Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-385

JTRS HMS

As of December 31, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

Joint Tactical Radio System Handheld, Manpack, and Small Form Fit Radios (JTRS HMS)

DoD Component

DoD

Joint Participants

US Army; US Navy; US Marine Corps; US Air Force

Army is the lead acquisition component per SECDEF Memo dated August 31, 2009.

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Responsible Office

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References

SAR Baseline (Development Estimate)

Army Acquisition Executive (AAE) Approved Acquisition Program Baseline (APB) dated May 19, 2004

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated October 20, 2011

Mission and Description

The Joint Tactical Radio System (JTRS) Handheld, Manpack and Small Form Fit (HMS) program is an Acquisition Category 1D program developing the materiel solution to provide Software Communications Architecture (SCA) compliant radios to Warfighters. The JTRS HMS program meets the radio requirements for Soldiers and small platforms (such as missiles and ground sensors). JTRS HMS Increment 1 is structured as a single program of record with two phases. Phase 1 developed Small Form Fit (SFF) SFF-A (1 and 2 Channel), SFF-D and AN/PRC-154 Rifleman Radio for use in a sensitive but unclassified environment. Phase 2 will develop the 2 Channel Manpack (MP) and SFF-B for use in a classified environment. JTRS HMS radios are designed to host SCA compliant software waveforms and applications. Phase 1 radios will host the Soldier Radio Waveform (SRW). Phase 2 will host the SRW, High Frequency (HF) Single Side Band (SSB) with Automatic Link Establishment (ALE), Ultra High Frequency (UHF) Satellite Communications (SATCOM) Military, Single Channel Ground to Air Radio System (SINCGARS), Mobile User Objective System (MUOS), Very High Frequency/Ultra High Frequency Line of Sight with Air Traffic Control (VHF/UHF LoS with ATC), VHF FM Military Tactical, UHF AM/FM Military Tactical, HAVE QUICK II, and Bowman VHF waveforms. JTRS HMS will provide new networking capability to the individual Soldiers, Marines, Sailors and Airmen and also continue to provide legacy radio interoperability. JTRS HMS will support the Net Centric Transport goal of traffic convergence on a single Internet Protocol (IP) internetwork by running JTRS networking services with the SRW. JTRS HMS provides the Warfighter with a software reprogrammable, networkable multi-mode system (of systems) capable of simultaneous voice, data and video communications. The program encompasses specific requirements to support the US Army, US Navy, US Marine Corps, US Air Force and the Special Operations Command (SOCOM) communication needs.

Executive Summary

The JTRS HMS Program achieved a successful Milestone (MS) B decision on April 26, 2004, to begin the development of the JTRS HMS radios. Following full and open competition, a single Cost-Plus-Award Fee (CPAF) contract was awarded on July 16, 2004. The development contract is structured to address Increment 1 as a single program of record with two phases.

On May 18, 2011, the JTRS HMS program achieved a successful Milestone C, approving entry in the Production and Deployment phase and authorizing the Army to contract for an initial Low Rate Initial Production (LRIP) procurement of 6,250 Rifleman Radios (AN/PRC-154) and 100 Manpack radios (AN/PRC-155). The Milestone C Acquisition Decision Memorandum (ADM) was signed on June 17, 2011, and directed the Services to fund to the Independent Cost Estimate (ICE) position. The Defense Acquisition Executive (DAE) signed an updated Acquisition Program Baseline (APB) on October 20, 2011. The new APB aligns the program schedule, cost, and performance parameters to meet the Services current requirements in accordance with the Milestone C decision.

The Increment 1, Phase 1, demonstration phase of the Rifleman Radio (RR) development is in the final stages with the completion of Contractor and Government Developmental Testing, a successful Verification of Correction of Deficiencies (VCD), Security Verification Test (SVT), and the Initial Operational Test and Evaluation (IOTE) held in November 2011. Low Rate Initial Production (LRIP) radios are currently being delivered and the Program Manager (PM) is preparing for a Full Rate Production Decision Review in May 2012.

JTRS HMS participated in the Network Integration Evaluation (NIE) staged at White Sands Missile Range in New Mexico in November 2011. The exercise was designed to show the increased effectiveness of brigades equipped with high-throughput wireless networking to the tactical edge. JTRS HMS Rifleman Radios were used in standalone mode and also integrated into the Land Warrior Systems to provide communications to the tactical edge. JTRS HMS Manpack radios (AN/PRC-155) were used in dismounted mode and also integrated into command posts. Range was extended through the integration of an aerial tier using JTRS HMS Rifleman Radios embedded into the aerial assets, demonstrating the usability and functionality of key equipment in rugged desert and mountain environments. Rifleman and Manpack radios successfully provided voice and data connectivity between Soldiers and Leaders, exceeding point to point range requirements and achieving upwards of 30 kilometers when using the aerial relays. The HMS Rifleman and Manpack performed exceedingly well in both voice and data communications between individual Soldiers.

The Increment 1, Phase 2, demonstration phase of the Manpack continues incremental development of the Manpack capabilities in order to allow for fielding of initial capabilities sooner. The Manpack Radio Customer Test and Network Excursion, Contractor Developmental Test (CDT), and Government Developmental Test (GDT) were completed in support of the July 2011 Manpack Limited User Test (LUT) as part of the Army Network Integration Exercise (NIE). The PM received the official test results from Army Test and Evaluation Command (ATEC) in November 2011. The Security Verification Test (SVT) is complete in preparation for the Multi-service Operational Test and Evaluation (MOTE) in May 2012. The program is preparing for an In-Process Review (IPR) decision on April 30, 2012, to allow for the purchase of additional Manpack LRIP radios.

The Mobile User Objective System (MUOS) High Power Amplifier (HPA) Operating Environment (OE) Critical Design Review (CDR) for the Manpack radio hardware was held successfully in September 2011, and the first set of 5 Engineering Development Models (EDM) units were completed in December 2011. HMS ported the initial MUOS waveform release (Waveform Integration Point (WIP) 2.4) in December 2011 in support of the MUOS waveform demonstration that was completed on December 20, 2011. The HMS program is pursuing a course of early over-the-air testing to reduce risk for the MUOS End-to-End Demonstration schedule for first quarter of FY 2014 and MUOS Follow-on Operational Test and Evaluation (FOTE) in second quarter FY 2014. Current HMS MUOS efforts are in support of MUOS Waveform and HMS Operating Environment integration in preparation for the MUOS waveform porting with the MUOS HPA.

As of December 2011, the Government has received 143 LRIP Rifleman Radios. Initial deliveries were fielded to

the 75th Ranger Regiment in support of their mission. The contractor has completed production of the 100 Manpack LRIP radios to support Manpack GDT conclusion and the MOTE scheduled for May 2012. Manpack EDM deliveries will continue to support development for porting of incremental capabilities on the Manpack radio.

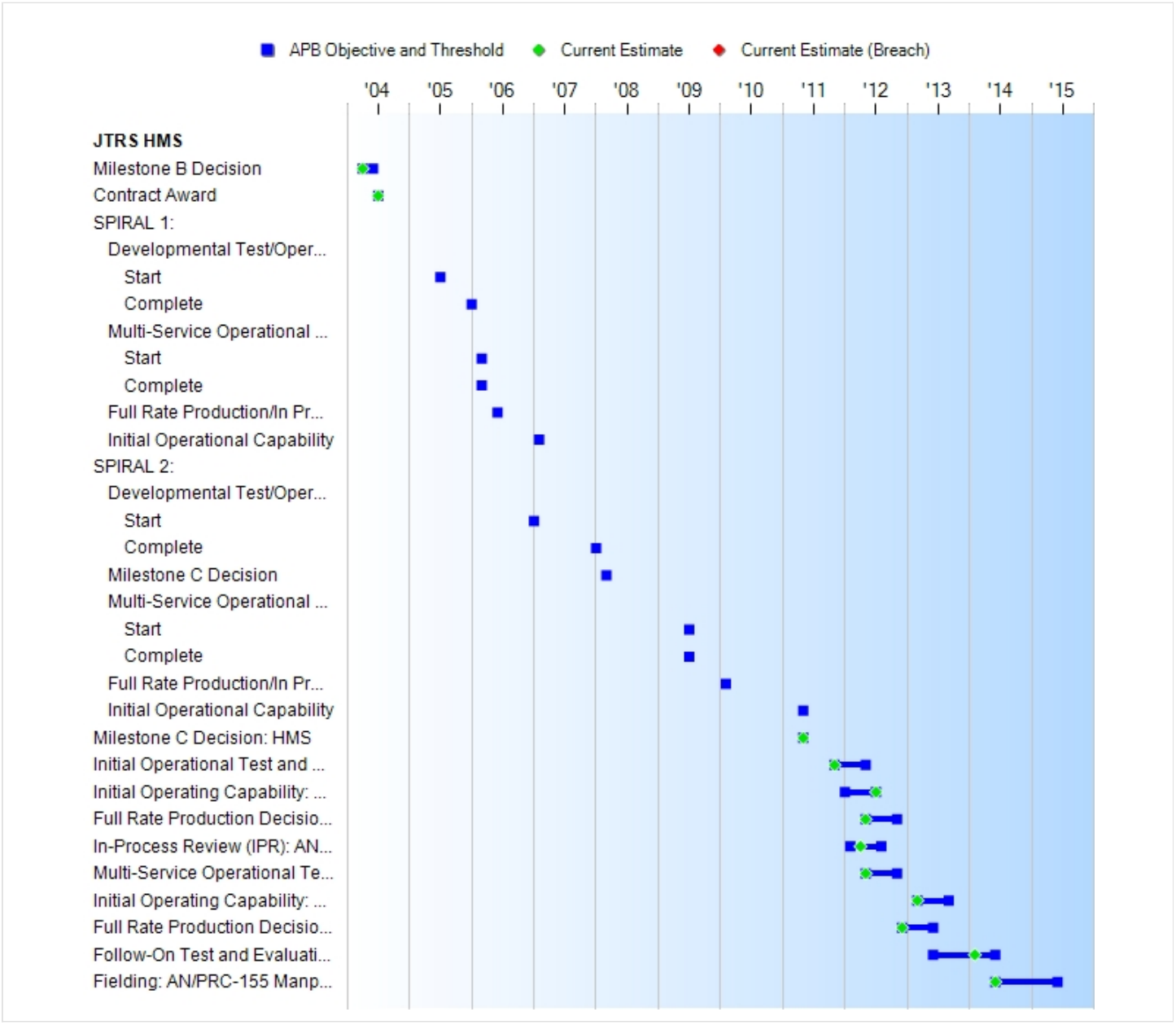
The program did experience software issues that caused schedule slips and cost growth in development. The program has overcome the major software challenges and is producing systems that are demonstrating stable operations in testing and operational environments. The remaining software challenges involve porting of additional waveforms and are well understood. There are no significant software-related issues with the program at this time.

Threshold Breaches

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

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

Schedule


APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'04
'05
'06
'07
'08
'09
'10
'11
'12
'13
'14
'15
JTRS HMS
Milestone B Decision
Contract Award
SPIRAL 1:
Developmental Test/Oper...
Start
Complete
Multi-Service Operational ...
Start
Complete
Full Rate Production/In Pr...
Initial Operational Capability
SPIRAL 2:
Developmental Test/Oper...
Start
Complete
Milestone C Decision
Multi-Service Operational ...
Start
Complete
Full Rate Production/In Pr...
Initial Operational Capability
Milestone C Decision: HMS
Initial Operational Test and ...
Initial Operating Capability: ...
Full Rate Production Decisio...
In-Process Review (IPR): AN...
Multi-Service Operational Te...
Initial Operating Capability: ...
Full Rate Production Decisio...
Follow-On Test and Evaluati...
Fielding: AN/PRC-155 Manp...

Milestones	SAR Baseline Dev Est	Current APB Production Objective/Threshold		Current Estimate	
Milestone B Decision	APR 2004	APR 2004	JUN 2004	APR 2004	
Contract Award	JUL 2004	JUL 2004	JUL 2004	JUL 2004	
SPIRAL 1:					
Developmental Test/Operational Test					
Start	JUL 2005	N/A	N/A	N/A	
Complete	JAN 2006	N/A	N/A	N/A	
Multi-Service Operational Test and Evaluation					
Start	MAR 2006	N/A	N/A	N/A	
Complete	MAR 2006	N/A	N/A	N/A	
Full Rate Production/In Process Review (Manpack only)	JUN 2006	N/A	N/A	N/A	
Initial Operational Capability	FEB 2007	N/A	N/A	N/A	
SPIRAL 2:					
Developmental Test/Operational Test					
Start	JAN 2007	N/A	N/A	N/A	
Complete	JAN 2008	N/A	N/A	N/A	
Milestone C Decision	MAR 2008	N/A	N/A	N/A	
Multi-Service Operational Test and Evaluation					
Start	JUL 2009	N/A	N/A	N/A	
Complete	JUL 2009	N/A	N/A	N/A	
Full Rate Production/In Process Review (All Form Fit)	FEB 2010	N/A	N/A	N/A	
Initial Operational Capability	MAY 2011	N/A	N/A	N/A	
Milestone C Decision: HMS	N/A	MAY 2011	MAY 2011	MAY 2011	(Ch-1)
Initial Operational Test and Evaluation: AN/PRC-154 Rifleman Radio	N/A	NOV 2011	MAY 2012	NOV 2011	(Ch-2)
Initial Operating Capability: AN/PRC-154 Rifleman Radio	N/A	JAN 2012	JUL 2012	JUL 2012	(Ch-3)
Full Rate Production Decision Review: AN/PRC-154 Rifleman Radio	N/A	MAY 2012	NOV 2012	MAY 2012	(Ch-4)
In-Process Review (IPR): AN/PRC-155 Manpack	N/A	FEB 2012	AUG 2012	APR 2012	(Ch-5)
Multi-Service Operational Test and Evaluation: AN/PRC-155 Manpack	N/A	MAY 2012	NOV 2012	MAY 2012	(Ch-6)
Initial Operating Capability: AN/PRC-155 Manpack	N/A	MAR 2013	SEP 2013	MAR 2013	(Ch-7)
Full Rate Production Decision Review: AN/PRC-155 Manpack	N/A	DEC 2012	JUN 2013	DEC 2012	(Ch-8)

cont.					
Milestones	**SAR Baseline Dev Est**	**Current APB Production Objective/Threshold**		**Current Estimate**	
Follow-On Test and Evaluation: AN/PRC-155 Manpack with MUOS	N/A	JUN 2013	JUN 2014	FEB 2014	(Ch-9)
Fielding: AN/PRC-155 Manpack with MUOS	N/A	JUN 2014	JUN 2015	JUN 2014	(Ch-10)

Acronyms And Abbreviations

FOTE - Follow-on Operational Test and Evaluation
FRP - Full Rate Production
IOC - Initial Operational Capability
IOTE - Initial Operational Test and Evaluation
IPR - In Process Review
MOTE - Multi-service Operational Test and Evaluation
MP - Manpack
MS - Milestone
MUOS - Mobile User Objective System
OTE - Operational Test and Evaluation
RR - Rifleman Radio
SFF - Small Form Fit

Change Explanations

(Ch-1) From: Milestone C Decision: Phase I SFF-A in December 2009 To: Milestone C Decision: HMS in May 2011 due to the program restructure approved in the October 20, 2011 Defense Acquisition Executive (DAE) signed Acquisition Program Baseline (APB).

(Ch-2) From: IOTE: Phase 1 SFF-A in May 2012 To: IOTE: AN/PRC-154 Rifleman Radio in November 2011 due to the availability of initial release of incremental capabilities in the restructured program.

(Ch-3) The IOC: AN/PRC-154 RR in July 2012 is a new milestone added to reflect an earlier fielding date of initial release of incremental capabilities in the restructured program.

(Ch-4) From: FRP IPR: Phase 1 SFF-A in November 2012 To: FRP Decision Review: AN/PRC-154 RR in May 2012 to reflect earlier availability of the initial release of incremental capabilities in the restructured program.

(Ch-5) From: Milestone C Decision: IPR, Phase 2 in February 2012 To: IPR: AN/PRC-155 MP in April 2012 to reflect a follow-on decision review for MP based on Milestone C Acquisition Decision Memorandum direction to provide additional test results before more MP Low-Rate Initial Production quantities would be authorized.

(Ch-6) From: IOTE: Phase 2 in May 2012 To: MOTE: AN/PRC-155 MP in May 2012 to reflect multi-service operational testing of MP in the restructured program.

(Ch-7) From: IOC Manpack/Handheld in September 2012 To: IOC: AN/PRC-155 MP in March 2013 to reflect slips caused by software challenges with stabilizing the Operating Environment.

(Ch-8) From: FRP/IPR: Phase 2 in November 2012 To: FRP Decision Review: AN/PRC-155 MP in December 2012 to allow sufficient time for additional Reliability, Availability and Maintainability data collection and test results

from MP MOTE.

(Ch-9) The FOTE: AN/PRC-155 MP with MUOS in Feb 2014 is a new milestone added to reflect the follow-on operational test date of the MUOS capability on Manpack. This is interdependent on the waveform and satellite programs.

(Ch-10) The Fielding: AN/PRC-155 MP with MUOS in Jun 2014 is a new milestone added to reflect the fielding date of MUOS capability on Manpack. This is interdependent on the waveform and satellite programs.

Memo

The Milestones were aligned to represent the program restructure as reflected in the Milestone C APB that was signed by the Defense Acquisition Executive (DAE) on October 20, 2011.

Performance

Characteristics	SAR Baseline Dev Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate	
Internal growth capability	Open System Architecture IAW JTA; Modular, Scaleable, Flexible Form Factors	N/A	N/A	Deleted	Deleted	(Ch-1)
JTRS Set Modes/Capabilities and Configuration and Reconfiguration via Software	By operators in their operational environment	N/A	N/A	Deleted	Deleted	(Ch-1)
Operational Availability A(o)	0.99 (Channel	N/A	N/A	Deleted	Deleted	(Ch-1)
Operation on designated no. of channels at the same time. All JTRS sets will include GPS except some of Small Form Fit Sets						(Ch-1)
Spiral 2:						(Ch-1)
Hand-Held	3 Channel	N/A	N/A	Deleted	Deleted	(Ch-1)
Man Pack	4 Channel	N/A	N/A	Deleted	Deleted	(Ch-1)
Small Form Fit	3 Channel	N/A	N/A	Deleted	Deleted	(Ch-1)
Spiral 1:						(Ch-1)
Man Pack	4 Channel	N/A	N/A	Deleted	Deleted	(Ch-1)
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	N/A	N/A	Deleted	Deleted	(Ch-1)
Scaleable Networking Services	Maritime/Fix-ed Domain	N/A	N/A	Deleted	Deleted	(Ch-1)

Network Extension/Coverage	Across organization boundaries	N/A	N/A	Deleted	Deleted	(Ch-1)
JTRS System Network Interoperability	Inter-operate with Allied/Coalition and commercial networks: satisfy 100 % of top-level IERS	N/A	N/A	Deleted	Deleted	(Ch-1)
Support critical waveforms						(Ch-1)
Spiral 1:						(Ch-1)
Man Pack	WF's 1, 2, 3, 4, 5, 6, 7, 9, 13, 14, 15, 16, 17, 18, 19, 22, 25, 27, 28, 30 and 31	N/A	N/A	Deleted	Deleted	(Ch-1)
Spiral 2:						(Ch-1)
Hand-Held	WF's 1, 2, 4, 5, 9, 14, 16, 17, 25, 26, 27 and 28	N/A	N/A	Deleted	Deleted	(Ch-1)
Man Pack	WF's 1, 2, 3, 4, 5, 6, 7, 9, 13, 14, 15, 16, 17, 18, 19, 22, 25, 27, 28, 30 and 31	N/A	N/A	Deleted	Deleted	(Ch-1)
Small Form Fit	WF's 1, 2, 4, 5, 17, 25, 27 and 28	N/A	N/A	Deleted	Deleted	(Ch-1)
Intra-Squad Communication: AN/PRC-154 Rifleman Radio	N/A	Voice	Voice	Voice	Voice	(Ch-1)
Soldier Location: AN/PRC-154 Rifleman Radio	N/A	Automatic PLI	Automatic PLI	Automatic PLI	Automatic PLI	(Ch-1)
Net Ready (NR) Capability: AN/PRC-154 Rifleman Radio	N/A	The capability, system, and/or service must fully support execution of all	The capability, system, and/or service must fully support execution of joint critical	The capability, system, and/or service must fully support execution of joint critical	The capability, system, and/or service must fully support execution of joint critical	(Ch-1)

		operational activities and information exchanges identified in DOD Enterprise Architecture and solution architectures based on integrated DODAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include 1 Solution architecture products compliant with DOD Enterprise Architecture based on integrated DODAF content, including specified operationally effective information exchanges 2) Compliant with Net - Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DOD IEA,	operational activities and information exchanges identified in the DOD Enterprise Architecture and solution architectures based on integrated DODAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products compliant with DOD Enterprise Architecture based on integrated DODAF content, including specified operationally effective information exchanges 2) Compliant with Net - Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DOD Information	operational activities and information exchanges identified in the DOD Enterprise Architecture and solution architectures based on integrated DODAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products compliant with DOD Enterprise Architecture based on integrated DODAF content, including specified operationally effective information exchanges 2) Compliant with Net - Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DOD Information	operational activities and information exchanges identified in the DOD Enterprise Architecture and solution architectures based on integrated DODAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products compliant with DOD Enterprise Architecture based on integrated DODAF content, including specified operationally effective information exchanges 2) Compliant with Net - Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DOD Information

		excepting tactical and non-IP communications 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs, necessary to meet all operational requirements specified in the DOD Enterprise Architecture and solution architecture views 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Supportability requirements to include SAASM, Spectrum and JTRS requirements	Enterprise Architecture (DOD IEA), excepting tactical and non-IP communications 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs necessary to meet all operational requirements specified in the DOD Enterprise Architecture and solution architecture views 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO or ATO by the DAA, and 5) Supportability requirements to include SAASM, Spectrum and JTRS requirements.	Enterprise Architecture (DOD IEA), excepting tactical and non-IP communications 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs necessary to meet all operational requirements specified in the DOD Enterprise Architecture and solution architecture views 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO or ATO by the DAA, and 5) Supportability requirements to include SAASM, Spectrum and JTRS requirements.	Enterprise Architecture (DOD IEA), excepting tactical and non-IP communications 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs necessary to meet all operational requirements specified in the DOD Enterprise Architecture and solution architecture views 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO or ATO by the DAA, and 5) Supportability requirements to include SAASM, Spectrum and JTRS requirements.	
Sustainment	N/A	0.99	0.96	0.89	0.97	(Ch-1)

(Operational Availability (Ao)): AN/PRC-154 Rifleman Radio		(Channel)	(Channel)	(Channel)	(Channel)	
Voice and Data Communication: AN/PRC-155 Manpack	N/A	Must provide networked voice and data exchange to support timely tactical actions while dispersed across the battlefield.	Must provide networked voice and data exchange to support timely tactical actions while dispersed across the battlefield.	MP demonstrated networked voice and data exchange (i.e., mission command information) supporting timely tactical actions while dispersed across the battlefield using gateways.	Must provide networked voice and data exchange to support timely tactical actions while dispersed across the battlefield.	(Ch-1)
Net Ready (NR) Capability: AN/PRC-155 Manpack	N/A	The capability, system, and/or service must fully support execution of all operational activities and information exchanges identified in DOD Enterprise Architecture and solution architectures based on integrated DODAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include 1	The capability, system, and/or service must fully support execution of joint critical operational activities and information exchanges identified in DOD Enterprise Architecture and solution architectures based on integrated DODAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include 1	TBD	The capability, system, and/or service must fully support execution of joint critical operational activities and information exchanges identified in DOD Enterprise Architecture and solution architectures based on integrated DODAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include 1	(Ch-1)

		Solution architecture products compliant with DOD Enterprise Architecture based on integrated DODAF content, including specified operationally effective information exchanges 2) Compliant with Net - Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DOD IEA, excepting tactical and non-IP communications 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs, necessary to meet all operational requirements specified in the DOD Enterprise Architecture	Solution architecture products compliant with DOD Enterprise Architecture based on integrated DODAF content, including specified operationally effective information exchanges 2) Compliant with Net - Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DOD IEA, excepting tactical and non-IP communications 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs, necessary to meet all operational requirements specified in the DOD Enterprise Architecture		Solution architecture products compliant with DOD Enterprise Architecture based on integrated DODAF content, including specified operationally effective information exchanges 2) Compliant with Net - Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DOD IEA, excepting tactical and non-IP communications 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs, necessary to meet all operational requirements specified in the DOD Enterprise Architecture

		and solution architecture views 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Supportability requirements to include SAASM, Spectrum and JTRS requirements	and solution architecture views 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Supportability requirements to include SAASM, Spectrum and JTRS requirements		and solution architecture views 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Supportability requirements to include SAASM, Spectrum and JTRS requirements.	
Sustainment (Operational Availability (Ao)): AN/PRC-155 Manpack	N/A	0.99 (Channel)	0.96 (Channel)	0.93 (Channel)	0.98 (Channel)	(Ch-1)
Multi-Channel Operations: AN/PRC-155 Manpack	N/A	To enable Warfighters to conduct combat missions across the battlefield, any channel of the MP must have ability to operate any of the waveforms listed as Objective in Table EE-2 of the CPD. The MP must also allow simultaneous operations	To enable Warfighters to conduct combat missions across the battlefield, any channel of the MP must have ability to operate any of the waveforms listed as Thresholds in Table EE-2 of the CPD. The MP must also allow simultaneous operations	The radio enables Warfighters to conduct combat missions across the battlefield using the Soldier Radio Waveform, basic modes of SINCGARS and basic modes of UHF SATCOM. The MP has demonstrated simultaneous	To enable Warfighters to conduct combat missions across the battlefield, any channel of the MP must have ability to operate any of the waveforms listed as Thresholds in Table EE-2 of the CPD. The MP must also allow simultaneous operations	(Ch-1)

		using waveform combinations listed as Objective identified in Table EE-3.2 of the CPD. In addition the MP must have the ability to route and retransimit threshold waveforms listed as Objective in Table EE-4 of the CPD.	using waveform combinations identified in Table EE-3 of the CPD. In addition the MP must have the ability to route and retransimit threshold waveforms listed in Table EE-4 of the CPD.	operations using combinations of these waveforms.	using waveform combinations identified in Table EE-3 of the CPD. In addition the MP must have the ability to route and retransimit threshold waveforms listed in Table EE-4 of the CPD.

Requirements Source:
The AN/PRC-154 (Rifleman Radio) Capability Production Document (CPD), approved January 21, 2009 and revision 1, Army Requirement Oversight Council (AROC) approved on March 7, 2011 and Joint Staff certified on April 14, 2011, will serve as the capability needs for the AN/PRC-154 Rifleman Radio.

Acronyms And Abbreviations

A(o) - Operational Availability
AN/PRC - Army-Navy Portable Radio Component
ATO - Approval to Operate
CPD - Capability Production Document
DAA - Designated Approval Authority
DOD - Department of Defense
DODAF - Department of Defense Architecture Framework
GESP - Global Information Grid Enterprise Service Profile
GIG - Global Information Grid
IA - Information Assurance
IATO - Interim Approval to Operate
IAW - in accordance with
IEA - Information Environment Architecture
IERs - Information Exchange Requirements
IP - Internet Protocol
IT - Information Technology
JTA - Joint Technical Architecture
JTRS - Joint Tactical Radio System
MP - Manpack
NR - Net Ready
SAASM - Selective Availability Anti-Spoofing Module
SATCOM - Satellite Communications
SINCGARS - Single Channel Ground to Air Radio System
TBD - To Be Determined

TV - Technical View
UHF - Ultra High Frequency
WF - Waveform

Change Explanations

(Ch-1) The previous Acquisition Program Baseline (APB) Key Performance Parameters (KPP) were based on the JTRS Operational Requirements Document (ORD) 3.2.1 (Amendment), approved August 28, 2006 (Joint Requirements Oversight Council Memorandum (JROCM) 171-06).

The Milestone C APB was approved on October 20, 2011. The APB KPPs are in alignment with the CPD for Rifleman Radio (RR) Increment 1 and the CPD for JTRS MP Increment 1 v.2.2 (draft). These KPPs reflect incremental release of capabilities and aligns to meet the Services current requirements in accordance with the Milestone C decision. Changes from the previous APB KPPs to the current APB are reflected as follows:

1. The "Internal Growth", "Scaleable Network", and "Interoperability" are now included in the Net Ready KPPs for RR and MP.
2. "JTRS Set/Modes Capabilities and configuration/reconfiguration via software" is a Key System Attribute (KSA) for RR (CPD for RR) and for the MP is included in the MP Multi-channel Operations KPP.
3. "Operational Availability" is now reflected in the Sustainment A(o) KPPs for RR and MP.
4. "Operation on designated number of channels at the same time. All JTRS sets will include GPS except some Small Form Fit Sets" is included in the Soldier Location KPP for RR and the Multi-channel Operations KPP for MP.
5. "Multi-channel routing and retransmission" does not apply to the RR. This is now the Voice and Data Communications KPP for MP.
6. "Scaleable Networking Services" is now included in the Net Ready KPPs for RR and MP.
7. "Network Extension/Coverage" is now included in the Net Ready KPPs for RR and MP and the Multi-Channel Operations KPP for MP.
8. "JTRS System Network Interoperability" is now included in the Net Ready KPPs for RR and MP
9. "Support Critical Waveforms" is now included in the Intra-squad Communications KPP for RR and the Multi-Channel Operations KPP for MP.

Memo

Joint Tactical Radio System (JTRS) Handheld, Manpack, and Small Form Fit (HMS) Performance Requirements are based on Joint Requirements Oversight Council Memorandum (JROCM) 131-06 dated June 29, 2006 and JROCM 171-06 dated August 28, 2006. The JROCM 131-06 mandated the Net Ready (NR) Key Performance Parameter (KPP) and JROCM 171-06 approved the Operational Requirements Document (ORD) 3.2.1. NR KPP as required by Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6212.01E dated December 15, 2008.

Track To Budget

RDT&E				
APPN 1319	BA 05	PE 0604280N	(Navy)	
	Project 3075	Joint Tactical Radio System (JTRS) / HMS JTRS		
APPN 2040	BA 05	PE 0604280A	(Army)	
	Project 162	Joint Tactical Radio / Network Enterprise Domain (NED)	(Shared)	
APPN 2040	BA 05	PE 0604805A	(Army)	
	Project 615	JTRS - Ground Domain Integration	(Shared)	(Sunk)
	Project 61A	JTRS Cluster 5 Development		(Sunk)
APPN 3600	BA 05	PE 0604280F	(Air Force)	
	Project 655068	Joint Tactical Radio System (JTRS)	(Shared)	

The JTRS RDT&E funding was consolidated under one Navy Program Element (PE 0604280N) in FY2007-2013 to consolidate execution under one Military Department (MILDEP). For all budget out years (currently FY2014-2016), each MILDEP provides funding for one third of all JTRS common development efforts. As a result, the Army, Air Force and Navy JTRS RDT&E Budgets (PEs 0604280A/0604280F/0604280N, respectively) capture the entire JTRS Development funding profile through FY2016.

PE# 0604805A Projects 615 and 61A represent sunk costs.

Procurement			
APPN 1109	BA 04	PE 0206313M	(Navy)
	ICN 4633	Radio Systems	(Shared)
APPN 1810	BA 02	PE 0204163N	(Navy)
	ICN 3057	Communication Items Under $5M	(Shared)
APPN 2035	BA 02	PE 0310700A	(Army)

	ICN B90210	JTRS Cluster 5 (Handheld)	
APPN 2035	BA 02	PE 0303140A	(Army)
	ICN B90215	JTRS (Manpack)	
APPN 2035	BA 03		(Army)
	ICN R80501	Ground Soldier System	(Shared)
APPN 3080	BA 03	PE 0207423F	(Air Force)
	ICN 8371	Tactical C-E Equipment	(Shared)

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2011 $M			BY2011 $M	TY $M		
Appropriation	SAR Baseline Dev Est	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Production Objective	Current Estimate
RDT&E	536.6	1254.7	1380.2	1199.5	489.0	1238.5	1175.6
Procurement	9352.6	6987.9	7686.7	7061.7	10228.0	7962.5	8129.1
Flyaway	8133.7	--	--	5220.6	8879.2	--	6003.0
Recurring	8133.7	--	--	5196.8	8879.2	--	5978.3
Non Recurring	0.0	--	--	23.8	0.0	--	24.7
Support	1218.9	--	--	1841.1	1348.8	--	2126.1
Other Support	336.4	--	--	1650.1	363.9	--	1906.5
Initial Spares	882.5	--	--	191.0	984.9	--	219.6
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	9889.2	8242.6	N/A	8261.2	10717.0	9201.0	9304.7

The Base Year for the program has been updated from FY 2004 to FY 2011 using a deflator of 1.154067.

Confidence Level For the Current APB Cost 50% - The ICE to support JTRS HMS Milestone C decision, like all life-cycle cost estimates previously performed by the CAPE, is built upon a product-oriented work breakdown structure, based on historical actual cost information to the maximum extent possible, and, most importantly, based on conservative assumptions that are consistent with actual demonstrated contractor and government performance for a series of acquisition programs in which the Department has been successful.

It is difficult to calculate mathematically the precise confidence levels associated with life-cycle cost estimates prepared for MDAP programs. Based on the rigor in methods used in building estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, we project that it is about equally likely that the estimate will prove too low or too high for execution of the program described.

Quantity	SAR Baseline Dev Est	Current APB Production	Current Estimate
RDT&E	1060	582	833
Procurement	327614	270369	270369
Total	328674	270951	271202

Unit of measure is an HMS radio, which includes multiple variants (Rifleman Radio, Manpack, or various Small Form Fits).

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2013 President's Budget / December 2011 SAR (TY$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	899.7	116.1	116.0	33.9	5.3	4.6	0.0	0.0	1175.6
Procurement	51.3	470.5	571.6	576.7	567.7	682.2	711.6	4497.5	8129.1
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 2013 Total	951.0	586.6	687.6	610.6	573.0	686.8	711.6	4497.5	9304.7
PB 2012 Total	931.5	636.3	499.5	482.1	439.5	499.4	390.9	1932.2	5811.4
Delta	19.5	-49.7	188.1	128.5	133.5	187.4	320.7	2565.3	3493.3

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	833	0	0	0	0	0	0	0	0	833
Production	0	2400	18095	17128	18004	19130	18009	18072	159531	270369
PB 2013 Total	833	2400	18095	17128	18004	19130	18009	18072	159531	271202
PB 2012 Total	582	1705	16880	18149	6383	17314	18139	18108	124718	221978
Delta	251	695	1215	-1021	11621	1816	-130	-36	34813	49224

Cost and Funding

Annual Funding By Appropriation

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

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2007	--	--	--	--	--	--	132.9
2008	--	--	--	--	--	--	150.6
2009	--	--	--	--	--	--	127.1
2010	--	--	--	--	--	--	178.3
2011	--	--	--	--	--	--	67.4
2012	--	--	--	--	--	--	116.1
2013	--	--	--	--	--	--	116.0
2014	--	--	--	--	--	--	2.8
2015	--	--	--	--	--	--	0.3
Subtotal	**252**	**--**	**--**	**--**	**--**	**--**	**891.5**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 $M	Non End Item Recurring Flyaway BY 2011 $M	Non Recurring Flyaway BY 2011 $M	Total Flyaway BY 2011 $M	Total Support BY 2011 $M	Total Program BY 2011 $M
2007	--	--	--	--	--	--	139.7
2008	--	--	--	--	--	--	155.5
2009	--	--	--	--	--	--	129.6
2010	--	--	--	--	--	--	179.1
2011	--	--	--	--	--	--	66.4
2012	--	--	--	--	--	--	112.4
2013	--	--	--	--	--	--	110.5
2014	--	--	--	--	--	--	2.6
2015	--	--	--	--	--	--	0.3
Subtotal	**252**	**--**	**--**	**--**	**--**	**--**	**896.1**

Annual Funding TY$
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

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
2004	--	--	--	--	--	--	21.9
2005	--	--	--	--	--	--	96.1
2006	--	--	--	--	--	--	124.6
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	--
2011	--	--	--	--	--	--	0.8
2012	--	--	--	--	--	--	--
2013	--	--	--	--	--	--	--
2014	--	--	--	--	--	--	28.2
2015	--	--	--	--	--	--	4.7
2016	--	--	--	--	--	--	4.6
Subtotal	**562**	**--**	**--**	**--**	**--**	**--**	**280.9**

Annual Funding BY$
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 $M	Non End Item Recurring Flyaway BY 2011 $M	Non Recurring Flyaway BY 2011 $M	Total Flyaway BY 2011 $M	Total Support BY 2011 $M	Total Program BY 2011 $M
2004	--	--	--	--	--	--	24.9
2005	--	--	--	--	--	--	106.2
2006	--	--	--	--	--	--	133.9
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	--
2011	--	--	--	--	--	--	0.8
2012	--	--	--	--	--	--	--
2013	--	--	--	--	--	--	--
2014	--	--	--	--	--	--	26.2
2015	--	--	--	--	--	--	4.3
2016	--	--	--	--	--	--	4.1
Subtotal	**562**	**--**	**--**	**--**	**--**	**--**	**300.4**

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
2014	--	--	--	--	--	--	2.9
2015	--	--	--	--	--	--	0.3
Subtotal	**19**	**--**	**--**	**--**	**--**	**--**	**3.2**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 $M	Non End Item Recurring Flyaway BY 2011 $M	Non Recurring Flyaway BY 2011 $M	Total Flyaway BY 2011 $M	Total Support BY 2011 $M	Total Program BY 2011 $M
2014	--	--	--	--	--	--	2.7
2015	--	--	--	--	--	--	0.3
Subtotal	**19**	**--**	**--**	**--**	**--**	**--**	**3.0**

Annual Funding TY$
1109 | Procurement | Procurement, Marine Corps

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
2018	267	12.5	--	--	12.5	0.8	13.3
2019	437	21.3	--	--	21.3	1.9	23.2
2020	451	21.5	--	--	21.5	1.2	22.7
2021	490	23.2	--	--	23.2	1.6	24.8
2022	463	21.8	--	--	21.8	1.7	23.5
2023	145	6.8	--	--	6.8	0.9	7.7
2024	140	6.8	--	--	6.8	0.6	7.4
Subtotal	**2393**	**113.9**	**--**	**--**	**113.9**	**8.7**	**122.6**

Annual Funding BY$
1109 | Procurement | Procurement, Marine Corps

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 $M	Non End Item Recurring Flyaway BY 2011 $M	Non Recurring Flyaway BY 2011 $M	Total Flyaway BY 2011 $M	Total Support BY 2011 $M	Total Program BY 2011 $M
2018	267	10.8	--	--	10.8	0.7	11.5
2019	437	18.0	--	--	18.0	1.6	19.6
2020	451	17.9	--	--	17.9	1.0	18.9
2021	490	18.9	--	--	18.9	1.3	20.2
2022	463	17.5	--	--	17.5	1.3	18.8
2023	145	5.4	--	--	5.4	0.7	6.1
2024	140	5.3	--	--	5.3	0.4	5.7
Subtotal	**2393**	**93.8**	**--**	**--**	**93.8**	**7.0**	**100.8**

Annual Funding TY$
1810 | Procurement | Other Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2013	46	3.0	--	--	3.0	0.1	3.1
2014	12	0.7	--	--	0.7	--	0.7
2015	17	0.8	--	--	0.8	0.1	0.9
2016	16	0.8	--	--	0.8	0.1	0.9
2017	16	0.8	--	--	0.8	0.1	0.9
2018	73	3.4	--	--	3.4	0.2	3.6
2019	10	0.5	--	--	0.5	--	0.5
2020	11	0.5	--	--	0.5	--	0.5
2021	11	0.5	--	--	0.5	--	0.5
2022	11	0.5	--	--	0.5	--	0.5
2023	11	0.5	--	--	0.5	0.1	0.6
2024	11	0.5	--	--	0.5	0.1	0.6
2025	5	0.2	--	--	0.2	0.1	0.3
Subtotal	**250**	**12.7**	**--**	**--**	**12.7**	**0.9**	**13.6**

Annual Funding BY$
1810 | Procurement | Other Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 $M	Non End Item Recurring Flyaway BY 2011 $M	Non Recurring Flyaway BY 2011 $M	Total Flyaway BY 2011 $M	Total Support BY 2011 $M	Total Program BY 2011 $M
2013	46	2.8	--	--	2.8	0.1	2.9
2014	12	0.6	--	--	0.6	--	0.6
2015	17	0.7	--	--	0.7	0.1	0.8
2016	16	0.7	--	--	0.7	0.1	0.8
2017	16	0.7	--	--	0.7	0.1	0.8
2018	73	2.9	--	--	2.9	0.2	3.1
2019	10	0.4	--	--	0.4	--	0.4
2020	11	0.4	--	--	0.4	--	0.4
2021	11	0.4	--	--	0.4	--	0.4
2022	11	0.4	--	--	0.4	--	0.4
2023	11	0.4	--	--	0.4	0.1	0.5
2024	11	0.4	--	--	0.4	0.1	0.5
2025	5	0.2	--	--	0.2	--	0.2
Subtotal	**250**	**11.0**	**--**	**--**	**11.0**	**0.8**	**11.8**

Annual Funding TY$
2035 | Procurement | Other Procurement, Army

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
2011	2400	27.6	--	13.6	41.2	10.1	51.3
2012	17837	404.8	--	6.4	411.2	36.7	447.9
2013	16531	358.0	--	2.7	360.7	156.4	517.1
2014	17209	338.9	--	2.0	340.9	167.6	508.5
2015	18717	380.3	--	--	380.3	156.1	536.4
2016	17674	479.0	--	--	479.0	178.9	657.9
2017	17522	475.2	--	--	475.2	183.4	658.6
2018	23960	470.1	--	--	470.1	211.1	681.2
2019	33940	694.9	--	--	694.9	253.1	948.0
2020	29129	676.5	--	--	676.5	248.4	924.9
2021	24962	469.8	--	--	469.8	178.7	648.5
2022	22342	411.2	--	--	411.2	154.1	565.3
2023	20704	296.6	--	--	296.6	108.2	404.8
Subtotal	**262927**	**5482.9**	**--**	**24.7**	**5507.6**	**2042.8**	**7550.4**

Annual Funding BY$
2035 | Procurement | Other Procurement, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 $M	Non End Item Recurring Flyaway BY 2011 $M	Non Recurring Flyaway BY 2011 $M	Total Flyaway BY 2011 $M	Total Support BY 2011 $M	Total Program BY 2011 $M
2011	2400	26.9	--	13.3	40.2	9.9	50.1
2012	17837	388.4	--	6.1	394.5	35.3	429.8
2013	16531	337.2	--	2.5	339.7	147.3	487.0
2014	17209	313.6	--	1.9	315.5	155.1	470.6
2015	18717	345.7	--	--	345.7	141.9	487.6
2016	17674	427.7	--	--	427.7	159.8	587.5
2017	17522	416.8	--	--	416.8	160.9	577.7
2018	23960	405.1	--	--	405.1	181.9	587.0
2019	33940	588.2	--	--	588.2	214.2	802.4
2020	29129	562.5	--	--	562.5	206.5	769.0
2021	24962	383.7	--	--	383.7	146.0	529.7
2022	22342	329.9	--	--	329.9	123.6	453.5
2023	20704	233.8	--	--	233.8	85.2	319.0
Subtotal	**262927**	**4759.5**	**--**	**23.8**	**4783.3**	**1767.6**	**6550.9**

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
2012	258	18.7	--	--	18.7	3.9	22.6
2013	551	45.0	--	--	45.0	6.4	51.4
2014	783	59.4	--	--	59.4	8.1	67.5
2015	396	26.2	--	--	26.2	4.2	30.4
2016	319	20.2	--	--	20.2	3.2	23.4
2017	534	42.5	--	--	42.5	9.6	52.1
2018	929	72.2	--	--	72.2	16.6	88.8
2019	577	47.2	--	--	47.2	11.8	59.0
2020	200	16.4	--	--	16.4	4.3	20.7
2021	200	16.6	--	--	16.6	4.4	21.0
2022	52	4.4	--	--	4.4	1.2	5.6
Subtotal	**4799**	**368.8**	**--**	**--**	**368.8**	**73.7**	**442.5**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 $M	Non End Item Recurring Flyaway BY 2011 $M	Non Recurring Flyaway BY 2011 $M	Total Flyaway BY 2011 $M	Total Support BY 2011 $M	Total Program BY 2011 $M
2012	258	18.2	--	--	18.2	3.8	22.0
2013	551	43.0	--	--	43.0	6.1	49.1
2014	783	55.8	--	--	55.8	7.7	63.5
2015	396	24.2	--	--	24.2	3.9	28.1
2016	319	18.3	--	--	18.3	2.9	21.2
2017	534	37.9	--	--	37.9	8.5	46.4
2018	929	63.2	--	--	63.2	14.5	77.7
2019	577	40.6	--	--	40.6	10.1	50.7
2020	200	13.9	--	--	13.9	3.6	17.5
2021	200	13.8	--	--	13.8	3.6	17.4
2022	52	3.6	--	--	3.6	1.0	4.6
Subtotal	**4799**	**332.5**	**--**	**--**	**332.5**	**65.7**	**398.2**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	5/18/2011	5/18/2011
Approved Quantity	6350	6350
Reference	ADM	ADM
Start Year	2011	2011
End Year	2012	2012

The post Milestone C Acquisition Decision Memorandum (ADM) was signed on June 17, 2011, approving entry in the Production and Deployment phase and authorizing the Army to contract for an initial Low Rate Initial Production (LRIP) procurement of 6,250 Rifleman Radios (AN/PRC-154) and 100 Manpack radios (AN/PRC-155). The ADM directed the Services to fund to the Independent Cost Estimate (ICE) position.

Foreign Military Sales

None

Nuclear Cost

None

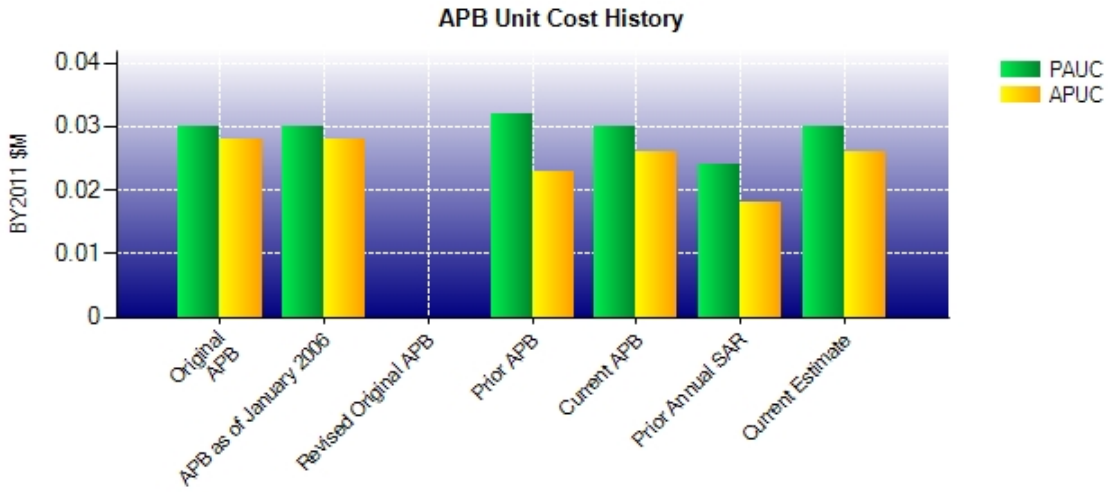
Unit Cost

Unit Cost Report

Unit Cost	BY2011 $M Current UCR Baseline (OCT 2011 APB)	BY2011 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8242.6	8261.2	
Quantity	270951	271202	
Unit Cost	0.030	0.030	0.00
Average Procurement Unit Cost (APUC)			
Cost	6987.9	7061.7	
Quantity	270369	270369	
Unit Cost	0.026	0.026	0.00

Unit Cost	BY2011 $M Original UCR Baseline (MAY 2004 APB)	BY2011 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	9889.2	8261.2	
Quantity	329574	271202	
Unit Cost	0.030	0.030	0.00
Average Procurement Unit Cost (APUC)			
Cost	9352.6	7061.7	
Quantity	328514	270369	
Unit Cost	0.028	0.026	-7.14

Unit Cost History



		BY2011 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	MAY 2004	0.030	0.028	0.033	0.031
APB as of January 2006	MAY 2004	0.030	0.028	0.033	0.031
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	JAN 2008	0.032	0.023	0.036	0.027
Current APB	OCT 2011	0.030	0.026	0.034	0.029
Prior Annual SAR	DEC 2010	0.024	0.018	0.026	0.021
Current Estimate	DEC 2011	0.030	0.026	0.034	0.030

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	
0.033	0.002	0.012	0.003	0.000	-0.019	0.000	0.003	0.001	0.034

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Dev Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.031	0.002	0.013	0.003	0.000	-0.022	0.000	0.003	-0.001	0.030

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	APR 2004	N/A	APR 2004
Milestone C	N/A	MAR 2008	N/A	N/A
IOC	N/A	FEB 2007	N/A	N/A
Total Cost (TY $M)	N/A	10717.0	N/A	9304.7
Total Quantity	N/A	328674	N/A	271202
Prog. Acq. Unit Cost (PAUC)	N/A	0.033	N/A	0.034

Cost Variance

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	489.0	10228.0	--	10717.0
Previous Changes				
Economic	+13.3	+535.9	--	+549.2
Quantity	+7.4	-1761.1	--	-1753.7
Schedule	--	+607.7	--	+607.7
Engineering	--	--	--	--
Estimating	+683.8	-5018.7	--	-4334.9
Other	--	--	--	--
Support	--	+26.1	--	+26.1
Subtotal	+704.5	-5610.1	--	-4905.6
Current Changes				
Economic	-3.4	+45.7	--	+42.3
Quantity	--	+3569.5	--	+3569.5
Schedule	--	+88.4	--	+88.4
Engineering	--	--	--	--
Estimating	-14.5	-849.0	--	-863.5
Other	--	--	--	--
Support	--	+656.6	--	+656.6
Subtotal	-17.9	+3511.2	--	+3493.3
Total Changes	+686.6	-2098.9	--	-1412.3
CE - Cost Variance	1175.6	8129.1	--	9304.7
CE - Cost & Funding	1175.6	8129.1	--	9304.7

Summary Base Year 2011 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	536.6	9352.6	--	9889.2
Previous Changes				
Economic	--	--	--	--
Quantity	+7.4	-1464.9	--	-1457.5
Schedule	--	+267.9	--	+267.9
Engineering	--	--	--	--
Estimating	+666.4	-4098.4	--	-3432.0
Other	--	--	--	--
Support	--	+34.8	--	+34.8
Subtotal	+673.8	-5260.6	--	-4586.8
Current Changes				
Economic	--	--	--	--
Quantity	--	+2981.2	--	+2981.2
Schedule	--	+109.9	--	+109.9
Engineering	--	--	--	--
Estimating	-10.9	-708.8	--	-719.7
Other	--	--	--	--
Support	--	+587.4	--	+587.4
Subtotal	-10.9	+2969.7	--	+2958.8
Total Changes	+662.9	-2290.9	--	-1628.0
CE - Cost Variance	1199.5	7061.7	--	8261.2
CE - Cost & Funding	1199.5	7061.7	--	8261.2

Previous Estimate: December 2010

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-3.4
Adjustment for current and prior escalation. (Estimating)	+4.9	+4.7
Increase to Navy RDT&E total due to current year funding (FY 2013) from Army and Air Force transferring into the Navy line; HMS executes all current year RDT&E funding out of the Navy line. Additionally, there is an offset due to a $60M FY 2012 mark as well as an FY 2013 RDT&E increase for the completion of the Mobile User Objective System (MUOS) and Public Key Infrastructure (PKI) digital certificate migration efforts. (Estimating)	+78.1	+80.8
Decrease to the Army RDT&E total due to current year funding (FY 2013) transferring to the Navy funding line; HMS executes all current year RDT&E funding out of the Navy line. (Estimating)	-82.1	-87.6
Decrease to the Air Force RDT&E total due to current year funding (FY 2013) transferring to the Navy funding line; HMS executes all current year RDT&E funding out of the Navy line. (Estimating)	-11.8	-12.4
RDT&E Subtotal	-10.9	-17.9

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+45.7
Quantity variance resulting from a decrease of 6489 JTRS 2-Channel Manpack radios from 8882 to 2393 (Navy). (Quantity)	-50.9	-60.2
Quantity variance resulting from a decrease of 1227 JTRS 2-Channel Manpack radios, from 1477 to 250 (Navy). (Quantity)	-9.8	-11.6
Total Quantity variance resulting from an increase of 62,570 total radios, from 200,357 to 262,927; the increase was due to the addition of 73,279 Rifleman Radios, 40,411 JTRS 2-Channel Manpack radios, 1,672 SFF-D radios and 950 SFF-B radios, as well as the removal of 6,127 2-Channel Handheld radios, 42,850 SFF-A radios, and 4,765 SFF-J radios (Army). (Subtotal)	+405.9	+506.0
Quantity variance resulting from an increase of 62570 total radios, from 200,357 to 262,927; the increase was due to the addition of 73,279 Rifleman Radios, 40,411 JTRS 2-Channel Manpack radios, 1,672 SFF-D radios and 950 SFF-B radios, as well as the removal of 6,127 2 Channel Handheld radios, 42,850 SFF-A radios, and 4,765 SFF-J radios (Army). (Quantity)	(+1202.9)	(+1499.6)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+109.9)	(+137.1)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-906.9)	(-1130.7)
Additional quantity change impact (Army). (Quantity)	+1888.1	+2198.0
Quantity variance resulting from a decrease of 5191 JTRS 2-Channel Manpack radios, from 9990 to 4799 (Air Force). (Quantity)	-42.3	-48.6
Quantity variance resulting from a decrease of 690 SFF-B radios, from 690 to 0 (Air Force). (Quantity)	-6.8	-7.7
Stretch-out of procurement buy profile (Navy). (Schedule)	0.0	+1.2
Acceleration of procurement buy profile to support changes to the Army unit set fielding process (Army). (Schedule)	0.0	-51.1
Stretch-out of procurement buy (Air Force). (Schedule)	0.0	+1.1
Stretch-out of procurement buy profile (Navy). (Schedule)	0.0	+0.1

Adjustment for current and prior escalation. (Estimating)	-2.1	-1.9
Updated cost methodologies to reflect EDM actuals and transition from RDT&E to Procurement (Navy). (Estimating)	-68.3	-76.0
Updated cost methodologies to reflect EDM actuals and transition from RDT&E to Procurement (Navy). (Estimating)	-46.3	-53.4
Updated cost methodologies to reflect EDM actuals and transition from RDT&E to Procurement (Army). (Estimating)	+315.3	+412.1
Updated cost methodologies to reflect EDM actuals and transition from RDT&E to Procurement (Air Force). (Estimating)	+5.0	+6.9
Updated cost methodologies to reflect EDM actuals and transition from RDT&E to Procurement (Air Force). (Estimating)	-5.5	-6.0
Adjustment for current and prior escalation. (Support)	-0.1	-0.4
Decrease in Other Support due to decrease in total quantity and updated cost methodologies (Navy). (Support) (QR)	-21.1	-24.6
Decrease in Other Support due to decrease in total quantity and updated cost methodologies (Navy). (Support) (QR)	-8.6	-9.6
Increase in Other Support due to updated cost methodologies (Army). (Support)	+709.0	+789.3
Decrease to Initial Spares percentage as a result of cost methodology update (Army). (Support)	-40.3	-40.1
Increase in Other Support due to updated cost methodologies (Air Force). (Support)	+0.4	+0.8
Decrease to Initial Spares percentage as a result of cost methodology update (Navy). (Support)	-17.8	-20.9
Decrease to Initial Spares percentage as a result of cost methodology update (Navy). (Support)	-6.5	-7.4
Decrease to Initial Spares percentage as a result of cost methodology update (Air Force). (Support)	-24.7	-27.2
Decrease in Other Support due to decrease in total quantity and updated cost methodologies (Air Force). (Support) (QR)	-1.6	-1.9
Decrease to Initial Spares percentage as a result of cost methodology update (Air Force). (Support)	-1.3	-1.4
Procurement Subtotal	+2969.7	+3511.2

(QR) Quantity Related

Contracts

Appropriation: RDT&E

Contract Name	**Development**
Contractor	GENERAL DYNAMICS C4 SYSTEMS, INC.
Contractor Location	SCOTTSDALE, AZ 85257
Contract Number, Type	W15P7T-04-C-E405, CPAF
Award Date	July 16, 2004
Definitization Date	July 16, 2004

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
295.6	N/A	0	627.0	N/A	833	839.1	871.8

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/30/2011)	-12.1	-7.3
Previous Cumulative Variances	-119.4	-7.3
Net Change	+107.3	+0.0

Cost And Schedule Variance Explanations

The favorable net change in the cost variance is due to an Over Target Baseline (OTB) in February 2011, which set all variances equal to zero and reset the Schedule Performance Index (SPI) / Cost Performance Index (CPI) metrics to 1.0. The program implemented the OTB to allow for improved program management oversight of remaining development efforts. The OTB established an updated Contractor Work Breakdown Structure (CWBS) providing breakout of development efforts by radio type and software release.

Contract Comments

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

The difference between the initial contract price target and the current contract price target is due to in scope contract changes.

In 2006, the JTRS HMS program was restructured, resulting in cost and schedule above the original baseline. Since then, the baseline was further increased by other in scope contract changes including the Mobile-User Objective System (MUOS), the modification of the SFF-C to the current configuration AN/PRC-154 Rifleman Radio, and the realignment of tasks associated with changes to software drops. These changes to the baseline have caused the increase from the Initial Contract Price to the Current Contract Price.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	799	799	833	95.92%
Production	243	243	270369	0.09%
Total Program Quantities Delivered	1042	1042	271202	0.38%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	9304.7	Years Appropriated	9
Expenditures To Date	899.5	Percent Years Appropriated	40.91%
Percent Expended	9.67%	Appropriated to Date	1537.6
Total Funding Years	22	Percent Appropriated	16.52%

The program is completing delivery of developmental radios. As of December 2011 the JTRS HMS contractor delivered 799 Engineering Developmental Models (EDMs) (213 SFF-A, 4 SFF-B, 20 SFF-C, 17 SFF-D, 11 SFF-J, 115 SFF-C(v)1 Rifleman Radios (RR), 21 AN/PRC-154 RR 2W radios, 346 AN/PRC-154 RR 5W radios, 52 AN/PRC-155 Manpack radios). The increase in EDM quantities of Rifleman Radios is to support the Army Network Integration Evaluations (NIE) Government Developmental Tests, Operational Tests, and additional test events.

LRIP deliveries are on track to complete as scheduled. All data is current as of December 31, 2011.

Operating and Support Cost

Assumptions And Ground Rules

1. Cost estimate and quantities reflect the approved OSD CAPE ICE signed June 2011.
2. Costs estimated in accordance with Department of the Army Cost Analysis Manual, May 2001.
3. OSD Inflation Guidance dated January 2012 was applied.
4. Approved JTRS HMS Cost Analysis Requirements Document (CARD) updated March 2011 is used as the basis of the estimate.
5. System life is estimated at 20 years.
6. There is no antecedent program; HMS has a diverse portfolio of radio configurations, ranging in both cost and function, and there is no single DoD program with a comparable set of requirements.
7. The total O&S cost is the Average Annual Cost x Total Number of Radios (270,369) x 20 year system life.

Costs BY2011 $K		
Cost Element	**JTRS HMS Average Annual Cost per Radio**	**No Antecedent**
Unit-Level Manpower	--	--
Unit Operations	--	--
Maintenance	2.341	--
Sustaining Support	0.134	--
Continuing System Improvements	0.245	--
Indirect Support	--	--
Other	--	--
Total Unitized Cost (Base Year 2011 $)	2.720	--

Total O&S Costs $M	JTRS HMS	No Antecedent
Base Year	14710.4	--
Then Year	20019.2	--

The estimate includes Demilitarization and Disposal costs.