



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-421



Airborne & Maritime/Fixed Station Joint Tactical Radio System (AMF JTRS)

As of FY 2017 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

Airborne & Maritime/Fixed Station Joint Tactical Radio System (AMF JTRS)

DoD Component

Army

Responsible Office

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References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated October 17, 2008

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated May 1, 2014

Mission and Description

Airborne & Maritime/Fixed Station Joint Tactical Radio System (AMF JTRS) products are software programmable, multi-band, multi-mode, mobile ad hoc networking radios, providing simultaneous voice and data communications for Army aviation platforms. The radios will operate in networks supporting the Common Operational Picture, situational awareness, and interoperability of Mission Command systems throughout the battlefield. AMF must ensure the soldier's ability to communicate both horizontally and vertically via voice and data within all mission areas and Combat Operational Environments. AMF helps close capability gaps by extending data networking to company echelons and below, enabling network services to the platform, and connecting Army aviation platforms to Army ground and Joint air network domains.

AMF will procure the Small Airborne Networking Radio (SANR) as a Non-Developmental Item. The SANR is a two-channel, software-defined, National Security Agency Type 1 certified networking radio providing seamless real-time information for operation in mobile and dynamic combat environments that will meet tactical communications requirements as validated by the Army aviation community. SANR will provide increased data throughput to Army aviation platforms via the Soldier Radio Waveform (SRW) and Wideband Networking Waveform (WNW) capabilities, and maintain Single Channel Ground and Airborne Radio System (SINCGARS) capability. SANR will replace the current SINCGARS radios on Army aviation platforms. SANR is planned for implementation on the following platforms: Apache (AH-64E), Black Hawk (UH-60V, UH-60M, HH-60M, and MH-60M), Chinook (CH-47F and MH-47G), Gray Eagle Unmanned Aircraft System (MQ-1C), and Little Bird (MH-6) aircraft. SANR will enhance and further enable the ability of the maneuver commander to integrate and synchronize aviation forces with land based operational forces. SANR, employed on Army aviation platforms, will enable aviation combat elements (Combat Aviation Brigades, Theater Aviation Brigades, and Special Operations Aviation Regiment) to better utilize the inherent versatility of airborne communications as a complement to the unique capabilities of the other combat arms. SANR will give commanders enhanced situational awareness and mission command in a package that provides a more responsive means of directing aircraft to match changing maneuver forces situations and missions.

The fielding of SANR will follow the deployment of ground network capabilities. The SANR radio will provide SRW, SINCGARS and the WNW capability to all Army tactical aircraft (reconnaissance, attack, cargo, and utility).

Executive Summary

General:

The objective of the AMF JTRS program is to purchase Non-Developmental Item production-ready radios capable of operating network and legacy waveforms for Army aviation platforms. The acquisition approach will leverage prior industry and Government investment in software-defined radios to meet stated user requirements.

The Small Airborne Networking Radio (SANR) will be a two-channel radio that will run the Single Channel Ground and Airborne Radio System waveform, Soldier Radio Waveform, and Wideband Networking Waveform to interoperate with ground forces and maintain connectivity for combat operations. The SANR subprogram is designated an ACAT ID.

SANR:

As reported in the September 2015 Exception SAR, the addition of sunk RDT&E costs to the SANR subprogram, as a result of the August 2015 ADM that directed close out of the Small Airborne Link 16 Terminal subprogram, triggered a threshold breach of the APB SANR RDT&E objective. A Program Deviation Report was submitted in January 2016 as formal notification that a threshold breach to the APB occurred.

SANR acquisition activities resumed in FY 2016. These activities include market research, development and release of the request for proposal, along with preparation for, and start of, source selection activities in support of contract award.

An update to the AMF JTRS APB is under review. The APB will be finalized upon approval of the SANR CPD.

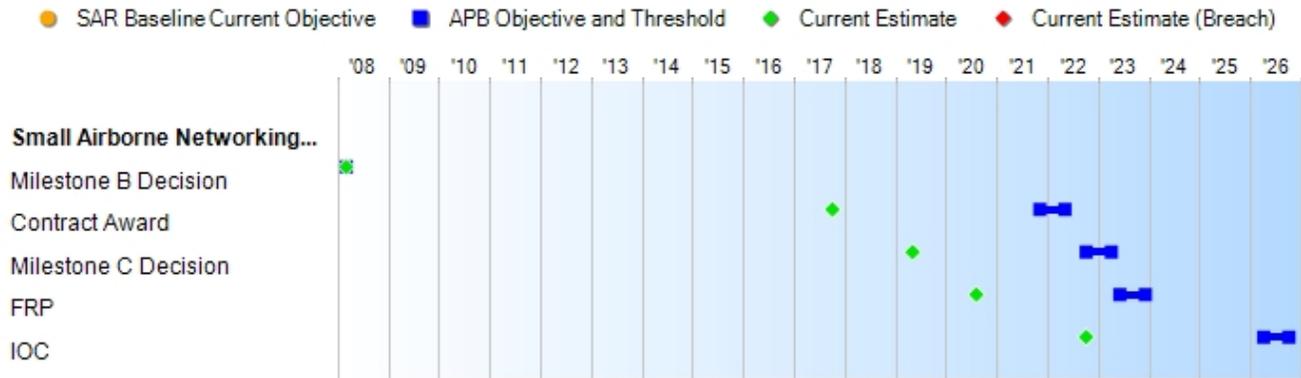
There are no significant software-related issues with this program at this time.

Threshold Breaches

APB Breaches		Explanation of Breach
Schedule	<input type="checkbox"/>	The RDT&E APB breach was previously reported in the September 2015 SAR. A Program Deviation Report was submitted in January 2016.
Performance	<input type="checkbox"/>	
Cost	<input checked="" type="checkbox"/>	
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	<input type="checkbox"/>	
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
Milestone B Decision	Dec 2007	Mar 2008	Mar 2008	Mar 2008
Contract Award	Feb 2008	Nov 2021	May 2022	Oct 2017
Milestone C Decision	Nov 2011	Oct 2022	Apr 2023	May 2019
FRP	Jul 2014	Jun 2023	Dec 2023	Aug 2020
IOC	Aug 2014	Apr 2026	Oct 2026	Oct 2022

Change Explanations

None

Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Have an internal growth capability				
Open system architecture IAW DISR; Modular, Scaleable, Flexible Form Factors	Open system architecture IAW DISR; Modular, Scaleable, Flexible Form Factors	Open system architecture IAW DISR; Modular, Scaleable, Flexible Form Factors	TBD	N/A
JTR set modes / capabilities configuration and reconfiguration via software				
By operators in their operational environment	By operators in their operational environment	By operators in their operational environment	TBD	N/A
Multi-channel routing and retransmission				
Objective waveforms that are same in mode (voice, data, or video) and use like data rates and operate at permissible security classification levels	Objective waveforms that are same in mode (voice, data, or video) and use like data rates and operate at permissible security classification levels	KPP waveforms that are same in mode (voice, data, or video) and use like data rates and operate at permissible security classification levels	TBD	N/A
Support waveforms.				
Maritime / Fixed: Same as Threshold. Small Airborne: Threshold plus UHF SATCOM, SINCGARS, Havequick II, EPLRS	Maritime / Fixed: Same as Threshold. Small Airborne: Threshold plus UHF SATCOM, SINCGARS, Havequick II, EPLRS	Maritime / Fixed: UHF SATCOM, MUOS. Small Airborne: MUOS, SRW, WNW, Link 16	TBD	N/A
To operate on designated number of channels at the same time.				
Small Airborne: 10 channels. Maritime / Fixed (full duplex): 10 channels	Small Airborne: 10 channels. Maritime / Fixed (full duplex): 10 channels	Small Airborne: 2 channels. Maritime / Fixed (full duplex): 4 channels	TBD	N/A
Scaleable networking services				
All domains	All domains	All domains	TBD	N/A
Network extension / coverage				
Across organizational boundaries	Across organizational boundaries	Across organizational boundaries	TBD	N/A
JTR system network interoperability				
Interoperate with Allied / Coalition and commercial networks; satisfy 100% of top-level IER	Interoperate with Allied / Coalition and commercial networks; satisfy 100% of top-level IER	Interoperate with Service and Joint networks; satisfy 100% of critical top-level IERs	TBD	N/A
Sustainment - Operational Availability (Ao)				
0.99 (channel)	0.99 (channel)	0.96 (channel)	TBD	N/A

Requirements Reference

JTRS ORD Increment 1 Version 3.2 dated April 9, 2003 / v.3.2.1 errata dated August 28, 2006 and as modified by JROC Memorandum 063-11 dated April 29, 2011

Change Explanations

None

Notes

The current APB represents the Milestone B Acquisition Strategy. A revised CPD is currently in staffing with the Army Capabilities Integration Center of the Training & Doctrine Command. The program office anticipates a subset of the approved KPPs will apply to the approved CPD.

Acronyms and Abbreviations

DISR - Defense Information Standards Registry
EPLRS - Enhanced Position Location Reporting System
IAW - In Accordance With
IER - Information Exchange Requirement
JTR - Joint Tactical Radio
MUOS - Mobile User Objective System
SATCOM - Satellite Communications
SINGARS - Single Channel Ground and Airborne Radio System
SRW - Soldier Radio Waveform
UHF - Ultra High Frequency
WNW - Wideband Networking Waveform

Track to Budget

RDT&E			
Appn	BA	PE	
Navy	1319	05	0604280N
	Project	Name	
	3073		AMF JTRS (Sunk)
Army	2040	05	0604280A
	Project	Name	
	162		Joint Tactical Radio / Network Enterprise Domain (Sunk)
Army	2040	05	0605380A
	Project	Name	
	EA9		Airborne Maritime Fixed Small Airborne (AMF-SA) (Sunk)
	EG6		Small Airborne Networking Radio (SANR)
Air Force	3600	05	0604280F
	Project	Name	
	655068		Joint Tactical Radio System (JTRS) (Sunk)

Procurement			
Appn	BA	PE	
Army	2035	02	0204380A
	Line Item	Name	
	B90902		AMF JTRS (Sunk)
	B90904		AMF JTRS

Notes
 B90900 is the parent Line Item number to B90902 and B90904.

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2008 \$M			BY 2008 \$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	1681.6	1256.2	1381.8	1463.3 ¹	1764.2	1279.1	1502.8
Procurement	5459.7	1387.1	1525.8	1443.8	6569.8	2092.1	1990.6
Flyaway	--	--	--	1201.0	--	--	1655.2
Recurring	--	--	--	1201.0	--	--	1655.2
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	242.8	--	--	335.4
Other Support	--	--	--	129.6	--	--	179.5
Initial Spares	--	--	--	113.2	--	--	155.9
MILCON	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
Total	7141.3	2643.3	N/A	2907.1	8334.0	3371.2	3493.4

¹ APB Breach

Current APB Cost Estimate Reference

Program Office Estimate aligned with FY 2015 President's Budget dated March 04, 2014

Confidence Level

Confidence Level of cost estimate for current APB: 50%

Original APB cost estimate was established by OSD decision at 50% confidence level.

Cost Notes

Costs do not reflect funding for platform integration and installation. Army requirements by platform and year, including integration and installation of Small Airborne Networking Radios (SANR) on host platforms, are documented separately.

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	204	192	162
Procurement	24920	14060	14060
Total	25124	14252	14222

Quantity Notes

The fielding plan and procurement funding are based on current Army requirements of 7,030 SANR (14,060 channels).

RDT&E quantity of 81 units (162 channels) reflect planned deliveries to the Army for integration onto platforms. This quantity does not include 19 units (38 channels) required for testing.

AMF PAUC and APUC units of measure are per channel. Quantities are channels with the assumption of two channels per radio.

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2017 President's Budget / December 2015 SAR (TY\$ M)									
Appropriation	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
RDT&E	1419.8	6.2	5.0	35.9	6.8	10.8	9.4	8.9	1502.8
Procurement	0.0	0.0	0.0	0.0	41.0	64.2	82.9	1802.5	1990.6
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 2017 Total	1419.8	6.2	5.0	35.9	47.8	75.0	92.3	1811.4	3493.4
PB 2016 Total	1293.6	6.2	10.4	35.4	48.5	86.9	163.2	1735.3	3379.5
Delta	126.2	0.0	-5.4	0.5	-0.7	-11.9	-70.9	76.1	113.9

Funding Notes

Starting in FY 2014, all AMF RDT&E funding resides in Army PE 0605380A.

The Prior delta of +\$126.2M between PB 2016 Total and the PB 2017 Total is comprised of +\$129.9M and -\$3.7M where \$129.9M is due to the movement of sunk cost associated with AMF acquisition program from SALT to SANR. This amount is offset by a prior year adjustment -\$3.7M in the Navy account.

Quantity Summary										
FY 2017 President's Budget / December 2015 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Development	162	0	0	0	0	0	0	0	0	162
Production	0	0	0	0	0	296	340	524	12900	14060
PB 2017 Total	162	0	0	0	0	296	340	524	12900	14222
PB 2016 Total	162	0	0	0	0	296	340	1188	12236	14222
Delta	0	0	0	0	0	0	0	-664	664	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding								
1319 RDT&E Research, Development, Test, and Evaluation, Navy								
Fiscal Year	Quantity	TY \$M						Total Program
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support		
2003	--	--	--	--	--	--	--	8.4
2004	--	--	--	--	--	--	--	43.0
2005	--	--	--	--	--	--	--	54.3
2006	--	--	--	--	--	--	--	55.9
2007	--	--	--	--	--	--	--	53.5
2008	--	--	--	--	--	--	--	99.3
2009	--	--	--	--	--	--	--	212.3
2010	--	--	--	--	--	--	--	306.9
2011	--	--	--	--	--	--	--	303.5
2012	--	--	--	--	--	--	--	119.5
2013	--	--	--	--	--	--	--	9.1
Subtotal	--	--	--	--	--	--	--	1265.7

Annual Funding 1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2008 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2003	--	--	--	--	--	--	9.4
2004	--	--	--	--	--	--	47.0
2005	--	--	--	--	--	--	57.8
2006	--	--	--	--	--	--	57.7
2007	--	--	--	--	--	--	53.9
2008	--	--	--	--	--	--	98.3
2009	--	--	--	--	--	--	207.4
2010	--	--	--	--	--	--	295.4
2011	--	--	--	--	--	--	285.3
2012	--	--	--	--	--	--	110.5
2013	--	--	--	--	--	--	8.3
Subtotal	--	--	--	--	--	--	1231.0

Annual Funding							
2040 RDT&E Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2016	--	--	--	--	--	--	6.2
2017	--	--	--	--	--	--	5.0
2018	--	--	--	--	--	--	35.9
2019	--	--	--	--	--	--	6.8
2020	--	--	--	--	--	--	10.8
2021	--	--	--	--	--	--	9.4
2022	--	--	--	--	--	--	8.9
Subtotal	162	--	--	--	--	--	83.0

Annual Funding							
2040 RDT&E Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	BY 2008 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2016	--	--	--	--	--	--	5.4
2017	--	--	--	--	--	--	4.3
2018	--	--	--	--	--	--	30.1
2019	--	--	--	--	--	--	5.6
2020	--	--	--	--	--	--	8.7
2021	--	--	--	--	--	--	7.4
2022	--	--	--	--	--	--	6.9
Subtotal	162	--	--	--	--	--	68.4

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
2003	--	--	--	--	--	--	12.8
2004	--	--	--	--	--	--	28.1
2005	--	--	--	--	--	--	36.1
2006	--	--	--	--	--	--	77.1
Subtotal	--	--	--	--	--	--	154.1

Annual Funding 3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2008 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2003	--	--	--	--	--	--	14.4
2004	--	--	--	--	--	--	30.8
2005	--	--	--	--	--	--	38.6
2006	--	--	--	--	--	--	80.1
Subtotal	--	--	--	--	--	--	163.9

Annual Funding 2035 Procurement Other Procurement, Army								
Fiscal Year	Quantity	TY \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2019	296	34.0	--	--	34.0	7.0	41.0	
2020	340	39.1	--	--	39.1	25.1	64.2	
2021	524	60.3	--	--	60.3	22.6	82.9	
2022	2264	249.0	--	--	249.0	47.3	296.3	
2023	1844	201.6	--	--	201.6	29.7	231.3	
2024	1800	201.0	--	--	201.0	30.1	231.1	
2025	1444	166.2	--	--	166.2	26.8	193.0	
2026	1368	161.1	--	--	161.1	25.6	186.7	
2027	1304	157.1	--	--	157.1	25.4	182.5	
2028	920	115.9	--	--	115.9	21.4	137.3	
2029	832	106.9	--	--	106.9	19.8	126.7	
2030	692	92.3	--	--	92.3	18.5	110.8	
2031	296	44.9	--	--	44.9	13.9	58.8	
2032	136	25.8	--	--	25.8	11.1	36.9	
2033	--	--	--	--	--	11.1	11.1	
Subtotal	14060	1655.2	--	--	1655.2	335.4	1990.6	

Annual Funding 2035 Procurement Other Procurement, Army							
Fiscal Year	Quantity	BY 2008 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2019	296	27.8	--	--	27.8	5.7	33.5
2020	340	31.3	--	--	31.3	20.1	51.4
2021	524	47.4	--	--	47.4	17.7	65.1
2022	2264	191.8	--	--	191.8	36.4	228.2
2023	1844	152.2	--	--	152.2	22.4	174.6
2024	1800	148.8	--	--	148.8	22.3	171.1
2025	1444	120.6	--	--	120.6	19.5	140.1
2026	1368	114.6	--	--	114.6	18.2	132.8
2027	1304	109.6	--	--	109.6	17.7	127.3
2028	920	79.3	--	--	79.3	14.6	93.9
2029	832	71.7	--	--	71.7	13.2	84.9
2030	692	60.7	--	--	60.7	12.1	72.8
2031	296	28.9	--	--	28.9	9.0	37.9
2032	136	16.3	--	--	16.3	7.0	23.3
2033	--	--	--	--	--	6.9	6.9
Subtotal	14060	1201.0	--	--	1201.0	242.8	1443.8

Low Rate Initial Production

An LRIP request is anticipated at Milestone C.

Foreign Military Sales

None

Nuclear Costs

None

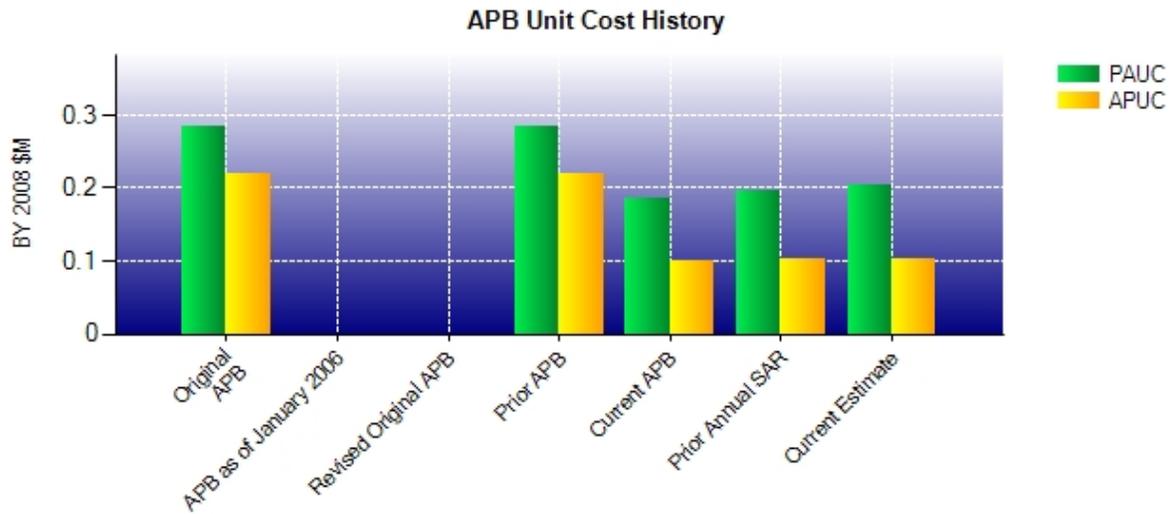
Unit Cost

Unit Cost Report

Item	BY 2008 \$M	BY 2008 \$M	% Change
	Current UCR Baseline (May 2014 APB)	Current Estimate (Dec 2015 SAR)	
Program Acquisition Unit Cost			
Cost	2643.3	2907.1	
Quantity	14252	14222	
Unit Cost	0.185	0.204	+10.27
Average Procurement Unit Cost			
Cost	1387.1	1443.8	
Quantity	14060	14060	
Unit Cost	0.099	0.103	+4.04

Item	BY 2008 \$M	BY 2008 \$M	% Change
	Original UCR Baseline (Oct 2008 APB)	Current Estimate (Dec 2015 SAR)	
Program Acquisition Unit Cost			
Cost	7141.3	2907.1	
Quantity	25124	14222	
Unit Cost	0.284	0.204	-28.17
Average Procurement Unit Cost			
Cost	5459.7	1443.8	
Quantity	24920	14060	
Unit Cost	0.219	0.103	-52.97

Unit Cost History



Item	Date	BY 2008 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Oct 2008	0.284	0.219	0.332	0.264
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	Oct 2008	0.284	0.219	0.332	0.264
Current APB	May 2014	0.185	0.099	0.237	0.149
Prior Annual SAR	Dec 2014	0.196	0.103	0.238	0.142
Current Estimate	Dec 2015	0.204	0.103	0.246	0.142

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	
0.332	-0.005	0.066	0.013	0.001	-0.185	0.000	0.024	-0.086	0.246

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.264	-0.004	0.016	0.023	0.000	-0.182	0.000	0.025	-0.122	0.142

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	Dec 2007	N/A	Mar 2008
Milestone C	N/A	Nov 2011	N/A	May 2019
IOC	N/A	Aug 2014	N/A	Oct 2022
Total Cost (TY \$M)	N/A	8334.0	N/A	3493.4
Total Quantity	N/A	25124	N/A	14222
PAUC	N/A	0.332	N/A	0.246

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	1764.2	6569.8	--	8334.0
Previous Changes				
Economic	-23.5	-36.4	--	-59.9
Quantity	-29.9	-2646.8	--	-2676.7
Schedule	-139.9	+326.1	--	+186.2
Engineering	+12.3	--	--	+12.3
Estimating	-80.4	-2549.8	--	-2630.2
Other	--	--	--	--
Support	--	+340.0	--	+340.0
Subtotal	-261.4	-4566.9	--	-4828.3
Current Changes				
Economic	-1.0	-15.8	--	-16.8
Quantity	--	--	--	--
Schedule	--	+1.4	--	+1.4
Engineering	--	--	--	--
Estimating	+1.0	-5.4	--	-4.4
Other	--	--	--	--
Support	--	+7.5	--	+7.5
Subtotal	--	-12.3	--	-12.3
Total Changes	-261.4	-4579.2	--	-4840.6
CE - Cost Variance	1502.8	1990.6	--	3493.4
CE - Cost & Funding	1502.8	1990.6	--	3493.4

Summary BY 2008 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	1681.6	5459.7	--	7141.3
Previous Changes				
Economic	--	--	--	--
Quantity	-27.4	-2250.6	--	-2278.0
Schedule	-140.4	+23.5	--	-116.9
Engineering	+11.0	--	--	+11.0
Estimating	-61.4	-2027.3	--	-2088.7
Other	--	--	--	--
Support	--	+236.2	--	+236.2
Subtotal	-218.2	-4018.2	--	-4236.4
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-0.1	-4.3	--	-4.4
Other	--	--	--	--
Support	--	+6.6	--	+6.6
Subtotal	-0.1	+2.3	--	+2.2
Total Changes	-218.3	-4015.9	--	-4234.2
CE - Cost Variance	1463.3	1443.8	--	2907.1
CE - Cost & Funding	1463.3	1443.8	--	2907.1

Previous Estimate: September 2015

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-1.0
Adjustment to FY 2022 to account for previously funded requirements within the FYDP. (Estimating)	+6.9	+8.9
Revised estimate to align with adjustments in FY 2017 PB. (Estimating)	-7.3	-8.2
Adjustment for current and prior escalation. (Estimating)	+0.3	+0.3
RDT&E Subtotal	-0.1	0.0

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-15.8
Additional schedule variance due to procurement buy profile shifting quantity from FY 2021 to FY2022 to align with FY 2017 PB. (Schedule)	0.0	+1.4
Revised estimate to align with FY 2017 PB which resulted in program fielding schedule adjustment. (Estimating)	-4.3	-5.4
Increase in Other Support as a result of fact-of-life changes related to manpower and overhead. (Support)	+5.0	+5.4
Increase in Initial Spares due to adjustments in buy profile and fielding schedule. (Support)	+1.6	+2.1
Procurement Subtotal	+2.3	-12.3

Contracts

There are no Contracts data to display.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	162	0.00%
Production	0	0	14060	0.00%
Total Program Quantity Delivered	0	0	14222	0.00%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	3493.4	Years Appropriated	14
Expended to Date	1422.1	Percent Years Appropriated	45.16%
Percent Expended	40.71%	Appropriated to Date	1426.0
Total Funding Years	31	Percent Appropriated	40.82%

The above data is current as of February 09, 2016.

The decrease of \$0.3M from \$1,422.4M to \$1,422.1M since the September 2015 SAR is associated with the Navy Account (RDT&E Account 1319); the adjustment is for returned funds no longer needed by the activity.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	December 30, 2015
Source of Estimate:	POE
Quantity to Sustain:	14060
Unit of Measure:	Channels
Service Life per Unit:	20.00 Years
Fiscal Years in Service:	FY 2020 - FY 2052

O&S costs are based on the procurement of 7,030 two-channel radios (7,030 x 2 = 14,060), each with a 20-year estimated service life. RDT&E quantities are not sustained.

Sustainment Strategy

The project is currently in the pre-solicitation stage. The program office will conduct an in-depth assessment of risks to logistics and training as information on the product becomes available. The program office will execute a step approach to contracting for a Performance Based Logistics (PBL) solution to be initiated after the FRP decision. Initial procurement of test/integration units is planned to come with a one-year warranty and Interim Contractor Logistics Support at contract award. The program office plans to conduct a business case analysis using actual cost, usage, and turn-around times before FRP. This approach will facilitate transition to full PBL implementation with greater understanding of requirements, more effective metrics, and greater cost fidelity. Depot Source of Repair Analysis will also be conducted prior to Milestone C. The training concept is being jointly developed by the PEO for Command, Control, and Communications - Tactical, PM Tactical Radios, PM AMF, the Army Training and Doctrine Command Training Directorate and the U.S. Army Aviation Center of Excellence, and will include a System Training Plan to accompany the validated requirements document.

Antecedent Information

No Antecedent. AMF radios are software programmable, multi-band, multi-mode, mobile ad hoc networking radios, providing simultaneous voice, data, and video communications, and which may be employed in new and innovative ways as compared to any currently fielded legacy radio.

Cost Element	Annual O&S Costs BY2008 \$K	
	Small Airborne Networking Radio (SANR) Average Annual Cost Per Channels	No Antecedent (Antecedent)
Unit-Level Manpower	0.305	--
Unit Operations	0.000	--
Maintenance	3.561	--
Sustaining Support	1.773	--
Continuing System Improvements	0.209	--
Indirect Support	0.000	--
Other	--	--
Total	5.848	--

Item	Total O&S Cost \$M			
	Small Airborne Networking Radio (SANR)			No Antecedent (Antecedent)
	Current Development APB Objective/Threshold		Current Estimate	
Base Year	2887.4	3176.1	1644.5	0.0
Then Year	5311.8	N/A	2837.3	N/A

Equation to Translate Annual Cost to Total Cost

14,060 channels * 20 years * \$5.848K = \$1,644,457.60K = \$1,644.5M (BY 2008 \$M)

O&S Cost Variance		
Category	BY 2008 \$M	Change Explanations
Prior SAR Total O&S Estimates - Sep 2015 SAR	1651.2	
Programmatic/Planning Factors	30.1	Revised estimate due to shift in buy profile to align with FY 2017 PB.
Cost Estimating Methodology	-36.8	Removal of unit operations costs. Army requirements for fuel, oil and lubricants for SANR will be incurred by the host platform.
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	-6.7	
Current Estimate	1644.5	

Disposal Estimate Details

Date of Estimate: December 30, 2015
Source of Estimate: POE
Disposal/Demilitarization Total Cost (BY 2008 \$M): Total costs for disposal of all Channels are 1.6