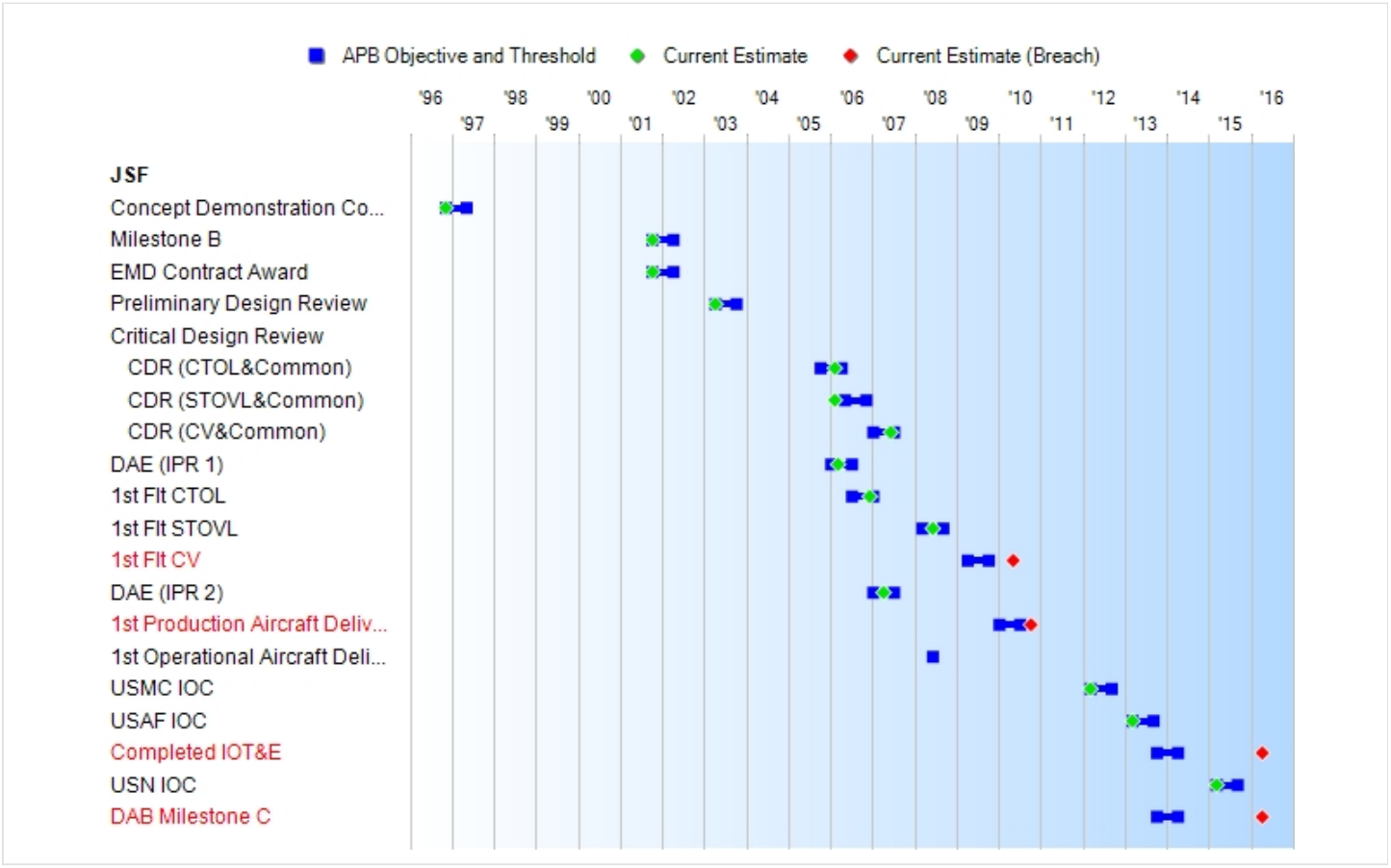
In accordance with the section 2433, title 10, United States Code, the Department is required to report Nunn-McCurdy unit cost breaches established for Milestone B/II Programs. Accordingly, this program is reporting a critical increase in the Program Acquisition Unit Cost (PAUC) and Average Procurement Unit Cost (APUC) of at least 50% to the October 2001 Acquisition Program Baseline (APB), which is the original APB. Compared to the original APB, the F-35 Program PAUC and APUC increased 57.15% and 57.24%, respectively. These increases are partially due to historical increases previously reported in the December 2003 SAR (26.2% and 21.7% for PAUC and APUC, respectively, including programmatic changes), in the December 2005 SAR (32.8% and 31.3% for PAUC and APUC, respectively, including programmatic changes),and in the December 2007 SAR (38.38% and 38.01% for PAUC and APUC, respectively, including programmatic changes). Additional unit cost breach information is provided in the Unit Cost section of this SAR. A Department assessment is ongoing.

Schedule delays have resulted in threshold breaches for the following: 1st Flight Carrier Variant; 1st Production Aircraft Delivery; Initial Operational Test and Evaluation Completion; and Milestone C. (The Services are assessing impact of program changes on their respective planning for Initial Operational Capability.)

The Program Executive Office submitted a Program Deviation Report in February 2010. The Nunn-McCurdy certification process has been initiated. A revised APB with updated cost and schedule objectives and thresholds is currently being developed.

Note: Consistent with Nunn-McCurdy statutory requirements, a complete Independent Cost Estimate is in process. The Department expects this analysis will result in increases to the stated PAUC and APUC estimates. The projected range of estimates are $97 - $115 million (PAUC) and $79 - $95 million (APUC) in Base Year 2002 dollars. This equates to a unit cost growth from the Milestone B baseline (October 2001) of 57% - 86% and 57% - 89% for PAUC and APUC, respectively.

Schedule


APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'96
'97
'98
'99
'00
'01
'02
'03
'04
'05
'06
'07
'08
'09
'10
'11
'12
'13
'14
'15
'16
JSF
Concept Demonstration Co...
Milestone B
EMD Contract Award
Preliminary Design Review
Critical Design Review
CDR (CTOL&Common)
CDR (STOVL&Common)
CDR (CV&Common)
DAE (IPR 1)
1st Flt CTOL
1st Flt STOVL
1st Flt CV
DAE (IPR 2)
1st Production Aircraft Deliv...
1st Operational Aircraft Deli...
USMC IOC
USAF IOC
Completed IOT&E
USN IOC
DAB Milestone C

Milestones	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	
Concept Demonstration Contract Award	NOV 1996	NOV 1996	MAY 1997	NOV 1996	
Milestone B	OCT 2001	OCT 2001	APR 2002	OCT 2001	
EMD Contract Award	OCT 2001	OCT 2001	APR 2002	OCT 2001	
Preliminary Design Review	APR 2003	APR 2003	OCT 2003	APR 2003	
Critical Design Review					
CDR (CTOL&Common)	APR 2004	OCT 2005	APR 2006	FEB 2006	
CDR (STOVL&Common)	OCT 2004	MAY 2006	NOV 2006	FEB 2006	
CDR (CV&Common)	JUL 2005	JAN 2007	JUL 2007	JUN 2007	
DAE (IPR 1)	APR 2005	JAN 2006	JUL 2006	MAR 2006	
1st Flt CTOL	NOV 2005	JUL 2006	JAN 2007	DEC 2006	
1st Flt STOVL	APR 2006	MAR 2008	SEP 2008	JUN 2008	
1st Flt CV	JAN 2007	APR 2009	OCT 2009	**MAY 2010** [1]	(Ch-2)
DAE (IPR 2)	APR 2006	JAN 2007	JUL 2007	APR 2007	
1st Production Aircraft Delivered	N/A	JAN 2010	JUL 2010	**OCT 2010** [1]	(Ch-2)
1st Operational Aircraft Delivered	JUN 2008	N/A	N/A	N/A	
USMC IOC	APR 2010	MAR 2012	SEP 2012	MAR 2012	(Ch-3)
USAF IOC	JUN 2011	MAR 2013	SEP 2013	MAR 2013	(Ch-3)
Completed IOT&E	MAR 2012	OCT 2013	APR 2014	**APR 2016** [1]	(Ch-1)
USN IOC	APR 2012	MAR 2015	SEP 2015	MAR 2015	(Ch-3)
DAB Milestone C	APR 2012	OCT 2013	APR 2014	**APR 2016** [1]	(Ch-1)

[1] **APB Breach**

Acronyms

CDR - Critical Design Review
CTOL - Conventional Takeoff and Landing
CV - Aircraft Carrier Suitable Variant
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
EMD - Engineering and Manufacturing Development
Flt - Flight
IOC - Initial Operational Capability
IOT&E - Initial Operational Test and Evaluation
IPR - Interim Progress Review
STOVL - Short Takeoff and Vertical Landing
USAF - United States Air Force
USMC - United States Marine Corps
USN - United States Navy

Change Explanations

(Ch-1) Initial Operational Test and Evaluation Completion and Defense Acquisition Board Milestone C both changed from October 2013 to April 2016 due to the SECDEF-directed program restructure.

(Ch-2) 1st Flight Aircraft Carrier Suitable Variant changed from October 2009 to May 2010, and the 1st Production

Aircraft Delivered changed from January 2010 to October 2010, as a result of manufacturing delays.

(Ch-3) The Services are currently reviewing their IOCs based on the restructured JSF Program. The IOCs are determined by the Services based on both the program's performance and how the Services define IOC. Each Service has a somewhat different definition, depending on what capabilities they intend to have at IOC, their operational test and training requirements, and the number of aircraft they require for IOC. At this time, based on the Revised Joint Estimating Team schedule for the end of developmental and operational test, and the Service definitions of IOC, the Department is projecting IOCs of 2012 for the Marine Corps, and 2016 for the Air Force and the Navy.

Performance

Characteristics	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate	
STOVL Mission Performance	Execute 550 ft STO with 4 JDAM (2 external & 2 internal), 2 AIM -120 (internal), fuel to fly 550 nm	Execute 550 ft. STO with 4 JDAM (2 external & 2 internal), 2 AIM-120 (internal), fuel to fly 550nm	Execute 550 ft. STO with 2 JDAM (internal), 2 AIM-120 (internal), fuel to fly 450nm	TBD	Execute 524 ft STO with 2 JDAM (internal), 2 AIM-120 (internal), fuel to fly 450nm	(Ch-1)
Combat Radius NM - CTOL Variant	690	690	590	TBD	610	(Ch-1)
Combat Radius NM - STOVL Variant	550	550	450	TBD	481	(Ch-1)
Combat Radius NM -CV Variant	730	730	600	TBD	651	(Ch-1)
Internal Weapons Carriage - CTOL Variant	Sufficient bay volume to load, carry & employ objective Annex A weapons	Sufficient bay volume to load, carry & employ objective Annex A weapons	Sufficient bay volume to load, carry & employ threshold Annex A weapons	TBD	Sufficient bay volume to load, carry & employ threshold Annex A weapons	
Internal Weapons Carriage - STOVL Variant	Sufficient bay volume to load, carry & employ objective Annex A weapons	Sufficient bay volume to load, carry & employ objective Annex A weapons	Sufficient bay volume to load, carry & employ threshold Annex A weapons	TBD	Sufficient bay volume to load, carry & employ threshold Annex A weapons	
Internal Weapons Carriage - CV Variant	Sufficient bay volume to load, carry & employ objective Annex A weapons	Sufficient bay volume to load, carry & employ objective Annex A weapons	Sufficient bay volume to load, carry & employ threshold Annex A weapons	TBD	Sufficient bay volume to load, carry & employ threshold Annex A weapons	
Radio Frequency (RF) Signature	See Classified Extract	See Classified Extract	See Classified Extract	TBD	Classified	
Logistic Footprint -CTOL Variant	Less than or equal to 6 C-17	Less than or equal to 6 C-17	Less than or equal to 8 C-17	TBD	Less than or equal to 6.67 C-17	(Ch-1)

	equivalent loads	equivalent loads	equivalent loads		equivalent loads	
Logistic Footprint - STOVL Variant	Less than or equal to 4 C-17 equivalent loads	Less than or equal to 4 C-17 equivalent loads	Less than or equal to 8 C-17 equivalent loads	TBD	Less than or equal to 5.22 C-17 equivalent loads	(Ch-1)
Logistic Footprint -CV Variant	Less than or equal to 46,000 cu ft, 183 Short Tons	Less than or equal to 34,000 cu ft, 183 Short Tons	Less than or equal to 46,000 cu ft, 243 Short Tons	TBD	Less than or equal to 29,407 cu ft, 164.4 Short Tons	(Ch-1)
Sortie Generation Rate - CTOL Variant	4/day initial surge; 3/day sustained surge; 2/day Wartime Sustained based on ASD of 2.5	4/day initial surge; 3/day sustained surge; 2/day Wartime Sustained based on ASD of 2.5	3/day initial surge; 2/day sustained surge; 1/day Wartime Sustained based on ASD of 2.5	TBD	3.55/day initial surge; 3.30/day sustained surge; 1/day Wartime Sustained based on ASD of 2.5	(Ch-1)
Sortie Generation Rate - CV Variant	4/day initial surge; 3/day sustained surge; 1/day Wartime Sustained based on ASD of 1.8	4/day initial surge; 3/day sustained surge; 1/day Wartime Sustained based on ASD of 1.8	3/day initial surge; 2/day sustained surge; 1/day Wartime Sustained based on ASD of 1.8	TBD	3.90/day initial surge; 2.88/day sustained surge; 1/day Wartime Sustained based on ASD of 1.8	(Ch-1)
Sortie Generation Rate - STOVL Variant	6/day initial surge; 4/day sustained surge; 2/day Wartime Sustained based on ASD of 1.1	6/day initial surge; 4/day sustained surge; 2/day Wartime Sustained based on ASD of 1.1	4/day initial surge; 3/day sustained surge; 1/day Wartime Sustained based on ASD of 1.1	TBD	6.10/day initial surge; 3.36/day sustained surge; 1/day Wartime sustained based on ASD of 1.1	(Ch-1)
Interoperability	100% of all top level IERs	100% of all top level IERs	100% of critical top level IERs	TBD	Less than 100 % of critical top level IERs	
Mission Reliability	98% for all variants at ASD's listed in Table 13	98% for all variants at ASD's listed in	95% for CV & STOVL & 93% for	TBD	97.8% for CV, 98.3 % for STOVL & 97.6%	

		Table 13	CTOL at ASD's listed in Table 13.		for CTOL at ASD's listed in Table 13	
CV Recovery Performance, Approach Speed	Max approach speed (Vpa) at RCLW of less than 140 kts	Max approach speed (Vpa)at RCLW of less than 140 kts	Max approach speed (Vpa)at Required Carrier Landing Weight (RCLW) of less than 145 kts w/15 kts WOD at RCLW	TBD	Max approach speed (Vpa) at RCLW of less than approxi-mately 143.0kts w/15 kts WOD at RCLW	(Ch-1)

Requirements Source: Operational Requirements Document (ORD) dated May 2000

Acronyms

ASD - Average Sortie Duration
CTOL - Conventional Takeoff and Landing
CU FT - Cubic Feet
CV - Aircraft Carrier Suitable Variant
IER - Information Exchange Requirement
JDAM - Joint Direct Attack Munitions
KTS - Knots
NM - Nautical Miles
RCLW - Required Carrier Landing Weight
STO - Short Takeoff
STOVL - Short Takeoff and Vertical Landing
TBD - To be determined
Vpa - Max Approach Speed
WOD - Wind Over the Deck

Change Explanations

(Ch-1) The current estimates changed from the December 2007 SAR due to design maturation.
STOVL Mission Performance changed from 511 ft to 524 ft.
Combat Radius NM - CTOL Variant changed from 606 to 610.
Combat Radius NM - STOVL Variant changed from 503 to 481.
Combat Radius NM - CV Variant changed from 641 to 651.
Logistic Footprint - CTOL Variant changed from 6.23 equivalent loads to 6.67 equivalent loads.
Logistic Footprint - STOVL Variant changed from 5.11 equivalent loads to 5.22 equivalent loads.
Logistic Footprint - CV Variant changed from 15,310 cu ft to 29,407 cu ft and 165.4 short tons to 164.4 short tons.
Sortie Generation Rate - CTOL Variant changed from 3.64/day initial surge to 3.55/day initial surge and 3.42/day sustained surge to 3.30/day sustained surge.
Sortie Generation Rate - CV Variant changed from 3.53/day initial surge to 3.90/day initial surge and 2.69/day sustained surge to 2.88/day sustained surge.
Sortie Generation Rate - STOVL Variant changed from 6.25/day initial surge to 6.10/day initial surge and 5.80/day sustained surge to 3.36/day sustained surge.

CV Recovery Performance, Approach Speed changed from 143.4 kts to 143.0 kts.

Track To Budget

RDT&E						
APPN 1319	BA 04	PE 0603800N	(Navy)			(Sunk)
	RDT&E, Navy CDP					
APPN 1319	BA 05	PE 0604800M	(Navy)			
	RDT&E, Marine Corps					
APPN 1319	BA 05	PE 0604800N	(Navy)	Project 2261		
	RDT&E, Navy EMD/JSF					
APPN 1319	BA 05	PE 0604800N	(Navy)	Project 3194		
	RDT&E, Navy EMD/Joint Reprogramming Center					
APPN 1319	BA 05	PE 0604800N	(Navy)	Project 9999		
	RDT&E, Navy EMD/Congressional Adds					
APPN 3600	BA 04	PE 0603800F	(Air Force)			(Sunk)
	RDT&E, Air Force CDP					
APPN 3600	BA 05	PE 0604800F	(Air Force)	Project 3831		
	RDT&E, Air Force EMD/Joint Strike Fighter Quantity of RDT&E Articles					
APPN 0400	BA 03	PE 0603800E	(DoD)			(Sunk)
	RDT&E, DARPA					

Procurement						
APPN 1506	BA 01	PE 0204146N	(Navy)	ICN 0147		
	JSF (Navy)					
APPN 1506	BA 01	PE 0204146M	(Navy)	ICN 0152		
	JSF (Marine Corps)					
APPN 1506	BA 06	PE 0204146M	(Navy)	ICN 0605		
	Initial Spares (Marine Corps)					
APPN 1506	BA 06	PE 0204146N	(Navy)	ICN 0605	(Shared)	
	Initial Spares (Navy)					
APPN 3010	BA 06	PE 0207142F	(Air Force)	ICN ATA000	(Shared)	
	Initial Spares (Air Force)					
APPN 3010	BA 01	PE 0207142F	(Air Force)	ICN ATA000		
	JSF (Air Force)					

MILCON						
APPN 1205		PE 0212576N	(Navy)			
	MILCON, USN					
APPN 3300		PE 0207142F	(Air Force)			
	MILCON, AF					

General Memo

F-35 is DoD's largest cooperative development program. In addition to the above DoD funding lines, eight other partner countries are providing funding in the System Development and Demonstration (SDD) Phase under a Memorandum of Understanding (MOU): United Kingdom, Italy, the Netherlands, Turkey, Canada, Australia, Denmark, and Norway. All but Turkey and Australia were partners in the prior phase. Associated financial contributions are reflected in the Annual Funding section as Appropriation 9999, RDT&E Non-Treasury Funds.

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2002 $M			BY2002 $M	TY $M		
Appropriation	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	32300.0	42100.0	46310.0	45136.0	34400.0	44800.0	50168.1
Procurement	143300.0	168980.8	185878.9	**193005.2** [1]	196600.0	231735.5	277533.6
Flyaway	121215.6	--	--	164167.7	166349.7	--	237334.1
Recurring	116093.7	--	--	148352.6	159390.4	--	215401.8
Non Recurring	5121.9	--	--	15815.1	6959.3	--	21932.3
Support	22084.4	--	--	28837.5	30250.3	--	40199.5
Other Support	15403.4	--	--	15542.2	21109.3	--	20900.2
Initial Spares	6681.0	--	--	13295.3	9141.0	--	19299.3
MILCON	1500.0	1500.0	1700.0	457.4	2000.0	2000.0	551.2
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	177100.0	212580.8	N/A	238598.6	233000.0	278535.5	328252.9

[1] **APB Breach**

Research, Development, Test, and Evaluation cost excludes Follow-On Development Funding.

F-35 procurement cost reflects DoD cost only, but assumes the quantity benefits of 730 International Partner aircraft in accordance with the signed Production Sustainment and Follow-on Development (PSFD) Memorandum of Understanding (MOU). Procurement cost excludes Partner non-recurring cost shares required under the PSFD MOU.

Since the Services have not yet fully established F-35 basing plans, the Milestone B and approved Acquisition Program Baseline Military Construction (MILCON) estimates reflect a top-level parametric estimate, not discrete estimates for specific sites. The Current Estimate reflects specific MILCON requirements identified in the Fiscal Year 2011 President's Budget Future Years Defense Program. The MILCON Current Estimate will continue to be updated as the Services identify additional specific MILCON requirements in future budget submissions.

Quantity	SAR Baseline Dev Est	Current APB Development	Current Estimate
RDT&E	14	15	14
Procurement	2852	2443	2443
Total	2866	2458	2457

Procurement Quantities:
1763 - Air Force (Conventional Takeoff and Landing (CTOL) variant)
680 - Department of Navy (Aircraft Carrier (CV) and Short Takeoff and Vertical Landing (STOVL) variants)
2443 - Total Department of Defense.

The October 2001 Milestone B procurement baseline for the Department of Navy (DoN) reflected 609 STOVL variants for the United States Marine Corps (USMC) and 480 CV variants for the United States Navy (USN) for a DoN total of 1089. Subsequently, the DoN Navy/Marine Corps Tactical Aviation (TACAIR) Integration Plan reduced total F-35 CV/STOVL procurement quantities to 680. The annual and total quantity mix (and definitive related procurement estimates), of STOVL and CV variants in Fiscal Year 2016 and beyond remain To Be Determined pending further assessment by the Services. Procurement estimates will continue to be refined in future budget cycles.

Compared to the Current Aquisition Program Baseline, the Current Estimate of 14 flight test aircraft quantity reflects the net of (a) -2 jets in accordance with the Fall 2007 Mid-Course Risk Reduction plan approved by the Undersecretary of Defense for Aquisitions, Technology and Logistics, and (b) +1 jet in accordance with the February 2010 program restructure.

Funding Summary

Appropriation and Quantity Summary
FY2011 President's Budget / December 2009 SAR (TY$ M)

Appropriation	Prior	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	To Complete	Total
RDT&E	37385.9	4132.6	2449.8	2433.0	1982.7	1337.4	446.7	0.0	50168.1
Procurement	7125.8	7197.1	9313.0	9602.5	12054.7	12996.7	14183.1	205060.7	277533.6
MILCON	151.4	76.4	139.7	73.8	82.3	0.0	27.6	0.0	551.2
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2011 Total	44663.1	11406.1	11902.5	12109.3	14119.7	14334.1	14657.4	205060.7	328252.9
PB 2009 Total	44452.1	8430.9	9032.9	12265.2	12262.3	12391.6	13081.9	186925.9	298842.8
Delta	211.0	2975.2	2869.6	-155.9	1857.4	1942.5	1575.5	18134.8	29410.1

RDT&E Non Treasury Funds contains $4.8 million of financial contributions under international cooperative agreements with the following countries: United Kingdom, Canada, Denmark, The Netherlands, Norway, Italy, Turkey, and Australia (see annual funding section, APPN 9999)..

Quantity	Undistributed	Prior	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	To Complete	Total
Development	14	0	0	0	0	0	0	0	0	14
Production	0	28	30	43	45	71	90	113	2023	2443
PB 2011 Total	14	28	30	43	45	71	90	113	2023	2457
PB 2009 Total	13	30	30	43	82	90	110	130	1928	2456
Delta	1	-2	0	0	-37	-19	-20	-17	95	1

Annual Funding By Appropriation

Annual Funding TY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1994	--	--	--	--	--	--	29.5
1995	--	--	--	--	--	--	98.3
1996	--	--	--	--	--	--	80.4
1997	--	--	--	--	--	--	243.3
1998	--	--	--	--	--	--	448.2
1999	--	--	--	--	--	--	471.3
2000	--	--	--	--	--	--	238.4
2001	--	--	--	--	--	--	341.2
2002	--	--	--	--	--	--	721.3
2003	--	--	--	--	--	--	1640.9
2004	--	--	--	--	--	--	2081.4
2005	--	--	--	--	--	--	2083.8
2006	--	--	--	--	--	--	2187.1
2007	--	--	--	--	--	--	2109.4
2008	--	--	--	--	--	--	1848.9
2009	--	--	--	--	--	--	1704.6
2010	--	--	--	--	--	--	1950.2
2011	--	--	--	--	--	--	1317.7
2012	--	--	--	--	--	--	1112.2
2013	--	--	--	--	--	--	965.6
2014	--	--	--	--	--	--	671.1
2015	--	--	--	--	--	--	223.3
Subtotal	**9**	**--**	**--**	**--**	**--**	**--**	**22568.1**

Annual Funding BY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
1994	--	--	--	--	--	--	32.5
1995	--	--	--	--	--	--	106.4
1996	--	--	--	--	--	--	85.6
1997	--	--	--	--	--	--	255.9
1998	--	--	--	--	--	--	467.5
1999	--	--	--	--	--	--	485.9
2000	--	--	--	--	--	--	242.2
2001	--	--	--	--	--	--	342.0
2002	--	--	--	--	--	--	715.7
2003	--	--	--	--	--	--	1604.7
2004	--	--	--	--	--	--	1980.2
2005	--	--	--	--	--	--	1931.8
2006	--	--	--	--	--	--	1966.1
2007	--	--	--	--	--	--	1851.1
2008	--	--	--	--	--	--	1593.5
2009	--	--	--	--	--	--	1452.0
2010	--	--	--	--	--	--	1643.5
2011	--	--	--	--	--	--	1095.0
2012	--	--	--	--	--	--	909.2
2013	--	--	--	--	--	--	776.1
2014	--	--	--	--	--	--	530.4
2015	--	--	--	--	--	--	173.5
Subtotal	**9**	**--**	**--**	**--**	**--**	**--**	**20240.8**

Annual Funding TY$
3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1995	--	--	--	--	--	--	83.8
1996	--	--	--	--	--	--	81.3
1997	--	--	--	--	--	--	251.6
1998	--	--	--	--	--	--	444.3
1999	--	--	--	--	--	--	456.1
2000	--	--	--	--	--	--	249.1
2001	--	--	--	--	--	--	341.2
2002	--	--	--	--	--	--	712.4
2003	--	--	--	--	--	--	1610.6
2004	--	--	--	--	--	--	2019.9
2005	--	--	--	--	--	--	2080.1
2006	--	--	--	--	--	--	2264.8
2007	--	--	--	--	--	--	2074.0
2008	--	--	--	--	--	--	1955.0
2009	--	--	--	--	--	--	1743.6
2010	--	--	--	--	--	--	2072.9
2011	--	--	--	--	--	--	1043.6
2012	--	--	--	--	--	--	1298.5
2013	--	--	--	--	--	--	1005.5
2014	--	--	--	--	--	--	666.3
2015	--	--	--	--	--	--	223.4
Subtotal	**5**	**--**	**--**	**--**	**--**	**--**	**22678.0**

Annual Funding BY$
3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
1995	--	--	--	--	--	--	90.8
1996	--	--	--	--	--	--	86.5
1997	--	--	--	--	--	--	264.2
1998	--	--	--	--	--	--	463.6
1999	--	--	--	--	--	--	471.0
2000	--	--	--	--	--	--	253.4
2001	--	--	--	--	--	--	342.2
2002	--	--	--	--	--	--	707.1
2003	--	--	--	--	--	--	1577.0
2004	--	--	--	--	--	--	1929.6
2005	--	--	--	--	--	--	1937.4
2006	--	--	--	--	--	--	2047.9
2007	--	--	--	--	--	--	1827.3
2008	--	--	--	--	--	--	1688.9
2009	--	--	--	--	--	--	1486.9
2010	--	--	--	--	--	--	1749.5
2011	--	--	--	--	--	--	869.4
2012	--	--	--	--	--	--	1064.3
2013	--	--	--	--	--	--	810.3
2014	--	--	--	--	--	--	528.0
2015	--	--	--	--	--	--	174.1
Subtotal	**5**	**--**	**--**	**--**	**--**	**--**	**20369.4**

Annual Funding TY$
0400 | RDT&E | Research, Development, Test, and Evaluation, Defense-Wide

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1996	--	--	--	--	--	--	28.9
1997	--	--	--	--	--	--	68.2
1998	--	--	--	--	--	--	20.9
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**118.0**

Annual Funding BY$
0400 | RDT&E | Research, Development, Test, and Evaluation, Defense-Wide

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
1996	--	--	--	--	--	--	30.8
1997	--	--	--	--	--	--	71.7
1998	--	--	--	--	--	--	21.8
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**124.3**

Annual Funding TY$
9999 | RDT&E | Non Treasury Funds

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1996	--	--	--	--	--	--	14.0
1997	--	--	--	--	--	--	71.0
1998	--	--	--	--	--	--	77.2
1999	--	--	--	--	--	--	54.7
2000	--	--	--	--	--	--	34.5
2001	--	--	--	--	--	--	2.5
2002	--	--	--	--	--	--	306.4
2003	--	--	--	--	--	--	425.8
2004	--	--	--	--	--	--	517.8
2005	--	--	--	--	--	--	758.1
2006	--	--	--	--	--	--	802.5
2007	--	--	--	--	--	--	710.3
2008	--	--	--	--	--	--	552.7
2009	--	--	--	--	--	--	244.6
2010	--	--	--	--	--	--	109.5
2011	--	--	--	--	--	--	88.5
2012	--	--	--	--	--	--	22.3
2013	--	--	--	--	--	--	11.6
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**4804.0**

Annual Funding BY$
9999 | RDT&E | Non Treasury Funds

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
1996	--	--	--	--	--	--	14.9
1997	--	--	--	--	--	--	74.8
1998	--	--	--	--	--	--	80.7
1999	--	--	--	--	--	--	56.5
2000	--	--	--	--	--	--	35.1
2001	--	--	--	--	--	--	2.5
2002	--	--	--	--	--	--	304.1
2003	--	--	--	--	--	--	416.3
2004	--	--	--	--	--	--	492.5
2005	--	--	--	--	--	--	702.5
2006	--	--	--	--	--	--	721.1
2007	--	--	--	--	--	--	623.0
2008	--	--	--	--	--	--	476.1
2009	--	--	--	--	--	--	208.2
2010	--	--	--	--	--	--	92.2
2011	--	--	--	--	--	--	73.5
2012	--	--	--	--	--	--	18.2
2013	--	--	--	--	--	--	9.3
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**4401.5**

Annual Funding TY$
1506 | Procurement | Aircraft Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2007	--	124.5	--	--	124.5	--	124.5
2008	6	1171.5	--	40.0	1211.5	11.9	1223.4
2009	7	1365.1	--	237.1	1602.2	273.2	1875.4
2010	20	3338.8	--	651.1	3989.9	722.6	4712.5
2011	20	3003.0	--	629.8	3632.8	1101.5	4734.3
2012	21	3003.8	--	785.6	3789.4	1314.8	5104.2
2013	38	4260.7	--	854.2	5114.9	2028.6	7143.5
2014	37	3867.5	--	726.9	4594.4	1840.3	6434.7
2015	43	4172.2	--	626.6	4798.8	1934.3	6733.1
2016	50	4524.5	--	427.5	4952.0	963.1	5915.1
2017	50	4431.9	--	424.4	4856.3	1094.7	5951.0
2018	50	4321.9	--	412.5	4734.4	936.6	5671.0
2019	50	4329.1	--	401.5	4730.6	798.2	5528.8
2020	50	4347.4	--	388.5	4735.9	754.5	5490.4
2021	50	4391.6	--	391.3	4782.9	696.7	5479.6
2022	50	4428.2	--	389.8	4818.0	642.9	5460.9
2023	50	4307.3	--	351.5	4658.8	529.3	5188.1
2024	38	3273.3	--	241.0	3514.3	334.2	3848.5
2025	25	2165.6	--	178.1	2343.7	194.7	2538.4
2026	25	1966.9	--	108.5	2075.4	208.2	2283.6
Subtotal	**680**	**66794.8**	**--**	**8265.9**	**75060.7**	**16380.3**	**91441.0**

Annual Funding BY$
1506 | Procurement | Aircraft Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
2007	--	107.8	--	--	107.8	--	107.8
2008	6	1000.3	--	34.1	1034.4	10.2	1044.6
2009	7	1152.2	--	200.1	1352.3	230.6	1582.9
2010	20	2781.7	--	542.4	3324.1	602.0	3926.1
2011	20	2463.3	--	516.6	2979.9	903.5	3883.4
2012	21	2423.1	--	633.7	3056.8	1060.7	4117.5
2013	38	3379.6	--	677.6	4057.2	1609.0	5666.2
2014	37	3016.4	--	566.9	3583.3	1435.4	5018.7
2015	43	3199.7	--	480.5	3680.2	1483.5	5163.7
2016	50	3411.9	--	322.4	3734.3	726.2	4460.5
2017	50	3286.2	--	314.7	3600.9	811.7	4412.6
2018	50	3151.0	--	300.7	3451.7	683.0	4134.7
2019	50	3103.5	--	287.8	3391.3	572.3	3963.6
2020	50	3064.6	--	273.9	3338.5	531.8	3870.3
2021	50	3044.0	--	271.2	3315.2	482.9	3798.1
2022	50	3018.0	--	265.8	3283.8	438.1	3721.9
2023	50	2886.6	--	235.6	3122.2	354.6	3476.8
2024	38	2156.9	--	158.8	2315.7	220.3	2536.0
2025	25	1403.2	--	115.3	1518.5	126.2	1644.7
2026	25	1253.1	--	69.1	1322.2	132.7	1454.9
Subtotal	**680**	**49303.1**	**--**	**6267.2**	**55570.3**	**12414.7**	**67985.0**

Cost Quantity Information
1506 | Procurement | Aircraft Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2002 $M
2007	--	--
2008	6	1000.3
2009	7	1152.2
2010	20	2781.7
2011	20	2463.3
2012	21	2423.1
2013	38	3379.6
2014	37	3016.4
2015	43	3199.7
2016	50	3411.9
2017	50	3286.2
2018	50	3151.0
2019	50	3103.5
2020	50	3064.6
2021	50	3044.0
2022	50	3048.0
2023	50	2886.6
2024	38	2186.9
2025	25	1433.2
2026	25	1270.9
Subtotal	**680**	**49303.1**

Annual Funding TY$
3010 | Procurement | Aircraft Procurement, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2006	--	117.4	--	--	117.4	--	117.4
2007	2	475.2	--	50.1	525.3	56.3	581.6
2008	6	1111.4	--	207.8	1319.2	162.6	1481.8
2009	7	1170.5	--	340.2	1510.7	211.0	1721.7
2010	10	1475.6	--	550.6	2026.2	458.4	2484.6
2011	23	2898.6	--	669.8	3568.4	1010.3	4578.7
2012	24	2821.5	--	780.8	3602.3	896.0	4498.3
2013	33	3423.7	--	590.8	4014.5	896.7	4911.2
2014	53	4754.3	--	675.0	5429.3	1132.7	6562.0
2015	70	5932.3	--	576.9	6509.2	940.8	7450.0
2016	80	5885.6	--	515.6	6401.2	1203.1	7604.3
2017	80	5939.3	--	505.5	6444.8	1063.6	7508.4
2018	80	5826.9	--	498.6	6325.5	1032.2	7357.7
2019	80	5884.1	--	492.0	6376.1	1000.8	7376.9
2020	80	5910.6	--	481.3	6391.9	1035.7	7427.6
2021	80	5978.5	--	489.3	6467.8	1076.6	7544.4
2022	80	6096.0	--	494.5	6590.5	1000.8	7591.3
2023	80	6147.8	--	502.1	6649.9	1028.5	7678.4
2024	80	6297.7	--	453.5	6751.2	1067.1	7818.3
2025	80	6406.9	--	461.5	6868.4	1106.1	7974.5
2026	80	6486.0	--	466.5	6952.5	926.6	7879.1
2027	80	6667.1	--	482.3	7149.4	1059.2	8208.6
2028	80	6817.4	--	490.6	7308.0	1026.5	8334.5
2029	80	6911.5	--	494.7	7406.2	924.3	8330.5
2030	80	7006.8	--	496.4	7503.2	697.0	8200.2
2031	80	7103.6	--	501.7	7605.3	644.1	8249.4
2032	80	7203.0	--	508.4	7711.4	650.6	8362.0
2033	80	7305.5	--	499.0	7804.5	659.5	8464.0
2034	80	6867.7	--	316.4	7184.1	670.0	7854.1
2035	15	1684.5	--	74.5	1759.0	182.1	1941.1
Subtotal	**1763**	**148607.0**	**--**	**13666.4**	**162273.4**	**23819.2**	**186092.6**

Annual Funding BY$
3010 | Procurement | Aircraft Procurement, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
2006	--	104.5	--	--	104.5	--	104.5
2007	2	412.1	--	43.4	455.5	48.9	504.4
2008	6	949.4	--	177.5	1126.9	138.9	1265.8
2009	7	985.4	--	286.5	1271.9	177.6	1449.5
2010	10	1223.6	--	456.6	1680.2	380.1	2060.3
2011	23	2365.3	--	546.5	2911.8	824.5	3736.3
2012	24	2264.1	--	626.5	2890.6	719.0	3609.6
2013	33	2701.4	--	466.2	3167.6	707.5	3875.1
2014	53	3688.6	--	523.7	4212.3	878.7	5091.0
2015	70	4525.6	--	440.1	4965.7	717.7	5683.4
2016	80	4414.9	--	386.8	4801.7	902.4	5704.1
2017	80	4380.7	--	372.8	4753.5	784.5	5538.0
2018	80	4226.0	--	361.6	4587.6	748.6	5336.2
2019	80	4196.1	--	350.9	4547.0	713.7	5260.7
2020	80	4144.5	--	337.5	4482.0	726.3	5208.3
2021	80	4122.1	--	337.4	4459.5	742.2	5201.7
2022	80	4132.8	--	335.3	4468.1	678.5	5146.6
2023	80	4098.3	--	334.7	4433.0	685.6	5118.6
2024	80	4128.0	--	297.3	4425.3	699.5	5124.8
2025	80	4129.4	--	297.4	4426.8	713.0	5139.8
2026	80	4110.5	--	295.6	4406.1	587.3	4993.4
2027	80	4154.7	--	300.5	4455.2	660.1	5115.3
2028	80	4177.3	--	300.6	4477.9	629.0	5106.9
2029	80	4164.2	--	298.1	4462.3	556.8	5019.1
2030	80	4151.0	--	294.1	4445.1	412.9	4858.0
2031	80	4138.0	--	292.3	4430.3	375.2	4805.5
2032	80	4125.8	--	291.2	4417.0	372.7	4789.7
2033	80	4114.6	--	281.0	4395.6	371.4	4767.0
2034	80	3803.3	--	175.2	3978.5	371.1	4349.6
2035	15	917.3	--	40.6	957.9	99.1	1057.0
Subtotal	**1763**	**99049.5**	**--**	**9547.9**	**108597.4**	**16422.8**	**125020.2**

Cost Quantity Information
3010 | Procurement | Aircraft Procurement, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2002 $M
2006	--	--
2007	2	412.1
2008	6	949.4
2009	7	985.4
2010	10	1223.6
2011	23	2365.3
2012	24	2264.1
2013	33	2701.4
2014	53	3688.6
2015	70	4525.6
2016	80	4414.9
2017	80	4380.7
2018	80	4226.0
2019	80	4196.1
2020	80	4144.5
2021	80	4122.1
2022	80	4132.8
2023	80	4098.3
2024	80	4128.0
2025	80	4129.4
2026	80	4110.5
2027	80	4154.7
2028	80	4177.3
2029	80	4164.2
2030	80	4151.0
2031	80	4138.0
2032	80	4155.8
2033	80	4144.6
2034	80	3843.3
2035	15	921.8
Subtotal	**1763**	**99049.5**

Annual Funding TY$
1205 | MILCON | Military Construction, Navy and Marine Corps

Fiscal Year	Total Program TY $M
2004	24.4
2005	--
2006	--
2007	--
2008	--
2009	--
2010	3.0
Subtotal	**27.4**

Annual Funding BY$
1205 | MILCON | Military Construction, Navy and Marine Corps

Fiscal Year	Total Program BY 2002 $M
2004	22.8
2005	--
2006	--
2007	--
2008	--
2009	--
2010	2.5
Subtotal	**25.3**

Annual Funding TY$
3300 | MILCON | Military Construction, Air Force

Fiscal Year	Total Program TY $M
2004	20.1
2005	10.6
2006	--
2007	--
2008	74.3
2009	22.0
2010	73.4
2011	139.7
2012	73.8
2013	82.3
2014	--
2015	27.6
Subtotal	**523.8**

Annual Funding BY$
3300 | MILCON | Military Construction, Air Force

Fiscal Year	Total Program BY 2002 $M
2004	18.7
2005	9.6
2006	--
2007	--
2008	63.4
2009	18.6
2010	61.2
2011	114.6
2012	59.5
2013	65.3
2014	--
2015	21.2
Subtotal	**432.1**

Low Rate Initial Production

The Defense Acquisition Executive (DAE) approved the Low Rate Initial Production (LRIP) quantity of 465 (in six LRIP lots) in the Milestone B Acquisition Decision Memorandum dated October 26, 2001. This quantity exceeded 10% of the planned total production and was necessary to meet Service Initial Operational Capability (IOC) requirements, prevent a break in production and to ramp up to full rate production. The LRIP quantity has been revised to 420 (in nine LRIP lots) based on Department decisions on the February 2010 program restructure. The current LRIP quantity also exceeds 10% for the reasons cited above.

Foreign Military Sales

None

Nuclear Cost

None

Unit Cost

Unit Cost Report

Unit Cost	BY2002 $M Current UCR Baseline (MAR 2007 APB)	BY2002 $M Current Estimate (DEC 2009 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	212580.8	238598.6	
Quantity	2458	2457	
Unit Cost	86.485	97.110	+12.29
Average Procurement Unit Cost (APUC)			
Cost	168980.8	193005.2	
Quantity	2443	2443	
Unit Cost	69.169	79.003	+14.22

Unit Cost	BY2002 $M Original UCR Baseline (OCT 2001 APB)	BY2002 $M Current Estimate (DEC 2009 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	177100.0	238598.6	
Quantity	2866	2457	
Unit Cost	61.793	97.110	**+57.15** [1]
Average Procurement Unit Cost (APUC)			
Cost	143300.0	193005.2	
Quantity	2852	2443	
Unit Cost	50.245	79.003	**+57.24** [1]

Unit Cost	TY $M Current UCR Baseline (MAR 2007 APB)	TY $M Current Estimate (DEC 2009 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	278535.5	328252.9	
Unit Cost	113.318	133.599	+17.90
Average Procurement Unit Cost (APUC)			
Cost	231735.5	277533.6	
Unit Cost	94.857	113.604	+19.76

Unit Cost	TY $M		
	Original UCR Baseline (OCT 2001 APB)	Current Estimate (DEC 2009 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	233000.0	328252.9	
Unit Cost	81.298	133.599	+64.33
Average Procurement Unit Cost (APUC)			
Cost	196600.0	277533.6	
Unit Cost	68.934	113.604	+64.80

[1] **Nunn-McCurdy Breach**

This program reflects a critical Nunn-McCurdy breach to the original baseline. A revised Acquisition Program Baseline with updated cost objectives and thresholds is currently being developed.

Consistent with Nunn-McCurdy statutory requirements, a complete Independent Cost Estimate is in process. The Department expects this analysis will result in increases to the stated PAUC and APUC estimates. The projected range of estimates are $97 - $115 million (PAUC) and $79 - $95 million (APUC) in Base Year 2002 dollars. This equates to a unit cost growth from the Milestone B baseline (October 2001) of 57% - 86% and 57% - 89% for PAUC and APUC, respectively.

The above breaches of 57.15% PAUC and 57.24% APUC ($BY02) against the original Unit Cost Reporting baseline established at Milestone B (October 2001) are partially due to historical increases previously reported. Specifically, including programmatic changes, the December 2003 SAR addressed PAUC and APUC increases of 26.2% and 21.7%, respectively, and the December 2005 SAR addressed PAUC and APUC increases of 32.8% and 31.32%, respectively. Subsequent increases to PAUC and APUC are primarily due to estimated procurement cost increases. Details are provided below.

Unit Cost Breach Data

Changes from Previous SAR	$M/Qty.	Percent
PAUC (BY $M)	97.110	+13.56
APUC (BY $M)	79.003	+13.93
PAUC Quantity	2457	0.00
PAUC (TY $M)	133.599	+9.80
APUC (TY $M)	113.604	+9.29

Initial SAR Information DEC 1996	BY1994 $M	TY $M
Program Acquisition Cost	18860.4	23165.9

Unit Cost PAUC Changes

Historical increases reported in December 2003 SAR
- Reduction of Department of Navy total Carrier Variant (CV)/Short Take-Off Vertical Landing (STOVL) planned procurement quantity from 1089 aircraft to 680 aircraft in accordance with the Tactical Aircraft (TACAIR) Integration Plan (Programmatic);
- Added Research Development Test & Evaluation scope for design, development, verification, and test of the JSF International partner configuration in accordance with System Development and Demonstration (SDD) cooperative agreements signed after MS B and after award of the SDD contracts (Programmatic);
- Added procurement scope due to the Services' decision to procure the Electro-Optical Tracking System

(EOTS) for each JSF aircraft instead one-third of production aircraft as planned at MS B (Programmatic);
- Revised RDT&E estimate for completion of General Electric (GE) F136 engine development including additional components and test to enhance interchangeability with the Pratt and Whitney F135 engine;
- SDD schedule extension for additional design maturation and known and unknown risks (including anti-tamper and STOVL variant weight growth reduction):
- Procurement labor and overhead rate increases;
- One year production delay, revised Low Rate Initial Production (LRIP) buy profile, and associated increases due to learning curves, rate, and supplier confidence cost factors;
- Multi-Year Procurement (MYP) delayed from FY 2012 to FY 2014.

Historical increases reported in December 2005 SAR
- Increase due to aircraft configuration update and methodology changes;
- Increase in cost of materials for airframe, particularly titanium;
- Change in subcontractor manufacturing plan for the wing;
- Revised assumptions for prime and subcontractors work share including impacts on labor rates.

Subsequent Increases reported in December 2009 SAR
- Increase in air vehicle and propulsion system estimates based on actual realized costs for build of SDD and early LRIP aircraft; includes revised estimating assumptions for increased planned outsourcing based on international participation and production capacity limitations;
- Labor rate and overhead rates changes, including impact of inflation assumptions;
- Production Sustainment cost increases due to changes in equipment costs and changes in Services' aircraft beddown plans;
- SDD schedule extension driven by engineering changes and delayed flight test;
- Multiyear procurement delayed two years, i.e., from FY 2014 to FY 2016;
- Added SDD and Procurement risk funding consistent with the Joint Estimate Team assessment, including less airframe commonality than originally envisioned;
- Production quantity profile changes for DoD and International Partner procurements.

Unit Cost APUC Changes

Historical increases reported in December 2003 SAR
- Procurement labor and overhead rate increases;
- Procurement configuration update and refined support requirement definitions;
- One year production delay, revised LRIP buy profile, and associated increases due to learning curves, rate, and supplier confidence cost factors;
- Multi-Year Procurement (MYP) delayed from FY 2012 to FY 2014.

Historical increases reported in December 2005 SAR
- Increase due to aircraft configuration update and methodology changes;
- Increase in cost of materials for airframe, particularly titanium;
- Change in subcontractor manufacturing plan for the wing;
- Revised assumptions for prime and subcontractors work share including impacts on labor rates.

Subsequent Increases reported in December 2009 SAR
- Increase in air vehicle and propulsion system estimates based on actual realized costs for build of SDD and early LRIP aircraft; includes revised estimating assumptions for increased planned outsourcing based on international participation and production capacity limitations;
- Labor rate and overhead rates changes, including impact of inflation assumptions;
- Production Sustainment cost increases due to changes in equipment costs and changes in Services' aircraft beddown plans;
- Multiyear procurement delayed two years, i.e., from FY 2014 to FY 2016;
- Added Procurement risk funding consistent with the Joint Estimate Team assessment; including less airframe commonality than originally envisioned;
- Production quantity profile changes for DoD and International Partner procurements.

Impact of Performance or Schedule Changes

Historical schedule changes reported in December 2003 SAR
- Delay of SDD first flights;
- Delay of LRIP start by one year;
- Delay of Initial Operating Capability (IOC);
- Revised procurement profiles;
- Revised schedule milestones included in the March 2004 revised Acquisition Program Baseline (APB).

Historical schedule changes reported in December 2005 SAR
- STOVL First Flight delay.

December 2009 SAR changes
- CV First Flight delay;
- First production aircraft delivery delay;
- Delay of completion of IOT&E;
- Milestone C decision delay;
- Services are assessing impact of above on Initial Operational Capability Planning.

Program Management or Control

Acting Program Executive Officer (PEO) – Maj Gen C.D. Moore, USAF.

In February 2010 SECDEF announced he is elevating the level of the JSF PEO to that of a 3-star officer; details are To Be Determined.

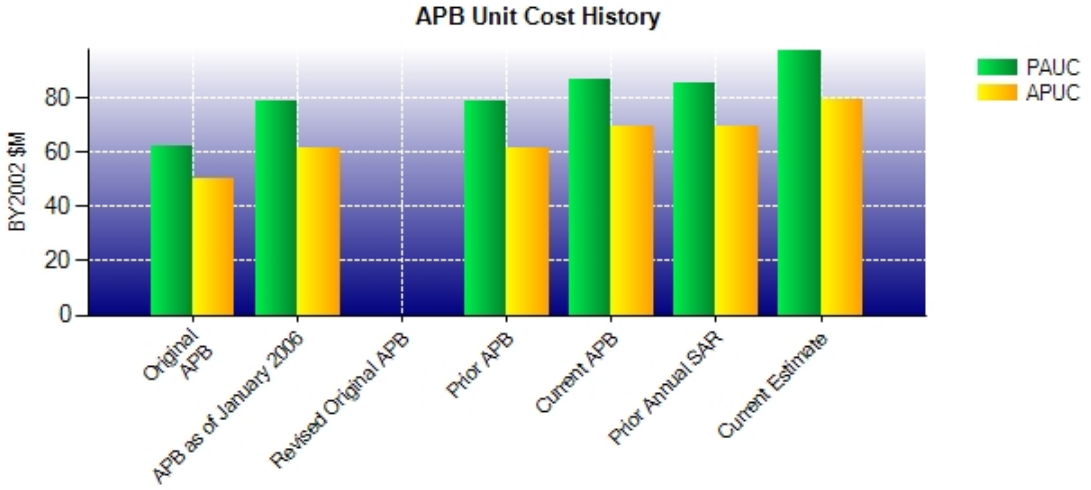
Cost Control Actions

In November 2009, the Defense Acquisition Executive (DAE) commenced an extensive Department-wide Review of the JSF Program with the Department of the Air Force, the Department of the Navy, the JSF Joint Program Office (JPO), the Director of Cost Assessment and Program Evaluation (CAPE), the Director of Operational Test and Evaluation (DOT&E) and the Undersecretary of Defense for Acquisition, Technology and Logistics. The Review was undertaken as though the JSF Program was in Nunn-McCurdy breach. The Review continues.

Based on this review and input received from the CAPE-led Joint Estimating Team (JET), the F135 Joint Assessment Team (JAT), the Independent Manufacturing Review Team (IMRT), the F-35 Program Office, contractors and other inputs, the Secretary of Defense has directed a comprehensive restructuring of the JSF program. In 2009, the Department funded to the JET development estimate for one year by adding $476M in FY10 with the intent to re-visit funding requirements for subsequent years based on program performance. The FY 2011 President's Budget request reflects additional development time and an additional $2.8 billion to complete SDD in accordance with the JET's cost estimate. This cost estimate is very roughly assessed to be a "50%" estimate, meaning it has a 50% chance of overestimating the costs of the SDD program, and a 50% chance of underestimating them. The SDD and Low-Rate Initial Production contract structures are currently being revised to reward measurable progress against significant schedule events. These event-based fees will be linked directly to meeting program cost, schedule, and performance commitments based on the re-structured schedule. A revised Acquisition Program Baseline with updated cost and schedule objectives and thresholds is currently being developed.

Nunn-McCurdy Comments

Unit Cost History



		BY2002 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	OCT 2001	61.793	50.245	81.298	68.934
APB as of January 2006	MAR 2004	78.592	61.195	100.407	81.826
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	MAR 2004	78.592	61.195	100.407	81.826
Current APB	MAR 2007	86.485	69.169	113.318	94.857
Prior Annual SAR	DEC 2007	85.511	69.341	121.679	103.951
Current Estimate	DEC 2009	97.110	79.003	133.599	113.604

Note: Consistent with Nunn-McCurdy statutory requirements, a complete Independent Cost Estimate is in process. The Department expects this analysis will result in increases to the stated PAUC and APUC estimates. The projected range of estimates are $97 - $115 million (PAUC) and $79 - $95 million (APUC) in Base Year 2002 dollars. This equates to a unit cost growth from the Milestone B baseline (October 2001) of 57% - 86% and 57% - 89% for PAUC and APUC, respectively.

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)

Initial PAUC Dev Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
81.298	-2.684	3.246	12.927	5.205	29.122	0.000	4.485	52.301	133.599

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Dev Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
68.934	-3.092	1.131	9.781	3.853	28.486	0.000	4.511	44.670	113.604

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone I	N/A	NOV 1996	N/A	NOV 1996
Milestone B	MAR 2001	OCT 2001	N/A	OCT 2001
Milestone C	TBD	APR 2012	N/A	APR 2016
IOC	TBD	APR 2010	N/A	MAR 2012
Total Cost (TY $M)	24800.0	233000.0	N/A	328252.9
Total Quantity	N/A	2866	N/A	2457
Prog. Acq. Unit Cost (PAUC)	N/A	81.298	N/A	133.599

Pursuant to 10 USC 2432, SAR Planning Estimate reflected Research, Development, Test, and Evaluation cost only.

Note: The above IOC Baseline history reflects Marine Corps IOC for the STOVL variant. The Services are currently reviewing their IOCs based on the restructured JSF Program. The IOCs are determined by the Services based on both the program's performance and how the Services define IOC. Each Service has a somewhat different definition, depending on what capabilities they intend to have at IOC, their operational test and training requirements, and the number of aircraft they require for IOC. At this time, based on the Revised Joint Estimating Team schedule for the end of developmental and operational test, and the Service definitions of IOC, the Department is projecting IOCs of 2012 for the Marine Corps, and 2016 for the Air Force and the Navy.

Cost Variance

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	34400.0	196600.0	2000.0	233000.0
Previous Changes				
Economic	+1197.7	+4103.3	+8.9	+5309.9
Quantity	--	-25434.9	--	-25434.9
Schedule	+7866.9	+21747.2	--	+29614.1
Engineering	+3122.5	+9414.0	+252.8	+12789.3
Estimating	-2217.2	+45486.0	-1740.5	+41528.3
Other	--	--	--	--
Support	--	+2036.1	--	+2036.1
Subtotal	+9969.9	+57351.7	-1478.8	+65842.8
Current Changes				
Economic	-234.5	-11656.6	-13.8	-11904.9
Quantity	+157.0	--	--	+157.0
Schedule	--	+2148.3	--	+2148.3
Engineering	--	--	--	--
Estimating	+5875.7	+24106.0	+43.8	+30025.5
Other	--	--	--	--
Support	--	+8984.2	--	+8984.2
Subtotal	+5798.2	+23581.9	+30.0	+29410.1
Total Changes	+15768.1	+80933.6	-1448.8	+95252.9
CE - Cost Variance	50168.1	277533.6	551.2	328252.9
CE - Cost & Funding	50168.1	277533.6	551.2	328252.9

Summary Base Year 2002 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	32300.0	143300.0	1500.0	177100.0
Previous Changes				
Economic	--	--	--	--
Quantity	--	-16249.1	--	-16249.1
Schedule	+6779.4	+2017.7	--	+8797.1
Engineering	+2814.6	+6644.8	+227.3	+9686.7
Estimating	-1704.6	+33745.5	-1303.4	+30737.5
Other	--	--	--	--
Support	--	-57.7	--	-57.7
Subtotal	+7889.4	+26101.2	-1076.1	+32914.5
Current Changes				
Economic	--	--	--	--
Quantity	+130.6	--	--	+130.6
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+4816.0	+16793.3	+33.5	+21642.8
Other	--	--	--	--
Support	--	+6810.7	--	+6810.7
Subtotal	+4946.6	+23604.0	+33.5	+28584.1
Total Changes	+12836.0	+49705.2	-1042.6	+61498.6
CE - Cost Variance	45136.0	193005.2	457.4	238598.6
CE - Cost & Funding	45136.0	193005.2	457.4	238598.6

Previous Estimate: December 2007

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-234.5
Adjustment for current and prior escalation. (Estimating)	+87.6	+100.9
Revised International funding profile. (Estimating)	+0.7	-1.7
Added additional CV flight test article to reduce risk in accordance with the restructure. (Air Force) (Quantity)	+65.4	+78.5
Added additional CV flight test article to reduce risk in accordance with the restructure. (Navy) (Quantity)	+65.2	+78.5
Increase for F136 engine Congressional adds in FY09 and FY10 appropriations. (Air Force) (Estimating)	+364.9	+430.0
Increase for F136 engine Congressional adds in FY09 and FY10 appropriations. (Navy) (Estimating)	+365.7	+431.6
Increase due to revised estimate of required risk funding based on OSD led independent program assessments (Air Force) (Estimating)	+1362.5	+1672.0
Increase due to revised estimate of required risk funding based on OSD led independent program assessments (Navy). (Estimating)	+1360.3	+1672.0
Increase for Lockheed Martin and Pratt & Whitney cost overruns. (Air Force) (Estimating)	+631.6	+775.9
Increase for Lockheed Martin and Pratt & Whitney cost overruns. (Navy) (Estimating)	+642.7	+795.0
RDT&E Subtotal	+4946.6	+5798.2

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-11656.6
Adjustment for current and prior escalation. (Estimating)	+101.0	+120.7
Increase for revised DoD procurement quantity profile, (i.e., lower nearterm quantity ramp, and procurement completion extended one year to FY 2035). (Air Force) (Schedule)	0.0	+1505.2
Increase for revised DoD procurement quantity profile, (i.e., lower nearterm quantity ramp, and procurement completion extended one year to FY 2026). (Navy) (Schedule)	0.0	+643.1
Increase for revised slower International procurement quantity profile. (Air Force) (Estimating)	+526.0	+786.9
Increase for revised slower International procurement quantity profile. (Navy) (Estimating)	+306.1	+405.0
Increase due to incorporation of latest prime and subcontractor labor rates. (Air Force) (Estimating)	+1747.2	+2615.2
Increase due to incorporation of latest prime and subcontractor labor rates. (Navy) (Estimating)	+985.8	+1304.5
Increase due to wing manufacturing performance, change in subcontractor manufacturing plan, cost of purchased parts, and commonality update. (Air Force) (Estimating)	+5618.3	+8314.8
Increase due to wing manufacturing performance, change in subcontractor manufacturing plan, cost of purchased parts, and commonality update; partially offset by the decrease due to the transition from weight-based estimating to standard-hour content estimating. (Navy) (Estimating)	+636.8	+926.3
Increases in Propulsion estimate due to raw material prices and hardware/configuration changes. (Air Force) (Estimating)	+4046.4	+6050.6
Increases in Propulsion estimate due to raw material prices, hardware/configuration changes, exchange rate updates, and higher than expected lift system hardware costs.	+1958.9	+2591.6

(Navy) (Estimating)		
Increase in non-recurring/ancillary estimate due to estimate maturity and increase to Diminishing Manufacturing Sources. (Air Force) (Estimating)	+259.0	+291.4
Increase in non-recurring/ancillary estimate due to estimate maturity and increase to Diminishing Manufacturing Sources. (Navy) (Estimating)	+605.8	+696.6
Adjustment for current and prior escalation. (Support)	+13.4	+16.2
Initial Spares increase due to revised estimate. (Air Force) (Support)	+1030.0	+1652.8
Initial Spares increase due to revised estimate. (Navy) (Support)	+421.7	+539.8
Increase due to cost maturity, definition of customer requirements, and further definition of Service beddown plans. (Air Force) (Support)	+2072.2	+2686.5
Increase due to cost maturity, definition of customer requirements, and further definition of Service beddown plans. (Navy) (Support)	+3275.4	+4091.3
Correction to align support and flyaway. (Subtotal)	0.0	0.0
(Estimating)	(+2.0)	(+2.4)
(Support)	(-2.0)	(-2.4)
Procurement Subtotal	+23604.0	+23581.9

MILCON	**$M**	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-13.8
Adjustment for current and prior escalation. (Estimating)	+3.4	+4.1
Increase for revised MILCON planning. (Air Force) (Estimating)	+27.6	+36.7
Increase for revised MILCON planning. (Navy) (Estimating)	+2.5	+3.0
MILCON Subtotal	+33.5	+30.0

Contracts

Appropriation: RDT&E	
Contract Name	**JSF Air System SDD**
Contractor	Lockheed Martin
Contractor Location	Fort Worth, TX 76101
Contract Number, Type	N00019-02-C-3002, CPAF
Award Date	October 26, 2001
Definitization Date	October 26, 2001

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
18981.9	N/A	14	27460.0	N/A	13	28710.3	29060.0

	Cost Variance	Schedule Variance
Report Date	-727.4	-358.4
Previous Cumulative Variances	-369.3	-304.5
Net Change	-358.1	-53.9
Percent Variance		
Percent Complete		

Cost And Schedule Variance Explanations

The net unfavorable change in cost variance was primarily due to late supplier parts, rework, additional tooling requirements and cost overruns.The net unfavorable change in schedule variance was primarily due to late delivery of parts, parts shortages/availability and assembly delays on SDD test articles. An Over-Target Baseline (OTB) and an Over-Target Schedule (OTS) were incorporated in June 2008.

Contract Comments

The contract price increased since award primarily due to schedule extensions and cost overruns associated with the approved program Replans that were definitized in 2005 and 2009, both of which incorporated Over Target Baselines (OTBs). The Estimated Price at Completion reflects projected additional overrun, planned extension of the SDD schedule, planned addition of one CV flight test aircraft, and other aspects of the ongoing program restructure. The Estimated Prices at Completion will be re-assessed as impacts of the program restructure are further defined.

Appropriation: RDT&E	
Contract Name	**Propulsion JSF F135 SDD**
Contractor	Pratt and Whitney
Contractor Location	East Hartford, CT 06057
Contract Number, Type	N00019-02-C-3003, CPAF
Award Date	October 26, 2001
Definitization Date	October 26, 2001

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
4827.8	N/A	33	6663.9	N/A	30	6686.5	6670.0

	Cost Variance	Schedule Variance
Report Date	+10.1	-66.0
Previous Cumulative Variances	-205.6	-20.1
Net Change	+215.7	-45.9
Percent Variance		
Percent Complete		

Cost And Schedule Variance Explanations

The net favorable change in cost variance was primarily due to a favorable change in the General & Administrative (G&A) rate. The net unfavorable change in schedule variance was primarily due to design issues, manufacturing issues, quality issues, hardware breakage incidents, and Foreign Object Debris (FOD) incidents. An Over-Target Baseline (OTB) was incorporated in October 2008.

Contract Comments

The contract price increased since award primarily due to schedule extension and added scope in accordance with the approved program Replan that was definitized in 2005, and subsequent implementation of an Over Target Baseline due to cost overruns. The Estimated Prices at Completion will be re-assessed as impacts of the February 2010 F-35 Program restructure are further defined.

Appropriation: RDT&E	
Contract Name	**F136 Propulsion Sys SDD**
Contractor	GE/Rolls-Royce
Contractor Location	Cincinnati, OH 45215
Contract Number, Type	N00019-04-C-0093, CPAF
Award Date	August 19, 2005
Definitization Date	August 19, 2005

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
2486.2	N/A	6	2423.6	N/A	6	2768.6	2100.0

	Cost Variance	Schedule Variance
Report Date	-107.8	-29.7
Previous Cumulative Variances	-26.3	-13.7
Net Change	-81.5	-16.0
Percent Variance		
Percent Complete		

Cost And Schedule Variance Explanations

The net unfavorable change in cost variance was primarily due to greater than planned system/verification test support, design efforts, hardware costs (Augmentor, Fan), and changes to the Augmentor manufacturing schedule. The net unfavorable change in schedule variance was primarily due to delays in hardware deliveries (Controls & Accessories, Augmentor, instrumentation) which resulted in late engine assembly and delays in engine testing. Technical issues with two ground test engines also contributed to the schedule variance.

Contract Comments

The Program Manager's Estimate at Completion reflects funds appropriated through FY 2010, and lack of F136 funding budgeted in FY11 and subsequent years.

Appropriation: Procurement	
Contract Name	**JSF Air System LRIP 2**
Contractor	Lockheed Martin
Contractor Location	Fort Worth, TX 76101
Contract Number, Type	N00019-07-C-0097, CPIF/CPAF
Award Date	July 27, 2007
Definitization Date	May 08, 2008

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
2208.0	N/A	12	2508.2	N/A	12	2593.6	2593.6

	Cost Variance	Schedule Variance
Report Date	-71.4	-110.4
Previous Cumulative Variances	--	--
Net Change	-71.4	-110.4
Percent Variance		
Percent Complete		

Cost And Schedule Variance Explanations

The unfavorable cost variance was primarily due to delayed supplier parts, inefficiencies of out-of-station work due to late parts, and overtime to recover schedule. The unfavorable schedule variance was primarily due to parts delays, parts shortages, and components unavailable causing delays in the manufacturing line.

Contract Comments

This is the first time this contract is being reported.

The contract price increased since award primarily due to scope modification for Diminishing Manufacturing Sources, the planned aircraft capability block upgrade/retrofits for the Block III fleet, additional Production Non-Recurring Costs including tooling, and overruns in proposal preparation and technical assistance. The estimated price at completion reflects contract modifications currently being negotiated, primarily for tooling.

Appropriation: Procurement	
Contract Name	**JSF Air System LRIP 3**
Contractor	Lockheed Martin
Contractor Location	Fort Worth, TX 76101
Contract Number, Type	N00019-08-C-0028, CPIF/CPAF
Award Date	May 14, 2008
Definitization Date	June 02, 2009

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
2775.2	N/A	17	3228.2	N/A	17	3525.2	3525.2

	Cost Variance	Schedule Variance
Report Date	-14.8	-1.9
Previous Cumulative Variances	--	--
Net Change	-14.8	-1.9
Percent Variance		
Percent Complete		

Cost And Schedule Variance Explanations

The unfavorable cost variance was primarily due to initial supplier reporting issues and corrections. The unfavorable schedule variance was primarily due to delayed availability of resources.

Contract Comments

This is the first time this contract is being reported.

The initial contract price includes the purchase of two jets for the United Kingdom. The contract price increased since award primarily due to added scope for additional Production Non-Recurring Costs including tooling and technical assistance, and the exercise of option to purchase one jet for the Netherlands. The estimated price at completion reflects contract modifications that are currently in work, primarily for tooling.

Appropriation: Procurement	
Contract Name	**Propulsion JSF F135 LRIP 3**
Contractor	Pratt and Whitney
Contractor Location	East Hartford, CT 06057
Contract Number, Type	N00019-08-C-0033, CPIF/CPAF
Award Date	August 02, 2008
Definitization Date	July 15, 2009

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
649.2	N/A	21	667.2	N/A	21	667.2	667.2

	Cost Variance	Schedule Variance
Report Date	-0.4	+0.4
Previous Cumulative Variances	--	--
Net Change	-0.4	+0.4
Percent Variance		
Percent Complete		

Cost And Schedule Variance Explanations

The unfavorable cost variance was primarily due to greater than planned assembly time due to late parts, Vane Box non-conformance issues, and higher Castings costs. The favorable schedule variance was primarily due to early delivery of Vane and Blade Castings and Variable Area Vane Box Nozzle parts.

Contract Comments

This is the first time this contract is being reported.

The contract price increased since award due to exercise of Tooling Option and procurement of additional CTOL spare parts.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	0	14	0.00%
Production	0	0	2443	0.00%
Total Program Quantities Delivered	0	0	2457	0.00%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	328252.9	Years Appropriated	17
Expenditures To Date	37768.4	Percent Years Appropriated	40.48%
Percent Expended	11.51%	Appropriated to Date	56069.2
Total Funding Years	42	Percent Appropriated	17.08%

Operating and Support Cost

Assumptions and Ground Rules

The F-35 family of highly common aircraft variants will replace or augment four current aircraft: F-16, A-10, F/A-18C/D, and AV-8B.

Where JSF specific data is not yet available, the F-35 O&S estimate is based on F-18C, F-16C, and AV-8B history.

The cost per Flying Hour ($ in Thousands) comparison shown below reflects the F-35 Conventional Takeoff and Landing (CTOL) variant only. The CTOL variant will comprise the majority of the F-35 aircraft DoD buy, i.e., 1,763 of the 2,443 total quantity. The O&S differences between F-35 CTOL and F-16 are representative of the comparisons across legacy fleets. Since F-16 does not report certain cost elements (e.g., Support Equipment Replacement, Modifications, and Indirect costs), these are excluded from the below F-35A cost per flight estimate hour to better align with the antecedent program. The below F-35A estimate does include the cost of supporting the training centers, training devices at the operational sites, and Autonomic Logistics Information System (ALIS); legacy programs do not include these cost categories. F-35 CTOL costs reflect 24-aircraft squadrons operating at 300 flying hours per aircraft per year. The F-16 costs have been developed in a joint effort with the F-35 Program Office and the Air Force Cost Analysis Agency.

The total O&S Cost ($ in Millions) shown below reflects total O&S costs, to include all categories, for all three US variants based on an estimated 8,000 hour service life and predicted attrition and usage rates, and are not a simple extrapolation of CTOL costs shown in the upper table. A comparable number for antecedent systems is not available.

Costs BY2002 $K

Cost Element	JSF Cost per Flying Hour ($)	F-16C/D Cost per Flying Hour ($)
Mission Pay & Allowance	4.672	5.249
Unit Level Consumption	7.880	6.369
Intermediate Maintenance	0.000	0.000
Depot Maintenance	0.762	0.980
Contractor Support	0.389	0.130
Sustaining Support	1.487	0.463
Indirect	--	--
Other	--	--
Total Unitized Cost (Base Year 2002 $)	15.190	13.191

Total O&S Costs $M	JSF	F-16C/D
Base Year	370844.1	--
Then Year	915761.4	--