



# Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-199



## Family of Beyond Line-of-Sight - Terminals (FAB-T)

As of FY 2015 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

# Report Documentation Page

*Form Approved  
OMB No. 0704-0188*

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE <b>SEP 2013</b>	2. REPORT TYPE	3. DATES COVERED <b>00-00-2013 to 00-00-2013</b>			
4. TITLE AND SUBTITLE <b>Family of Beyond Line-of-Sight - Terminals (FAB-T)</b>		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S)		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>U. S. Air Force,,202 Burlington Road,Bldg MITRE D,,Bedford,,MA,01730</b>		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES <b>Selected Acquisition Report-SAR</b>					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>40</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

## Table of Contents

Common Acronyms and Abbreviations .....	3
Program Information .....	4
Responsible Office .....	4
References .....	4
Mission and Description .....	5
Executive Summary .....	6
Threshold Breaches .....	7
Schedule .....	8
Performance .....	10
Track to Budget .....	16
Cost and Funding .....	17
Low Rate Initial Production .....	27
Foreign Military Sales .....	28
Nuclear Costs .....	28
Unit Cost .....	29
Cost Variance .....	32
Contracts .....	35
Deliveries and Expenditures .....	37
Operating and Support Cost .....	38

## Common Acronyms and Abbreviations

Acq O&M - Acquisition-Related Operations and Maintenance  
APB - Acquisition Program Baseline  
APPN - Appropriation  
APUC - Average Procurement Unit Cost  
BA - Budget Authority/Budget Activity  
BY - Base Year  
DAMIR - Defense Acquisition Management Information Retrieval  
Dev Est - Development Estimate  
DoD - Department of Defense  
DSN - Defense Switched Network  
Econ - Economic  
Eng - Engineering  
Est - Estimating  
FMS - Foreign Military Sales  
FY - Fiscal Year  
IOC - Initial Operational Capability  
\$K - Thousands of Dollars  
LRIP - Low Rate Initial Production  
\$M - Millions of Dollars  
MILCON - Military Construction  
N/A - Not Applicable  
O&S - Operating and Support  
Oth - Other  
PAUC - Program Acquisition Unit Cost  
PB - President's Budget  
PE - Program Element  
Proc - Procurement  
Prod Est - Production Estimate  
QR - Quantity Related  
Qty - Quantity  
RDT&E - Research, Development, Test, and Evaluation  
SAR - Selected Acquisition Report  
Sch - Schedule  
Spt - Support  
TBD - To Be Determined  
TY - Then Year  
UCR - Unit Cost Reporting

## Program Information

### Program Name

Family of Beyond Line-of-Sight - Terminals (FAB-T)

### DoD Component

Air Force

### Joint Participants

US Navy (E-6 TACAMO aircraft); US Navy (Ground Terminals); US Army (Ground Terminals)

## Responsible Office

### Responsible Office

Col Cordell A. DeLaPena, Jr.  
202 Burlington Road  
Bldg MITRE D  
Bedford, MA 01730

[cordell.delapena@hanscom.af.mil](mailto:cordell.delapena@hanscom.af.mil)

<b>Phone</b>	781-271-4820
<b>Fax</b>	--
<b>DSN Phone</b>	478-1186 ext. 14820
<b>DSN Fax</b>	--
<b>Date Assigned</b>	April 4, 2011

## References

### SAR Baseline (Development Estimate)

FY 2008 President's Budget dated February 1, 2007

### Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated December 22, 2007

## **Mission and Description**

The Family of Advanced Beyond Line-of-Sight Terminals (FAB-T) program will develop nuclear survivable terminals capable of communicating with the Milstar and Advanced Extremely High Frequency (AEHF) satellite constellations using both the Extremely High Frequency and AEHF jam-resistant Low Probability of Intercept/Low Probability of Detect waveforms. These terminals will be an essential component of the strategic nuclear execution system. FAB-T terminals will upgrade the existing ground (fixed and transportable) Command Post Terminals (CPTs) as well as the airborne E-4B and E-6 aircraft CPTs. Terminals for the B-2, B-52, and RC-135 aircraft are planned for future installments. Mission capabilities include Presidential and National Voice Conferencing; Integrated Tactical Warning Attack Assessment; Emergency Action Message Dissemination; Telemetry, Tracking & Control; and Force Reportback.

## Executive Summary

In 2013, the Program made significant progress toward completing development. Production Planning contracts were awarded to the two FAB-T vendors, Boeing Corporation and Raytheon in order to lock in production prices.

The Program will continue with the Command Post Terminal (CPT)-Only path in accordance with the FY 2015 PB. Procurement of the Advanced Wideband Terminals (AWTs) is planned for outside the Future Years Defense Program starting in FY 2020. The FY 2015 PB also added Procurement funding for six terminals for the President of the United States aircraft, increasing the total Production Quantity from 216 to 222.

The Boeing development effort began Flight Testing in April 2013 and will continue as necessary through May/June of 2014. The Boeing team completed Functional Qualification Testing in August 2013 and began Reliability Verification Testing in October 2013.

The Raytheon development effort conducted a Preliminary Design Review in February 2013 and a Critical Design Review in June 2013. A nine month demonstration was completed in June 2013. A prototype demonstration was conducted in October 2013.

Risk remains for both contractors to complete terminal testing within the planned schedule.

The Program Office conducted Production Source Selection activities in 2013. Four Production Planning contracts, two for CPT only variant and two for the CPT and AWT variants, were awarded in September 2013. The Program Office released the final call for revisions for the CPT-Only proposals in December 2013. Revisions were received from both offerors.

The Program is on track for contractor down-select and decision to proceed to the Production and Deployment Phase in 2014. Following the Production down-select decision, cost estimates will be updated. An Independent Cost Estimate will be developed to support an updated APB. The APB will include updated costs, schedule, and quantity distributions.

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

### Threshold Breaches

APB Breaches		
<b>Schedule</b>		<input checked="" type="checkbox"/>
<b>Performance</b>		<input type="checkbox"/>
<b>Cost</b>	RDT&E	<input checked="" type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
<b>O&amp;S Cost</b>		<input type="checkbox"/>
<b>Unit Cost</b>	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

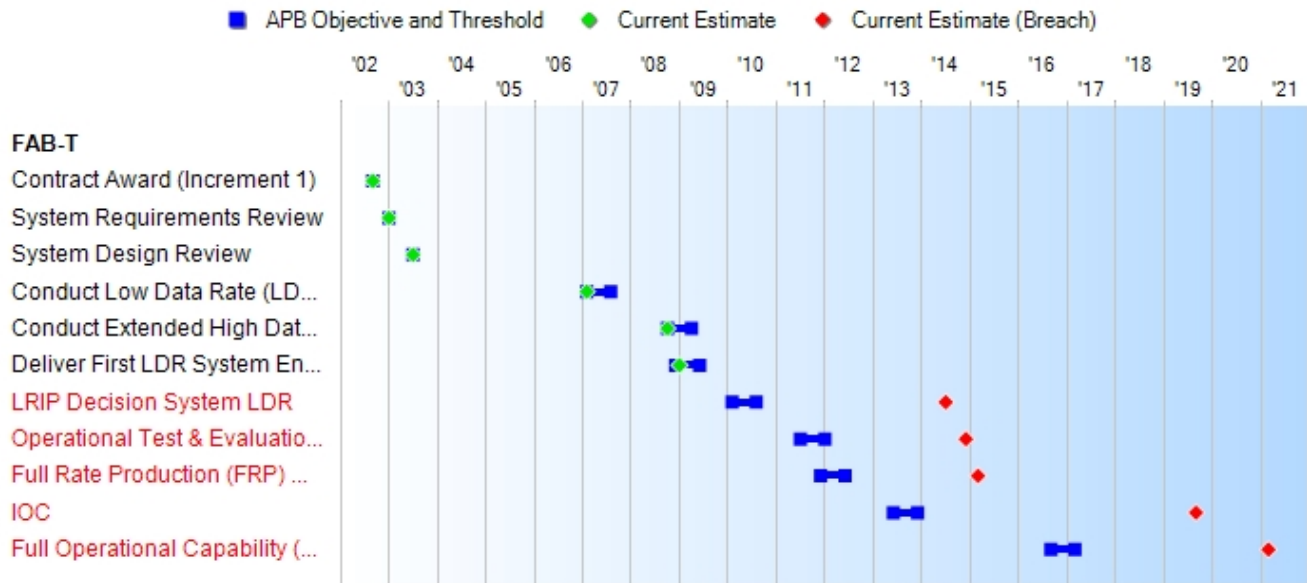
#### Explanation of Breach

The Schedule and RDT&E Cost breaches were reported in the December 2012 SAR. PAUC is no longer breached.

In Calendar Year (CY) 2012, the entire program was restructured to control costs and introduce competition. Competitive production proposals were received 1st quarter CY 2013. A revised Independent Cost Estimate and APB to rebaseline the program is targeted to precede the Defense Acquisition Board.

Nunn-McCurdy Breaches		
<b>Current UCR Baseline</b>		
	PAUC	None
	APUC	None
<b>Original UCR Baseline</b>		
	PAUC	None
	APUC	None

### Schedule



Milestones	SAR Baseline Dev Est	Current APB Development Objective/Threshold	Current Estimate
Contract Award (Increment 1)	SEP 2002	SEP 2002	SEP 2002
System Requirements Review	JAN 2003	JAN 2003	JAN 2003
System Design Review	JUL 2003	JUL 2003	JUL 2003
Conduct Low Data Rate (LDR) System Critical Design Review (CDR)	FEB 2007	FEB 2007	AUG 2007
Conduct Extended High Data Rate (XDR) System CDR	JUL 2008	OCT 2008	APR 2009
Deliver First LDR System Engineering Development Model (EDM)	DEC 2008	DEC 2008	JUN 2009
LRIP Decision System LDR	FEB 2010	FEB 2010	AUG 2010
Operational Test & Evaluation (OT&E) Complete	JUL 2011	JUL 2011	JAN 2012
Full Rate Production (FRP) Decision	JUL 2011	DEC 2011	JUN 2012
IOC	JUN 2013	JUN 2013	DEC 2013
Full Operational Capability (FOC)	SEP 2016	SEP 2016	MAR 2017

<sup>1</sup>APB Breach

**Change Explanations**

(Ch-1) The Current Estimate for LRIP was delayed from February 2014 to July 2014 due to on-going Production Source Selection.

**Memo**

Breached Milestone dates have been reported in previous SAR cycles. The FAB-T SAR continues to report against the 2007 APB. The Under Secretary of Defense for Acquisition, Technology & Logistics Acquisition Decision Memorandum, dated August 23, 2012, directed a new APB be developed prior to the Production pre-award In-Process Review Defense Acquisition Board (DAB). To support this DAB an Independent Cost Estimate will be developed to support an updated APB. The revised APB will include an accurate and applicable schedule for the program to report against.

## Performance

Characteristics	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Interoperability	Enable all top-level IERs, as depicted by mission area and designated critical between sending and receiving nodes	Enable all top-level IERs, as depicted by mission area and designated critical between sending and receiving nodes	Enable all top-level IERs, as depicted by mission area and designated critical between sending and receiving nodes	Flight test conducted with LDR AWT AUG 2009 showing transmit and receive interoperability with legacy AF CPT for text, voice, and data through operational Milstar satellites, included reception of test EAMs	Enable all top-level IERs, as depicted by mission area and designated critical between sending and receiving nodes
Information Assurance	Meet DoD IA criteria and be certified/ accredited IAW DoD 8510.1-M, DoD 8500.1, and DoDI 8500.2, or DoD certification and accreditation process at time of contract award	Meet DoD IA criteria and be certified/ accredited IAW DoD 8510.1-M, DoD 8500.1, and DoDI 8500.2, or DoD certification and accreditation process at time of contract award	Meet DoD IA criteria and be certified/ accredited IAW DoD 8510.1-M, DoD 8500.1, and DoDI 8500.2, or DoD certification and accreditation process at time of contract award	During 2007, FAB-T TPO created a DITSCAP to DIACAP transition plan; This has now been approved by the Air Force Space Command DAA and FAB-T is on the DIACAP C&A path	Meet DoD IA criteria and be certified/ accredited IAW DoD 8510.1 M, DoD 8500.1, and DoDI 8500.2, or DoD certification and accreditation process at time of contract award
Survivability	FMC w/o damage/ degradation, throughout the nuclear environment that the air	FMC w/o damage/ degradation, throughout the nuclear environment that the	FMC w/o damage/ degradation, throughout the nuclear environment that the	TBD	FMC w/o damage/ degradation, throughout the nuclear environment that the

	craft is expected to survive, while meeting PCMR requirements	aircraft is expected to survive, while meeting PCMR requirements	aircraft is expected to survive, while meeting PCMR requirements		aircraft is expected to survive, while meeting PCMR requirements
AWT Legacy Milstar Support	Provide legacy Milstar dedicated connections to transmit/receive functions associated with individual Milstar service/nets (Milstar LDR BC and AEHF equivalent BC)	Provide legacy Milstar dedicated connections to transmit/receive functions associated with individual Milstar service/nets (Milstar LDR BC and AEHF equivalent BC)	Provide legacy Milstar dedicated connections to transmit/receive functions associated with individual Milstar service/nets (Milstar LDR BC and AEHF equivalent BC)	Block 6 LDR terminal acquired downlink, uplink and logged on operational Milstar satellite	Provide legacy Milstar dedicated connections to transmit/receive functions associated with individual Milstar service/nets (Milstar LDR BC and AEHF equivalent BC)
AWT Nuclear Interoperability	Inter-operate with platform required JCS nuclear protected IER	Inter-operate with platform required JCS nuclear protected IER	Inter-operate with platform required JCS nuclear protected IER	Flight test conducted with LDR AWT AUG 2009 showing transmit and receive interoperability with legacy AF CPT for text, voice, and data through operational Milstar satellites, included reception of test EAMs	Inter-operate with platform required JCS nuclear protected IER
AWT Security Protection	Protect all transmitted and received Information	Protect all transmitted and received Information	Protect all transmitted and received Information	NSA Evaluation of Block 6 completed JUN 2009. Multiple IATT	Protect all transmitted and received Information

				authorizations received in 2009; Full certification expected FY 2012	
AWT Security Levels	Process and/or disseminate information products at any single level of classification up to and including TS/SCI	Process and/or disseminate information products at any single level of classification up to and including TS/SCI	Process and/or disseminate information products at any single level of classification up to and including TS/SCI	TBD	Process and/or disseminate information products at any single level of classification up to and including TS/SCI
AWT Force Direction/Reportback	Enable EAM dissemination and FE report back	Enable EAM dissemination and FE report back	Enable EAM dissemination and FE report back	Successful demonstration via laboratory test completed in FY 2011	Enable EAM dissemination and FE reportback
CPT Control Interface	Support use of ASMCS and MPSS satellite / network / terminal control equipment	Support use of ASMCS and MPSS satellite/ network/ terminal control equipment	Support use of ASMCS and MPSS satellite/ network/ terminal control equipment	Demonstration partially completed (33% complete) in FY 2011; planning to be fully complete in FY 2012	Support use of ASMCS and MPSS satellite/ network/ terminal control equipment
CPT Backwards Compatibility	Compatibility with legacy EHF baseband functions associated with individual AEHF service / networks, SCIS, NPES, IEMATS, DIRECT and the Red	Compatibility with legacy EHF baseband functions associated with individual AEHF service/ networks, SCIS, NPES, IEMATS, DIRECT and the Red	Compatibility with legacy EHF baseband functions associated with individual AEHF service/ networks, SCIS, NPES, IEMATS, DIRECT and the Red	Serial interface demonstration planned in FY 2012	Compatibility with legacy EHF baseband functions associated with individual AEHF service/ networks, SCIS, NPES, IEMATS, DIRECT and the Red

	Switch	Switch	Switch		Switch
CPT Existing Terminal Coexistence	Inter-operable with existing EHF terminals	Inter-operable with existing EHF terminals	Inter-operable with existing EHF terminals	Block 6 interoperability testing with legacy EHF CPT terminals has been completed using Milstar	Inter-operable with existing EHF terminals
CPT Satellite Constellation Coexistences	Inter-operable with the AEHF, APS, Milstar, and UFO-E/EE	Inter-operable with the AEHF, APS, Milstar, and UFO-E/EE	Inter-operable with the AEHF, APS, Milstar, and UFO-E/EE	Milstar connectivity has been extensively tested; partial AEHF on-orbit testing has been conducted	Interoperable with the AEHF, EPS and Milstar

### Requirements Source

Advanced Wideband Terminal (AWT) Operational Requirements Document (ORD) dated March 29, 2004 and Command Post Terminal (CPT) ORD dated March 12, 2002

### Change Explanations

None

### Memo

The following footnotes 1 through 10 apply to the above sections as listed:

Interoperability: 1 & 9  
Information Assurance: 2 & 9  
Survivability: 2 & 9  
AWT Legacy Milstar Support: 3 & 9  
AWT Nuclear Interoperability: 3 & 9  
AWT Security Protection: 3 & 9  
AWT Security Levels: 4 & 9  
AWT Force Direction/Reportback: 3 & 9  
CPT Control Interface: 5  
CPT Backwards Compatability: 6  
CPT Existing Terminal Coexistence: 7  
CPT Satellite Constellation Coexistences: 8 & 10

### Footnotes:

1. Threshold requirements (critical IERs) placed on contract; objective requirements (noncritical IERs) not proposed by contractor. This performance parameter applies to both the AWT and CPT configurations (AWT Operational Requirements Document (ORD) March 29, 2004 and CPT ORD March 6, 2002).

2. This performance parameter applies to both AWT and CPT.
3. This performance parameter only applies to AWT configuration.
4. Threshold requirements (single level security) placed on contract; objective requirements (multi-level security) not proposed by contractor. This performance parameter only applies to the AWT configuration.
5. For FAB-T, access to privileged Tracking Telemetry and Control (TT&C) capabilities and resource controller capabilities is restricted through mission planning data sets and through dedicated COMSEC algorithms and associated keys. Terminal software shall assign privileges to ensure that only designated terminals at TT&C nodes will have TT&C capabilities and that only designated terminals at resource controller nodes will have resource controller capabilities. This performance parameter only applies to the CPT configuration.
6. The FAB-T interface to the Red Switch is via the Advanced Narrowband Digital Voice Terminal (ANDVT), and the interface to NPES is via SCIS. This performance parameter only applies to the CPT configuration.
7. FAB-T complies with the CPT interoperability requirements defined in the Terminal Segment Specification for the Milstar II Satellite Communications Program SR-2300 (excluding Digital Secure Voice Terminal (DSVT) KY-68, Asynchronous T1, Demand Assignment Multiple Access (DAMA) Limited Beam Management, LDR Full Beam Management of default agile locations, and Medium Data Rate (MDR) Capabilities) and Joint Terminal Segment Specification for the EHF Satellite Communications Program SR-3300. This performance parameter only applies to the CPT configuration.
8. Interoperability with UFO/E and UFO/EE is predicated on the development by the AEHF Program of the capability for the terminal to receive mission planning data and TRANSEC keys from the Mission Planning Element. FAB-T is not expected to produce or deploy the capability associated with Advanced Polar System satellite interoperability. Terminal modifications for Advanced Polar System satellites are not funded. This performance parameter only applies to the CPT configuration. Note: Advanced Polar System is now Enhanced Polar System.
9. The LDR System provided to the strategic forces must meet the following Performance parameters in Section A: Interoperability, Information Assurance, Survivability, AWT Legacy Milstar, AWT Nuclear Interoperability, AWT Security Protection, AWT Security Levels, and AWT Force Direction/Reportback. The Extended Data Rate (XDR) System must meet all the Performance parameters in Section A.
10. Extensive testing with on-orbit Milstar satellite has occurred; two LDR tests with the AEHF payload (prior to launch) have been completed; AEHF satellite is now on-orbit and when available for testing we will conduct interoperability testing.

**Acronyms and Abbreviations**

AEHF - Advanced Extremely High Frequency  
AF - Air Force  
APS - Advanced Polar System  
ASMCS - AEHF Satellite Mission Control Subsystem  
AWT - Advanced Wideband Terminal  
BC - Backward Compatible  
C&A - Certification & Accreditation  
CPT - Command Post Terminal  
DAA - Designated Approving Authority  
DIACAP - DoD Information Assurance Certification & Accreditation Process  
DIRECT - Defense IEMATS Replacement Command and Control Terminal  
DITSCAP - Defense Information Technology Security Certification and Accreditation Process  
DoD - Department of Defense  
DoDI - Department of Defense Instruction  
EAM - Emergency Action Message  
EHF - Extremely High Frequency  
EPS - Enhanced Polar System  
FE - Force Element  
FMC - Fully Mission Capable  
IA - Information Assurance  
IATT - Interim Authority to Test  
IAW - In Accordance With  
IEMATS - Improved Emergency Message Automatic Transmission System  
IER - Information Exchange Requirement  
JCS - Joint Chief of Staff  
LDR - Low Data Rate  
MPSS - Mission Planning Support System  
NPES - Nuclear Planning and Execution System  
NSA - National Security Agency  
PCMR - Probability of Correct Message Receipt  
SCIS - Secure Communications Integrated System  
TPO - Terminal Program Office  
TS/SCI - Top Secret/Special Compartmented Information  
UFO-E/EE - UHF Follow On - EHF/EHF Enhanced  
w/o - without

## Track to Budget

### General Memo

FAB-T shares the Other Aircraft (OTHACF) line item with other modification programs. Procurement funding for six terminals for the President of the United States aircraft are included in OTHACF line item. Procurement funding for all other FAB-T airborne terminals are included in the Family of Beyond Line-of-Sight Terminals (FBLOST) line item. FAB-T shares the 000999 Initial Spares line item with other programs, and shares 836780 with other Military Satellite Communication (MILSATCOM) programs.

### RDT&E

Appn	BA	PE		
Air Force 3600	07	0303601F		
		<b>Project</b>	<b>Name</b>	
		672487	MILSATCOM Terminals	(Shared) (Sunk)
		672489	FAB-T Alternative	(Sunk)
		672490	Family of Adv Beyond Line of Sight Terminals (FAB-T)	

### Procurement

Appn	BA	PE		
Air Force 3010	06	0303601F		
		<b>Line Item</b>	<b>Name</b>	
		000999	Initial Spares/Repair Parts	(Shared)
Air Force 3010	05	0303601F		
		<b>Line Item</b>	<b>Name</b>	
		FBLOST	FBLOST	
		OTHACF	Other Aircraft	(Shared)
Air Force 3080	03	0303601F		
		<b>Line Item</b>	<b>Name</b>	
		836700	Family of Beyond Line-of-Sight Terminals	
		836780	MILSATCOM Space	(Shared) (Sunk)
Air Force 3080	05	0303601F		
		<b>Line Item</b>	<b>Name</b>	
		861900	Spares and Repair Parts	(Shared)

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY2002 \$M			BY2002 \$M	TY \$M		
	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	1273.8	1283.2	1411.5	<b>1933.8</b> <sup>1</sup>	1431.1	1456.1	2252.9
Procurement	1368.5	1677.3	1845.0	1788.6	1736.3	2166.1	2567.0
Flyaway	--	--	--	1374.5	--	--	1978.7
Recurring	--	--	--	1374.5	--	--	1978.7
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	414.1	--	--	588.3
Other Support	--	--	--	110.8	--	--	151.0
Initial Spares	--	--	--	303.3	--	--	437.3
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	2642.3	2960.5	N/A	3722.4	3167.4	3622.2	4819.9

<sup>1</sup> APB Breach

Estimate will be updated based on result of Production competition and Independent Cost Estimate. Distribution of funds will be adjusted based on terminal schedules and priorities.

Quantity	SAR Baseline Dev Est	Current APB Development	Current Estimate
RDT&E		25	37
Procurement		191	222
Total		216	259

Increase in total Procurement quantity from 216 to 222 is based on addition of six terminals for the President of the United States aircraft.

## Cost and Funding

### Funding Summary

#### Appropriation and Quantity Summary FY2015 President's Budget / December 2013 SAR (TY\$ M)

Appropriation	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
RDT&E	2064.0	129.8	55.2	3.9	0.0	0.0	0.0	0.0	2252.9
Procurement	20.8	64.8	131.7	236.0	210.0	191.8	166.8	1545.1	2567.0
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 2015 Total	2084.8	194.6	186.9	239.9	210.0	191.8	166.8	1545.1	4819.9
PB 2014 Total	2031.3	215.1	175.9	303.6	267.0	271.8	614.9	795.0	4674.6
Delta	53.5	-20.5	11.0	-63.7	-57.0	-80.0	-448.1	750.1	145.3

The 3010 appropriation includes FY 2015 PB adjustment for procurement of six terminals for the President of the United States aircraft.

Quantity	Undistributed	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
Development	37	0	0	0	0	0	0	0	0	37
Production	0	0	4	9	14	10	10	7	168	222
PB 2015 Total	37	0	4	9	14	10	10	7	168	259
PB 2014 Total	30	0	4	9	19	16	16	52	100	246
Delta	7	0	0	0	-5	-6	-6	-45	68	13

## Cost and Funding

### Annual Funding By Appropriation

#### 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
2001	--	--	--	--	--	--	5.3
2002	--	--	--	--	--	--	10.5
2003	--	--	--	--	--	--	51.8
2004	--	--	--	--	--	--	114.8
2005	--	--	--	--	--	--	173.1
2006	--	--	--	--	--	--	196.2
2007	--	--	--	--	--	--	193.0
2008	--	--	--	--	--	--	277.6
2009	--	--	--	--	--	--	210.2
2010	--	--	--	--	--	--	189.5
2011	--	--	--	--	--	--	263.9
2012	--	--	--	--	--	--	280.3
2013	--	--	--	--	--	--	97.8
2014	--	--	--	--	--	--	129.8
2015	--	--	--	--	--	--	55.2
2016	--	--	--	--	--	--	3.9
<b>Subtotal</b>	<b>37</b>	--	--	--	--	--	<b>2252.9</b>

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

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 2002 \$M</b>	<b>Non End Item Recurring Flyaway BY 2002 \$M</b>	<b>Non Recurring Flyaway BY 2002 \$M</b>	<b>Total Flyaway BY 2002 \$M</b>	<b>Total Support BY 2002 \$M</b>	<b>Total Program BY 2002 \$M</b>
2001	--	--	--	--	--	--	5.3
2002	--	--	--	--	--	--	10.4
2003	--	--	--	--	--	--	50.7
2004	--	--	--	--	--	--	109.7
2005	--	--	--	--	--	--	161.2
2006	--	--	--	--	--	--	177.4
2007	--	--	--	--	--	--	170.0
2008	--	--	--	--	--	--	239.7
2009	--	--	--	--	--	--	179.2
2010	--	--	--	--	--	--	159.5
2011	--	--	--	--	--	--	218.0
2012	--	--	--	--	--	--	227.5
2013	--	--	--	--	--	--	78.0
2014	--	--	--	--	--	--	101.8
2015	--	--	--	--	--	--	42.5
2016	--	--	--	--	--	--	2.9
<b>Subtotal</b>	<b>37</b>	--	--	--	--	--	<b>1933.8</b>

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

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway TY \$M</b>	<b>Non End Item Recurring Flyaway TY \$M</b>	<b>Non Recurring Flyaway TY \$M</b>	<b>Total Flyaway TY \$M</b>	<b>Total Support TY \$M</b>	<b>Total Program TY \$M</b>
2007	--	4.3	--	--	4.3	--	4.3
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	1.3	--	--	1.3	--	1.3
2011	--	--	--	--	--	--	--
2012	--	3.8	--	--	3.8	--	3.8
2013	--	4.6	--	--	4.6	--	4.6
2014	--	1.9	--	--	1.9	--	1.9
2015	5	46.9	--	--	46.9	12.5	59.4
2016	5	48.6	--	--	48.6	10.7	59.3
2017	2	22.5	--	--	22.5	7.2	29.7
2018	3	31.5	--	--	31.5	7.4	38.9
2019	1	11.8	--	--	11.8	7.5	19.3
2020	16	104.0	--	--	104.0	34.0	138.0
2021	30	179.8	--	--	179.8	55.0	234.8
2022	45	284.6	--	--	284.6	67.5	352.1
2023	43	272.0	--	--	272.0	64.5	336.5
<b>Subtotal</b>	<b>150</b>	<b>1017.6</b>	<b>--</b>	<b>--</b>	<b>1017.6</b>	<b>266.3</b>	<b>1283.9</b>

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

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 2002 \$M</b>	<b>Non End Item Recurring Flyaway BY 2002 \$M</b>	<b>Non Recurring Flyaway BY 2002 \$M</b>	<b>Total Flyaway BY 2002 \$M</b>	<b>Total Support BY 2002 \$M</b>	<b>Total Program BY 2002 \$M</b>
2007	--	3.7	--	--	3.7	--	3.7
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	1.1	--	--	1.1	--	1.1
2011	--	--	--	--	--	--	--
2012	--	3.0	--	--	3.0	--	3.0
2013	--	3.6	--	--	3.6	--	3.6
2014	--	1.4	--	--	1.4	--	1.4
2015	5	35.1	--	--	35.1	9.3	44.4
2016	5	35.6	--	--	35.6	7.9	43.5
2017	2	16.2	--	--	16.2	5.2	21.4
2018	3	22.2	--	--	22.2	5.2	27.4
2019	1	8.2	--	--	8.2	5.1	13.3
2020	16	70.5	--	--	70.5	23.0	93.5
2021	30	119.4	--	--	119.4	36.5	155.9
2022	45	185.3	--	--	185.3	44.0	229.3
2023	43	173.6	--	--	173.6	41.2	214.8
<b>Subtotal</b>	<b>150</b>	<b>678.9</b>	<b>--</b>	<b>--</b>	<b>678.9</b>	<b>177.4</b>	<b>856.3</b>

Includes funding for President of the United States aircraft added in FY 2015 PB with associated quantity of six terminals.

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

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 2002 \$M</b>
2007	--	--
2008	--	--
2009	--	--
2010	--	--
2011	--	--
2012	--	--
2013	--	--
2014	--	--
2015	5	22.6
2016	5	22.6
2017	2	9.1
2018	3	13.6
2019	1	4.5
2020	16	72.4
2021	30	135.8
2022	45	203.7
2023	43	194.6
<b>Subtotal</b>	<b>150</b>	<b>678.9</b>

## Annual Funding TY\$

## 3080 | Procurement | Other 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
2010	--	1.8	--	--	1.8	--	1.8
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	5.0	--	--	5.0	--	5.0
2014	4	57.3	--	--	57.3	5.6	62.9
2015	4	43.2	--	--	43.2	29.1	72.3
2016	9	106.1	--	--	106.1	70.6	176.7
2017	8	113.6	--	--	113.6	66.7	180.3
2018	7	104.3	--	--	104.3	48.6	152.9
2019	6	97.1	--	--	97.1	50.4	147.5
2020	20	288.3	--	--	288.3	30.0	318.3
2021	14	144.4	--	--	144.4	21.0	165.4
<b>Subtotal</b>	<b>72</b>	<b>961.1</b>	<b>--</b>	<b>--</b>	<b>961.1</b>	<b>322.0</b>	<b>1283.1</b>

**Annual Funding BY\$****3080 | Procurement | Other Procurement, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 2002 \$M</b>	<b>Non End Item Recurring Flyaway BY 2002 \$M</b>	<b>Non Recurring Flyaway BY 2002 \$M</b>	<b>Total Flyaway BY 2002 \$M</b>	<b>Total Support BY 2002 \$M</b>	<b>Total Program BY 2002 \$M</b>
2010	--	1.5	--	--	1.5	--	1.5
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	4.0	--	--	4.0	--	4.0
2014	4	45.1	--	--	45.1	4.4	49.5
2015	4	33.4	--	--	33.4	22.5	55.9
2016	9	80.5	--	--	80.5	53.5	134.0
2017	8	84.5	--	--	84.5	49.5	134.0
2018	7	76.0	--	--	76.0	35.4	111.4
2019	6	69.4	--	--	69.4	36.0	105.4
2020	20	202.0	--	--	202.0	21.0	223.0
2021	14	99.2	--	--	99.2	14.4	113.6
<b>Subtotal</b>	<b>72</b>	<b>695.6</b>	<b>--</b>	<b>--</b>	<b>695.6</b>	<b>236.7</b>	<b>932.3</b>

**Cost Quantity Information****3080 | Procurement | Other Procurement, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 2002 \$M</b>
2010	--	--
2011	--	--
2012	--	--
2013	--	--
2014	4	38.6
2015	4	38.6
2016	9	86.9
2017	8	77.3
2018	7	67.6
2019	6	58.0
2020	20	193.3
2021	14	135.3
<b>Subtotal</b>	<b>72</b>	<b>695.6</b>

## Low Rate Initial Production

	<b>Initial LRIP Decision</b>	<b>Current Total LRIP</b>
<b>Approval Date</b>	7/5/2009	4/5/2012
<b>Approved Quantity</b>	101	24
<b>Reference</b>	Acquisition Strategy Production Phase Addendum	Acquisition Strategy Amendment
<b>Start Year</b>	2010	2014
<b>End Year</b>	2012	2015

The Current Total LRIP Quantity is more than 10% of the total production quantity due to schedule to meet FY 2019 IOC for Presidential & National Voice Conferencing capability.

The December 2011 SAR reported against the January 2009 Acquisition Strategy, which reflected a 3-year LRIP schedule and included Advanced Wideband Terminals to accomplish Initial Operational Test & Evaluation with LRIP assets.

The Under Secretary of Defense for Acquisition, Technology & Logistics Acquisition Decision Memorandum, dated August 23, 2012, directed a new APB be developed prior to the Production pre-award In-Process Review Defense Acquisition Board (DAB). To support this DAB, an Independent Cost Estimate will be developed to support an updated APB. The APB will include updated LRIP quantities.

## **Foreign Military Sales**

None

## **Nuclear Costs**

None

**Unit Cost****Unit Cost Report**

	BY2002 \$M	BY2002 \$M	
Unit Cost	Current UCR Baseline (DEC 2007 APB)	Current Estimate (DEC 2013 SAR)	BY % Change

## Program Acquisition Unit Cost (PAUC)

Cost	2960.5	3722.4	
Quantity	222	259	
Unit Cost	13.336	14.372	+7.77

## Average Procurement Unit Cost (APUC)

Cost	1677.3	1788.6	
Quantity	197	222	
Unit Cost	8.514	8.057	-5.37

	BY2002 \$M	BY2002 \$M	
Unit Cost	Original UCR Baseline (DEC 2007 APB)	Current Estimate (DEC 2013 SAR)	BY % Change

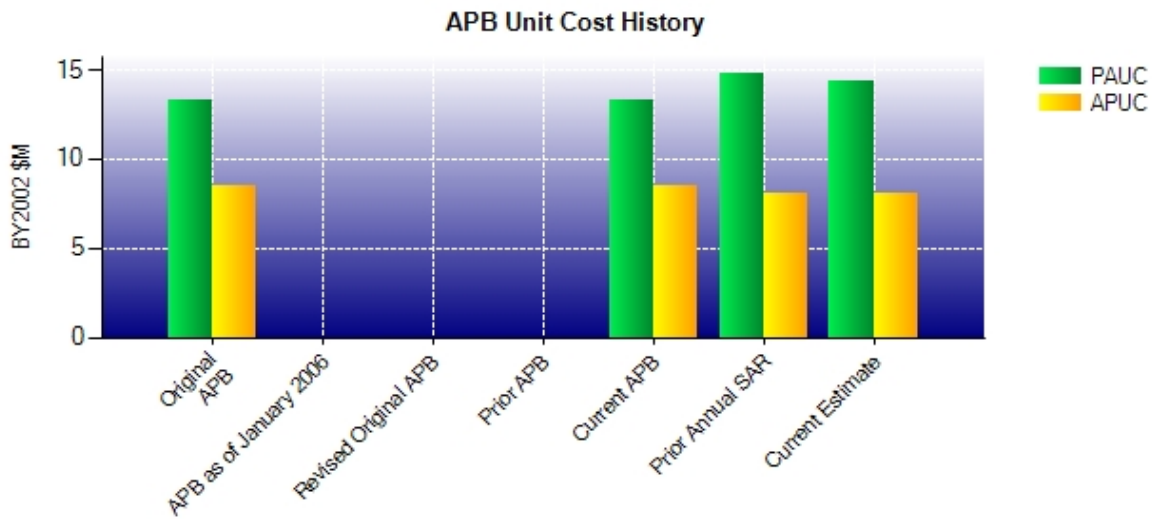
## Program Acquisition Unit Cost (PAUC)

Cost	2960.5	3722.4	
Quantity	222	259	
Unit Cost	13.336	14.372	+7.77

## Average Procurement Unit Cost (APUC)

Cost	1677.3	1788.6	
Quantity	197	222	
Unit Cost	8.514	8.057	-5.37

### Unit Cost History



	Date	BY2002 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
<b>Original APB</b>	DEC 2007	13.336	8.514	16.316	10.995
<b>APB as of January 2006</b>	N/A	N/A	N/A	N/A	N/A
<b>Revised Original APB</b>	N/A	N/A	N/A	N/A	N/A
<b>Prior APB</b>	N/A	N/A	N/A	N/A	N/A
<b>Current APB</b>	DEC 2007	13.336	8.514	16.316	10.995
<b>Prior Annual SAR</b>	DEC 2012	14.791	8.069	19.002	11.407
<b>Current Estimate</b>	DEC 2013	14.372	8.057	18.610	11.563

### 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	
14.664	0.076	-1.469	0.884	0.675	2.860	0.000	0.920	3.946	18.610

## Current SAR Baseline to Current Estimate (TY \$M)

Initial APUC Dev Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
9.091	0.043	-0.238	1.032	0.000	0.562	0.000	1.073	2.472	11.563

## SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	N/A	N/A	N/A
Milestone C	N/A	FEB 2010	N/A	JUL 2014
IOC	N/A	JUN 2013	N/A	SEP 2019
Total Cost (TY \$M)	N/A	3167.4	N/A	4819.9
Total Quantity	N/A	216	N/A	259
Prog. Acq. Unit Cost (PAUC)	N/A	14.664	N/A	18.610

**Cost Variance**

<b>Summary Then Year \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Dev Est)	1431.1	1736.3	--	3167.4
Previous Changes				
Economic	+14.5	+28.0	--	+42.5
Quantity	+14.1	+179.5	--	+193.6
Schedule	--	+180.1	--	+180.1
Engineering	+174.7	--	--	+174.7
Estimating	+576.2	+58.4	--	+634.6
Other	--	--	--	--
Support	--	+281.7	--	+281.7
Subtotal	+779.5	+727.7	--	+1507.2
Current Changes				
Economic	-4.3	-18.4	--	-22.7
Quantity	+6.9	+49.5	--	+56.4
Schedule	--	+48.9	--	+48.9
Engineering	--	--	--	--
Estimating	+39.7	+66.4	--	+106.1
Other	--	--	--	--
Support	--	-43.4	--	-43.4
Subtotal	+42.3	+103.0	--	+145.3
Total Changes	+821.8	+830.7	--	+1652.5
CE - Cost Variance	2252.9	2567.0	--	4819.9
CE - Cost & Funding	2252.9	2567.0	--	4819.9

<b>Summary Base Year 2002 \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Dev Est)	1273.8	1368.5	--	2642.3
Previous Changes				
Economic	--	--	--	--
Quantity	+11.9	+135.3	--	+147.2
Schedule	--	+0.6	--	+0.6
Engineering	+145.8	--	--	+145.8
Estimating	+464.2	+56.4	--	+520.6
Other	--	--	--	--
Support	--	+182.0	--	+182.0
Subtotal	+621.9	+374.3	--	+996.2
Current Changes				
Economic	--	--	--	--
Quantity	+5.6	+31.6	--	+37.2
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+32.5	+52.8	--	+85.3
Other	--	--	--	--
Support	--	-38.6	--	-38.6
Subtotal	+38.1	+45.8	--	+83.9
Total Changes	+660.0	+420.1	--	+1080.1
CE - Cost Variance	1933.8	1788.6	--	3722.4
CE - Cost & Funding	1933.8	1788.6	--	3722.4

Previous Estimate: December 2012

<b>RDT&amp;E</b>	<b>\$M</b>	
<b>Current Change Explanations</b>	<b>Base Year</b>	<b>Then Year</b>
Revised escalation indices. (Economic)	N/A	-4.3
Increased quantity of Engineering Development Models from 30 to 37 for Raytheon development. (Quantity)	+5.6	+6.9
Adjustment for current and prior escalation. (Estimating)	+3.0	+3.8
Funding increased to support competition by continuing Raytheon development. (Estimating)	+29.5	+35.9
<b>RDT&amp;E Subtotal</b>	<b>+38.1</b>	<b>+42.3</b>

<b>Procurement</b>	<b>\$M</b>	
<b>Current Change Explanations</b>	<b>Base Year</b>	<b>Then Year</b>
Revised escalation indices. (Economic)	N/A	-18.4
Increased quantity from 144 to 150 resulting from an increase of six terminals for POTUS aircraft (APPN 3010). (Quantity)	+31.6	+49.5
Rephasing of procurement buy schedule from FY 2015 - FY 2023. (APPN 3010) (Schedule)	0.0	+32.1
Rephasing of procurement buy schedule from FY 2014 - FY 2021. (APPN 3080) (Schedule)	0.0	+16.8
Revised estimate based on revised buy profile, deferral of Advanced Wideband Terminal beyond Future Years Defense Program and addition of terminals for POTUS aircraft. (APPN 3010) (Estimating)	+29.8	+30.2
Rephasing of procurement buy profile. (APPN 3080) (Estimating)	+22.4	+35.3
Adjustment for current and prior escalation. (Estimating)	+0.6	+0.9
Adjustment for current and prior escalation. (Support)	+0.1	0.0
Revised estimate for Interim Contractor Support and Depot Activation costs allocated to airborne platforms based on rephasing of buy profile and quantity of airborne terminals fielded prior to Depot stand-up. (APPN 3010) (Support)	-2.4	-3.8
Revised estimate for Interim Contractor Support and Depot Activation costs allocated to ground sites based on rephasing of buy profile and quantity of ground terminals fielded prior to Depot Stand-up. (APPN 3080) (Support)	-24.8	-32.7
Revised phasing for airborne platform spares based on buy profile. (APPN 3010) (Support)	-4.3	+0.7
Revised phasing for ground site spares based on buy profile. (APPN 3080) (Support)	-7.2	-7.6
<b>Procurement Subtotal</b>	<b>+45.8</b>	<b>+103.0</b>

## Contracts

### Appropriation: RDT&E

Contract Name	<b>Boeing FAB-T Development</b>
Contractor	Boeing
Contractor Location	Huntington Beach, CA 92647-2099
Contract Number, Type	F19628-02-C-0048, FFP
Award Date	September 20, 2002
Definitization Date	September 20, 2002

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price at Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
266.8	N/A	18	1773.1	N/A	30	1773.1	1773.1

### Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to cost overruns and design and requirements changes.

### Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this FFP contract.

### Contract Comments

This contract is more than 90% complete; therefore, this is the final report for this contract.

The Boeing Development contract was converted to Firm Fixed Price in April 2012.

**Appropriation: RDT&E**

Contract Name **Raytheon CPT Development**  
 Contractor Raytheon  
 Contractor Location 1001 Boston Post Road E  
 Marlborough, MA 01752-2377  
 Contract Number, Type FA8307-12-C-0013, FFP/FPIF  
 Award Date September 07, 2012  
 Definitization Date April 10, 2013

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price at Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
70.0	N/A	N/A	144.8	N/A	7	144.8	144.8

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to definitization and exercise of additional contract options.

**Cost and Schedule Variance Explanations**

Cost and Schedule Variance reporting is not required on this FFP/FPIF contract.

**Contract Comments**

Current contract authorizes seven Engineering Development Models to date.

## Deliveries and Expenditures

Delivered to Date	Plan to Date	Actual to Date	Total Quantity	Percent Delivered
Development	12	12	37	32.43%
Production	0	0	222	0.00%
Total Program Quantity Delivered	12	12	259	4.63%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	4819.9	Years Appropriated	14
Expended to Date	1943.4	Percent Years Appropriated	60.87%
Percent Expended	40.32%	Appropriated to Date	2279.4
Total Funding Years	23	Percent Appropriated	47.29%

The above data is current as of 2/28/2014.

Total quantities reflect the Engineering Development Models (EDMs) required by the contract. Total Development quantity include seven Raytheon EDMs. Production quantities include six terminals for President of the United States aircraft.

## Operating and Support Cost

### FAB-T

#### Assumptions and Ground Rules

##### Cost Estimate Reference:

O&S costs are based on the 2009 Independent Cost Estimate conducted by the Office of the Secretary of Defense's Cost Analysis Improvement Group (now the office of Cost Assessment & Program Evaluation).

##### Sustainment Strategy:

FAB-T consists of 216 ground and airborne terminals with an assumed 20-year life per terminal after installation. Interim Contractor Support costs are included in the Production contract and are not included in the O&S Cost. O&S costs include Unit Operations and Sustaining Support. Sustaining Support costs consist of sustaining engineering and software maintenance, which includes correction of deficiencies.

##### Antecedent Information:

FAB-T consists of Command Post Terminals (CPT) and Advanced Wideband Terminals. For CPTs, FAB-T is a replacement terminal for the existing Milstar CPTs at ground (fixed and mobile) sites and E-4 and E-6 airborne platforms. There are no Milstar terminals to be replaced in the B-52, B-2, and RC-135 aircraft. There are 82 Milstar terminals, each with an expected service life of 18 years. Antecedent Costs were not normalized to reflect operational/capability differences between the FAB-T and Milstar terminals.

Unitized O&S Costs BY2002 \$K		
Cost Element	FAB-T Average Annual Cost per Terminal	MILSTAR (Antecedent) Average Annual Cost per Terminal
Unit-Level Manpower	0.000	0.000
Unit Operations	903.972	178.000
Maintenance	0.000	0.000
Sustaining Support	95.565	132.000
Continuing System Improvements	0.000	0.000
Indirect Support	0.000	0.000
Other	0.000	0.000
<b>Total</b>	<b>999.537</b>	<b>310.000</b>

##### Unitized Cost Comments:

FAB-T unitized costs are calculated as BY 2002 Total O&S Cost of \$4,318M/216 terminals/20 years per terminal = \$999.537K annual terminal cost.

	Total O&S Cost \$M			
	Current Development APB Objective/Threshold		Current Estimate	
	FAB-T		FAB-T	MILSTAR (Antecedent)
<b>Base Year</b>	N/A	N/A	4318.1	0.0
<b>Then Year</b>	N/A	N/A	7181.0	0.0

Total O&S Costs Comments:

None

**Disposal Costs:**

The O&S estimate did not include disposal costs.