



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-474



F-22 Increment 3.2B Modernization (F-22 Inc 3.2B Mod)

As of FY 2016 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

F-22 Increment 3.2B Modernization (F-22 Inc 3.2B Mod)

DoD Component

Air Force

Responsible Office

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Date

Assigned: July 19, 2014

References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated June 24, 2013

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated June 24, 2013

Mission and Description

The F-22's combination of stealth, supercruise, maneuverability, Intra-Flight Data Link (IFDL), sensor fusion coupled with improved supportability provides an exponential leap in warfighting capabilities and allows full realization of operational concepts vital to the 21st Century Air Force and joint warfighting anti-access area denial environment. As a critical component of the Global Strike Concept of Operations, the F-22 provides unmatched air-to-air and air-to-ground capabilities.

F-22 Increment 3.2B Modernization (F-22 Inc 3.2B Mod) integrates the Air Intercept Missiles AIM-9X and AIM-120D into the F-22, adds Electronic Protection techniques, incorporates new hardware, enhances Geolocate capability, and expands IFDL functionality.

Executive Summary

F-22 Inc 3.2B Mod integrates the Air Intercept Missiles AIM-9X and AIM-120D into the aircraft, adds Electronic Protection techniques, incorporates new hardware, enhances Geolocate capability, and expands Intra-Flight Data Link functionality.

The program is on-track to meet APB parameters, and the EMD effort is progressing as planned. Full hardware qualification completed on October 10, 2014. Developmental software coding is on-going and the first two Developmental Test aircraft are modified. Laboratory and flight tests are proceeding on production representative hardware.

On June 26, 2013, the USD(AT&L) approved Milestone B and certified (with waivers to provisions (a)(1)(B) and (a)(1)(D)) the components set forth in section 2366b of title 10, United States Code (USC). Pursuant to this code, the USD(AT&L) waived two provisions in its certification because of differences between the Air Force's Service Cost Position and the Future Years Defense Program associated with the FY 2014 PB. On July 7, 2014, the USD(AT&L) certified that the F-22 Inc 3.2B Modernization program met the certification requirement for provisions (a)(1)(B) and (a)(1)(D) pursuant to section 2366b of title 10, USC. There are no remaining 2366b waivers associated with this program.

There are no significant software-related issues with the program at this time.

Threshold Breaches

APB Breaches

Schedule		<input type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
O&S Cost		<input type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches

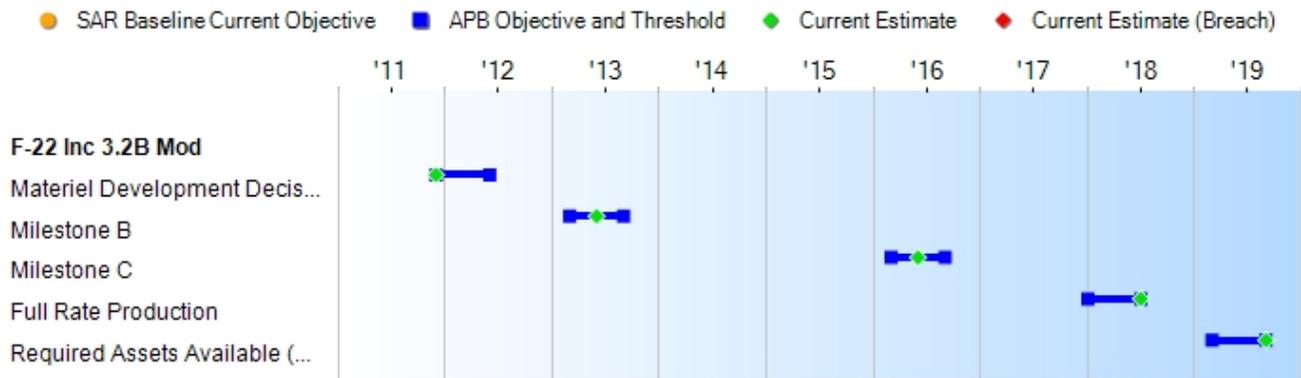
Current UCR Baseline

PAUC	None
APUC	None

Original UCR Baseline

PAUC	None
APUC	None

Schedule



Schedule Events				
Events	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate
Materiel Development Decision	Dec 2011	Dec 2011	Jun 2012	Dec 2011
Milestone B	Mar 2013	Mar 2013	Sep 2013	Jun 2013
Milestone C	Mar 2016	Mar 2016	Sep 2016	Jun 2016
Full Rate Production	Jan 2018	Jan 2018	Jul 2018	Jul 2018
Required Assets Available (RAA)	Mar 2019	Mar 2019	Sep 2019	Sep 2019

(Ch-1)

Change Explanations

(Ch-1) The current estimate for Milestone C has changed from September 2016 to June 2016 due to the EMD effort progressing to plan. The program demonstrated solid cost and technical performance over the last 13 months. Hardware is qualified and operating in the developmental software labs and flight test, mitigating risk and enhancing software maturation.

Notes

RAA is defined as six aircraft and associated support equipment.

Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Materiel Availability (Am)				
Do not degrade aircraft Am below current baseline performance. Baseline performance KPP: By the end of: FY 2011: 61.2% FY 2012: 62.6% FY 2013: 65.8% FY 2014: 67.6% FY 2015: 70.6%	Do not degrade aircraft Am below current baseline performance. Baseline performance KPP: By the end of: FY 2011: 61.2% FY 2012: 62.6% FY 2013: 65.8% FY 2014: 67.6% FY 2015: 70.6%	(Threshold = Objective) Do not degrade aircraft Am below current baseline performance. Baseline performance KPP: By the end of: FY 2011: 61.2% FY 2012: 62.6% FY 2013: 65.8% FY 2014: 67.6% FY 2015: 70.6%	TBD	Do not degrade aircraft Am below current baseline performance. Baseline performance KPP: By the end of: FY 2011: 61.2% FY 2012: 62.6% FY 2013: 65.8% FY 2014: 67.6% FY 2015: 70.6%
Reliability, MTBCF				
Do not degrade aircraft MTBCF below current baseline performance.	Do not degrade aircraft MTBCF below current baseline performance.	(Threshold = Objective) Do not degrade aircraft MTBCF below current baseline performance.	TBD	Do not degrade aircraft MTBCF below current baseline performance.
Weapons Integration				
The F-22A shall be modified as required to enable employment of the AIM-120D and the AIM-9X Block II.	The F-22A shall be modified as required to enable employment of the AIM-120D and the AIM-9X Block II.	(Threshold = Objective) The F-22A shall be modified as required to enable employment of the AIM-120D and the AIM-9X Block II.	TBD	The F-22A shall be modified as required to enable employment of the AIM-120D and the AIM-9X Block II.

Classified Performance information is provided in the classified annex to this submission.

Requirements Reference

Capability Production Document (CPD) dated January 4, 2007, as clarified by Joint Requirements Oversight Council Memorandum (JROCM) 052-11 dated April 19, 2011 and JROCM 134-12 dated September 4, 2012 (weapons integration performance criteria are contained in F-22A Increment 3.2B Operational Capabilities Development Document Revision A dated November 15, 2011; availability and reliability performance criteria are contained in Air Force Requirements Oversight Council Memorandum (AFROCM) 11-10-02 dated November 19, 2010 and JROCM 052-11)

Change Explanations

None

Acronyms and Abbreviations

AIM - Air Intercept Missile

MTBCF - Mean Time Between Critical Failure

Track to Budget

RDT&E

Appn	BA	PE	
Air Force	3600	07	0207138F
	Project	Name	
	674785	F-22	(Shared) (Sunk)
Air Force	3600	07	0207163F
	Project	Name	
	673777	AIM-120D	(Shared)
Air Force	3600	05	0605213F
	Project	Name	
	654785	F-22 Increment 3.2B	(Shared)

Procurement

Appn	BA	PE	
Air Force	3010	06	0207138F
	Line Item	Name	
	000999	Initial Spares/Repair Parts	(Shared)
Air Force	3010	05	0207138F
	Line Item	Name	
	F2232B	Increment 3.2B	

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2013 \$M			BY 2013 \$M	TY \$M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	1199.4	1199.4	1319.3	1165.0	1207.3	1207.3	1170.6
Procurement	338.2	338.2	372.0	331.9	376.8	376.8	370.6
Flyaway	--	--	--	311.7	--	--	348.0
Recurring	--	--	--	311.7	--	--	348.0
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	20.2	--	--	22.6
Other Support	--	--	--	6.6	--	--	7.4
Initial Spares	--	--	--	13.6	--	--	15.2
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	1537.6	1537.6	N/A	1496.9	1584.1	1584.1	1541.2

Confidence Level

Confidence Level of cost estimate for current APB: 53%

The Life-Cycle Cost Estimate (LCCE) reflects the expected value, or mean, of the cost estimate distribution. It takes into consideration relevant risks, including ordinary levels of external and unforeseen events, aiming to provide sufficient resources to execute the program under normal conditions encountering average levels of technical, schedule, and programmatic risk and external influence.

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	9	9	9
Procurement	143	143	143
Total	152	152	152

Quantity Notes

The unit of measure is modified aircraft.

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2016 President's Budget / December 2014 SAR (TY\$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	754.2	197.5	146.4	72.5	0.0	0.0	0.0	0.0	1170.6
Procurement	0.0	28.5	72.2	83.6	152.6	13.1	20.6	0.0	370.6
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2016 Total	754.2	226.0	218.6	156.1	152.6	13.1	20.6	0.0	1541.2
PB 2015 Total	777.9	226.0	221.4	156.9	153.6	13.3	20.6	0.0	1569.7
Delta	-23.7	0.0	-2.8	-0.8	-1.0	-0.2	0.0	0.0	-28.5

Quantity Summary										
FY 2016 President's Budget / December 2014 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Development	9	0	0	0	0	0	0	0	0	9
Production	0	0	0	35	36	72	0	0	0	143
PB 2016 Total	9	0	0	35	36	72	0	0	0	152
PB 2015 Total	9	0	0	35	36	72	0	0	0	152
Delta	0	0	0	0	0	0	0	0	0	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2004	--	--	--	--	--	--	6.4
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	16.5
2007	--	--	--	--	--	--	33.0
2008	--	--	--	--	--	--	31.4
2009	--	--	--	--	--	--	40.8
2010	--	--	--	--	--	--	131.0
2011	--	--	--	--	--	--	129.5
2012	--	--	--	--	--	--	127.5
2013	--	--	--	--	--	--	129.0
2014	--	--	--	--	--	--	109.1
2015	--	--	--	--	--	--	197.5
2016	--	--	--	--	--	--	146.4
2017	--	--	--	--	--	--	72.5
Subtotal	9	--	--	--	--	--	1170.6

Annual Funding 3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2013 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2004	--	--	--	--	--	--	7.6
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	18.5
2007	--	--	--	--	--	--	36.0
2008	--	--	--	--	--	--	33.6
2009	--	--	--	--	--	--	43.1
2010	--	--	--	--	--	--	136.5
2011	--	--	--	--	--	--	132.5
2012	--	--	--	--	--	--	128.2
2013	--	--	--	--	--	--	127.5
2014	--	--	--	--	--	--	106.2
2015	--	--	--	--	--	--	189.8
2016	--	--	--	--	--	--	138.3
2017	--	--	--	--	--	--	67.2
Subtotal	9	--	--	--	--	--	1165.0

Annual Funding								
3010 Procurement Aircraft Procurement, Air Force								
Fiscal Year	Quantity	TY \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2015	--	28.5	--	--	28.5	--	28.5	
2016	35	67.6	--	--	67.6	4.6	72.2	
2017	36	77.3	--	--	77.3	6.3	83.6	
2018	72	141.5	--	--	141.5	11.1	152.6	
2019	--	12.9	--	--	12.9	0.2	13.1	
2020	--	20.2	--	--	20.2	0.4	20.6	
Subtotal	143	348.0	--	--	348.0	22.6	370.6	

Annual Funding 3010 Procurement Aircraft Procurement, Air Force								
Fiscal Year	Quantity	BY 2013 \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2015	--	26.7	--	--	26.7	--	26.7	
2016	35	62.1	--	--	62.1	4.2	66.3	
2017	36	69.6	--	--	69.6	5.7	75.3	
2018	72	125.0	--	--	125.0	9.8	134.8	
2019	--	11.2	--	--	11.2	0.1	11.3	
2020	--	17.1	--	--	17.1	0.4	17.5	
Subtotal	143	311.7	--	--	311.7	20.2	331.9	

Cost Quantity Information		
3010 Procurement Aircraft Procurement, Air Force		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 2013 \$M
2015	--	--
2016	35	76.3
2017	36	78.5
2018	72	156.9
2019	--	--
2020	--	--
Subtotal	143	311.7

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	6/26/2013	6/26/2013
Approved Quantity	71	71
Reference	Milestone B ADM	Milestone B ADM
Start Year	2016	2016
End Year	2017	2017

The Current Total LRIP Quantity is more than 10% of the total production quantity due to an opportunity to capture economic order quantity efficiencies. This strategy was approved as part of the Milestone B review.

Foreign Military Sales

None

Nuclear Costs

None

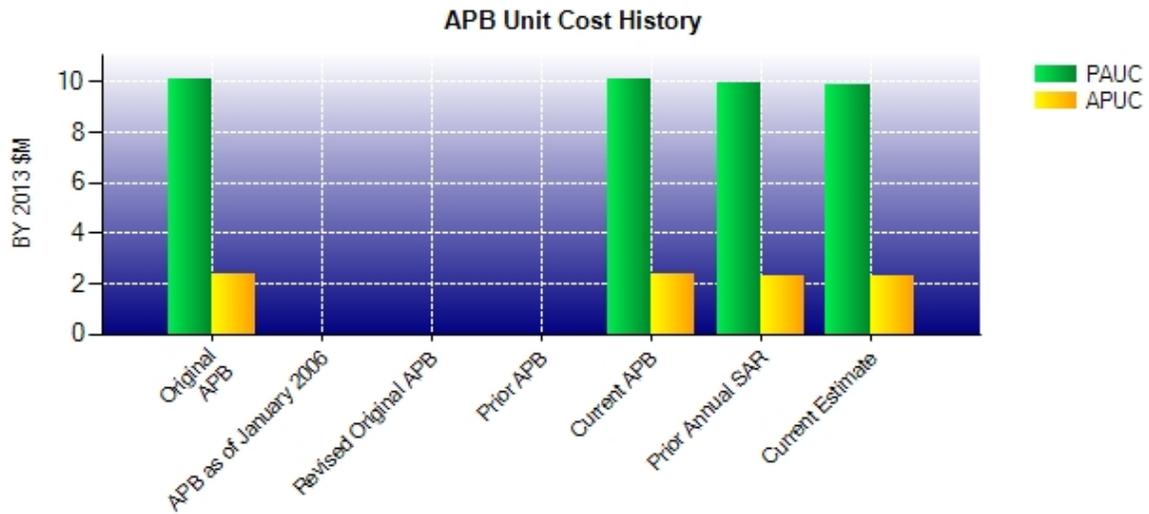
Unit Cost

Unit Cost Report

Item	BY 2013 \$M	BY 2013 \$M	% Change
	Current UCR Baseline (Jun 2013 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	1537.6	1496.9	
Quantity	152	152	
Item	10.116	9.848	-2.65
Average Procurement Unit Cost			
Cost	338.2	331.9	
Quantity	143	143	
Unit Cost	2.365	2.321	-1.86

Item	BY 2013 \$M	BY 2013 \$M	% Change
	Original UCR Baseline (Jun 2013 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	1537.6	1496.9	
Quantity	152	152	
Unit Cost	10.116	9.848	-2.65
Average Procurement Unit Cost			
Cost	338.2	331.9	
Quantity	143	143	
Unit Cost	2.365	2.321	-1.86

Unit Cost History



Item	Date	BY 2013 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Jun 2013	10.116	2.365	10.422	2.635
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	Jun 2013	10.116	2.365	10.422	2.635
Prior Annual SAR	Dec 2013	9.974	2.315	10.327	2.615
Current Estimate	Dec 2014	9.848	2.321	10.139	2.592

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
10.422	0.001	0.000	0.000	0.000	-0.281	0.000	-0.003	-0.283	10.139

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
2.635	0.009	0.000	0.000	0.000	-0.050	0.000	-0.003	-0.044	2.592

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	Mar 2013	N/A	Jun 2013
Milestone C	N/A	Mar 2016	N/A	Jun 2016
RAA	N/A	Mar 2019	N/A	Sep 2019
Total Cost (TY \$M)	N/A	1584.1	N/A	1541.2
Total Quantity	N/A	152	N/A	152
PAUC	N/A	10.422	N/A	10.139

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	1207.3	376.8	--	1584.1
Previous Changes				
Economic	+3.3	+5.6	--	+8.9
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-14.8	-8.1	--	-22.9
Other	--	--	--	--
Support	--	-0.4	--	-0.4
Subtotal	-11.5	-2.9	--	-14.4
Current Changes				
Economic	-4.4	-4.3	--	-8.7
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-20.8	+1.0	--	-19.8
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-25.2	-3.3	--	-28.5
Total Changes	-36.7	-6.2	--	-42.9
CE - Cost Variance	1170.6	370.6	--	1541.2
CE - Cost & Funding	1170.6	370.6	--	1541.2

Summary BY 2013 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	1199.4	338.2	--	1537.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-14.3	-6.9	--	-21.2
Other	--	--	--	--
Support	--	-0.3	--	-0.3
Subtotal	-14.3	-7.2	--	-21.5
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-20.1	+0.8	--	-19.3
Other	--	--	--	--
Support	--	+0.1	--	+0.1
Subtotal	-20.1	+0.9	--	-19.2
Total Changes	-34.4	-6.3	--	-40.7
CE - Cost Variance	1165.0	331.9	--	1496.9
CE - Cost & Funding	1165.0	331.9	--	1496.9

Previous Estimate: December 2013

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-4.4
Revised estimate to reflect budget reductions. (Estimating)	-25.9	-26.7
Revised estimate to reflect Air Force-wide funding adjustments. (Estimating)	-1.5	-1.5
Revised estimate to include additional Cost Software Data Reports and Government Furnished Equipment. (Estimating)	+3.1	+3.0
Adjustment for current and prior escalation. (Estimating)	+2.0	+2.1
Revised estimate to reflect the application of new outyear escalation indices. (Estimating)	+2.2	+2.3
RDT&E Subtotal	-20.1	-25.2

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-4.3
Revised estimate to reflect Air Force-wide budget adjustments. (Estimating)	-3.1	-3.4
Adjustment for current and prior escalation. (Estimating)	+0.3	+0.3
Revised estimate to reflect the application of new outyear escalation indices. (Estimating)	+3.6	+4.1
Increase in Other Support. (Support)	+0.1	0.0
Procurement Subtotal	+0.9	-3.3

Contracts

General Notes

Contracts F-22 Modernization, DO 0070, Increment 3.2 Hardware and F-22 Modernization, DO 0071, Integration & Test Equipment Development are over 90% complete and not included in this report.

Contract Identification

Appropriation: RDT&E
Contract Name: F-22 Mod, DO 0004 REDI II, Incr 3.2B Ph C&D
Contractor: Lockheed Martin Aeronautics
Contractor Location: 1 Lockheed Blvd
 Ft. Worth, TX 76108-3619
Contract Number: FA8611-13-D-2850/3
Contract Type: Cost Plus Incentive Fee (CPIF), Cost Plus Fixed Fee (CPFF)
Award Date: June 26, 2013
Definitization Date: June 26, 2013

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
328.8	N/A	9	328.8	N/A	9	328.8	318.2

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/30/2014)	+3.8	-4.2
Previous Cumulative Variances	+3.2	-3.2
Net Change	+0.6	-1.0

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to lower than expected hardware failures in lab and flight test.

The unfavorable net change in the schedule variance is due to corrected supplier baseline changes identified during the November 2013 Integrated Baseline Review.

Notes

Delivery Order (DO) 0004 was issued under the overarching F-22 Raptor, Enhancement, Development, and Integration II Indefinite Delivery Indefinite Quantity Contract (FA8611-13-D-2850). Definitization date is same as award date and does not indicate this DO was issued as a letter contract or Undefined Contractual Action.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	2	2	9	22.22%
Production	0	0	143	0.00%
Total Program Quantity Delivered	2	2	152	1.32%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	1541.2	Years Appropriated	12
Expended to Date	728.3	Percent Years Appropriated	70.59%
Percent Expended	47.26%	Appropriated to Date	980.2
Total Funding Years	17	Percent Appropriated	63.60%

The above data is current as of February 25, 2015.

Total funding years reflect development executed in support of the F-22 Inc 3.2B Mod program. Beginning in FY 2011 the program was rescoped into smaller increments of capability (e.g. 3.2A, 3.2B) to adjust to financial constraints, facilitate improved baseline control/management, and meet capability delivery needs. F-22 Inc 3.2B Mod officially started in FY 2013 with approval of Milestone B.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	May 31, 2013
Source of Estimate:	SCP
Quantity to Sustain:	149
Unit of Measure:	Modified Aircraft
Service Life per Unit:	15.00 Years
Fiscal Years in Service:	FY 2018 - FY 2033

The F-22 Inc 3.2B Mod is a capability upgrade modification program. The program will modify 152 F-22A aircraft (9 RDT&E and 143 Procurement). Of the 152 aircraft, 3 are development test assets, and 149 will be sustained with O&S funds.

Sustainment Strategy

Given the low hardware risk of the F-22 Inc 3.2B Mod upgrade, sustainment requirements will be managed within the baseline F-22 sustainment concept with minimal impact on O&S cost estimates or achievement of materiel availability goals. The F-22 sustainment strategy is to sustain F-22 readiness and availability at the lowest cost over the life of the weapon system. The F-22 sustainment strategy employs Performance-Based Logistics contracts with Public/Private Partnering for depot repair capabilities to meet Air Force Core requirements.

Antecedent Information

No Antecedent

Cost Element	Annual O&S Costs BY2013 \$K	
	F-22 Inc 3.2B Mod Average Annual Cost Per Modified Aircraft	No Antecedent (Antecedent)
Unit-Level Manpower	0.000	0.000
Unit Operations	0.000	0.000
Maintenance	33.000	0.000
Sustaining Support	0.000	0.000
Continuing System Improvements	0.000	0.000
Indirect Support	0.000	0.000
Other	0.000	0.000
Total	33.000	--

Average Primary Aircraft Assigned (PAA): 163 (entire F-22 fleet)

Item	Total O&S Cost \$M			
	F-22 Inc 3.2B Mod			No Antecedent (Antecedent)
	Current Development APB Objective/Threshold		Current Estimate	
Base Year	80.9	89.0	80.9	N/A
Then Year	104.5	N/A	104.5	N/A

The F-22 Inc 3.2B Mod O&S costs will not be tracked separately as directed by the June 26, 2013 ADM. The Inc 3.2B Mod O&S costs, estimated to be \$81M (BY 2013), will be reported as part of the estimated \$67.1B overall F-22 baseline program O&S costs.

The Air Force expects F-22 Incr 3.2B Mod O&S costs to be budgeted in the baseline F-22 PE (27138F) and expended along with baseline program O&S funds, so the PAA value used in the calculation includes all F-22s, not just the aircraft receiving the Increment 3.2B modification.

Total O&S costs were estimated for initial "steady state" year, 2022.

- Costs were identified to unit operations, hardware maintenance, and software maintenance (\$5.323M)
- Cost were then applied for the years 2018 (1st modified aircraft is fielded) through 2033 (15 years)

Equation to Translate Annual Cost to Total Cost

Unitized cost estimate is calculated:

Total O&S / estimated service life / Average PAA; (\$80.9M/15/163) = \$.033M

O&S Cost Variance		
Category	BY 2013 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2013 SAR	80.9	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	80.9	

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2013 \$M):

Disposal costs for this modification are included in the F-22 platform.