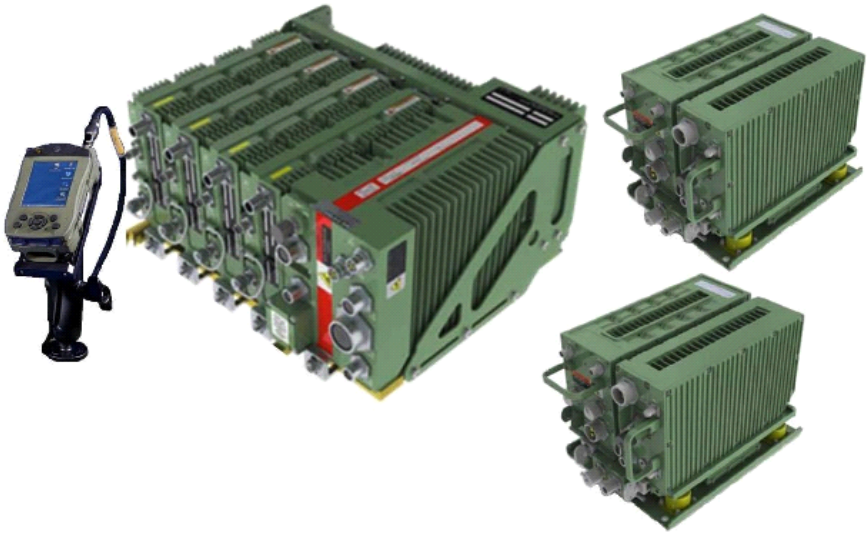
Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-360



JTRS GMR

As of December 31, 2010

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

Joint Tactical Radio System (JTRS) Ground Mobile Radios (GMR)

DoD Component

DOD

Joint Participants

US Army; US Navy; US Air Force; US Marine Corps; Army is the lead Component per SECDEF Memo dated August 31, 2009

Responsible Office

Responsible Office

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Date Assigned August 28, 2009

References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated June 24, 2002

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated January 16, 2008

Mission and Description

The JTRS Ground Mobile Radio (GMR) will enable the Services to acquire and field a family of affordable, scaleable, high capacity, interoperable radio sets based on a common set of JTRS Application Programming Interfaces (APIs) developed in accordance with the JTRS Software Communications Architecture (SCA). JTRS GMR will provide networking capability using the Wideband Networking Waveform and Soldier Radio Waveform to connect unmanned sensors to decision makers "On-The-Move" (OTM), which will significantly reduce the decision cycle. JTRS GMR will provide the warfighter with mobile Internet-like capabilities such as voice, data, networking and video communications, as well as interoperability with current force and other JTRS radios across the battle space. The JTRS is a key enabler of the DOD and Army Transformation and will provide critical communications capabilities across the full spectrum of operations in a Joint environment. It is a Joint program encompassing the incorporation of the JTRS Network Enterprise Domain (NED) developed waveforms (porting) and Ground Vehicular applications.

Executive Summary

The requirement for the Joint Tactical Radio System (JTRS) is documented in the Mission Needs Statement (MNS) for the Joint Tactical Radio (JTR), dated August 21, 1997. The JTRS Ground Mobile Radios (GMR) development was designated an Acquisition Category 1D (ACAT 1D) program at Milestone (MS) B and following full and open competition, a Cost Plus Award Fee (CPAF) contract was awarded to the Prime System Contractor (PSC) on June 24, 2002. The acquisition strategy called for a PSC who would select and qualify two sources for production of GMRs. These two sources will develop and build the radios to meet the requirements of the JTRS Operational Requirements Document (ORD).

As part of the JTRS Enterprise reorganization directed by the March 31, 2006 Acquisition Decision Memorandum (ADM), the GMR program was restructured as JTRS GMR Increment 1 and is compliant with the JTRS ORD version 3.2.1, dated August 28, 2006. Army Aviation Rotary Wing (AARW) and Air Force Tactical Air Control Party (TACP) requirements were removed from the JTRS GMR program and allocated to another JTRS program. A new Acquisition Program Baseline (APB) was signed by the Defense Acquisition Executive on January 16, 2008, and the modified contract was executed on May 23, 2008.

In early 2008, the GMR Program Office projected a six month schedule slip and associated cost increases for Fiscal Years 2008-2010 due to software and hardware integration challenges. As a result, USD AT&L issued an ADM on September 05, 2008 directing that the significant technical, cost or schedule challenges were to be fully funded and properly scheduled to reduce risk; to update the GMR Program Office Estimate (POE) estimate; and to reinstate the High Frequency (HF) and Ultra High Frequency (UHF) Demand Assigned Multiple Access (DAMA) Satellite Communications (SATCOM) capabilities previously deferred due to funding constraints. The ADM also returned the acquisition oversight to the Defense Acquisition Board (DAB) and Overarching Integrated Product Team (OIPT) process. On August 31, 2009, the Department of Army was designated the lead acquisition component for the JTRS program.

As directed by the September 2008 ADM, the program office has updated the POE to reflect revised unit cost information gained while producing Engineering Development Model (EDM) radios. Unit costs are now lower than those included in the previously approved in the January 2008 APB. GMR had submitted a revised APB addressing the impacts associated with Public Key Infrastructure (PKI), Waveform Interface Software (WIS), and Soldier Radio Waveform (SRW) porting. However, due to the subsequent transition of authority of external approving agencies and later the Army's re-analysis of the Basis of Issue Plan (BOIP), which is still in analysis, the APB was not sent to the MDA for approval and was rescinded by the Program Management Office (PMO) in 2010. An updated APB will be produced in preparation for MS C.

In 2010, the GMR Program completed delivery of 91 EDM sets to support qualification testing for the Program of Record (POR) and delivered 71 EDM sets to the Program Executive Office – Integration (PEO-I) (formerly FCS) to support their Limited User Test (LUT) 2010 activities. 153 EDM radios were purchased by the PEO-I Lead System Integrator from Boeing GMR. Of the 153 EDM radios, 81 are scheduled to be fielded early to the first PEO-I Increment 1 Infantry Brigade Combat Team (IBCT) in 3rd Quarter FY 2011. The cost and quantity associated with this acquisition are not part of the GMR unit cost baseline.

In 2009, GMR conducted Formal Qualification Testing (FQT) porting Single Channel Ground and Airborne Radio System (SINCGARS) waveform, Enhanced Position Location Reporting System (EPLRS) waveform, UHF DAMA SATCOM waveform, and began FQT for the GMR Operating Environment (OE). Final FQTs concluded in 2010 with the conduct of SRW and the JTRS WNW Network Manager (JWNM).

The GMR Program is executing in accordance with the JTRS GMR Increment 1 Acquisition Strategy which emphasizes field experimentation and testing. The JTRS GMR program successfully conducted a number of field tests in 2010. EDM Field Integration 2-3 completed February 2010. In April 2010, the System Functional Validation (SFV), 10 node EDM network over-the-air test that was risk mitigation for the System Integration Test (SIT), was successfully completed. The SIT followed SFV. During SIT, a 35 Node EDM Network was tested with its six

waveforms (WNW, SRW, EPLRS, SINCGARS, HF and UHF DAMA SATCOM); SIT completed September 2010. Product Qualification testing (PQT) included environmental tests, system functionality, and platform integration, and concluded in October 2010. Test and Evaluation (T&E) activities will continue through FY 2011 with Field Experiment 5 (FE5) and Limited User Test (LUT), leading to a MS C decision in 4th Quarter FY 2011. PEO-I conducted a LUT in September 2010 in which the GMR participated as part of the Network Integration Kit (NIK). The GMR was exercised by running WNW, SRW, SINCGARs waveform applications.

In 2010 the Army Evaluation Task Force (AETF) was the designated unit supporting the GMR LUT. Due to the extension of Developmental Testing to include additional performance data for the Wideband Networking Waveform (WNW), which is integral to the operation of the GMR, and to better inform OSD decision makers, MS C has moved to 4th Quarter FY 2011. The extension of Developmental Testing caused a domino impact to the schedule as Operational Assessment was delayed, thereby causing the loss of GMRs window of availability with the designated test unit. A Program Deviation Report (PDR) will be submitted in accordance with DODI 5000.002, Enclosures 4 and 10, USC 2435.

The GMR Program Office remains focused on the security challenges inherent with software defined radios capable of processing multiple security levels of voice and data deployed in tactical units with connectivity to strategic defense networks. The National Security Agency (NSA) has concurred with the GMR design and is in the process of reviewing final documentation and code as part of the FY 2011 Security Verification Testing (SVT).

The Program Manager (PM) continues to monitor cost, schedule and performance very closely as the contractor concludes the GMR development effort. Integration, qualification and verification of software and EDM hardware are continuing challenges that have the potential to negatively impact schedule.

There are no significant software/hardware issues with the program as of this report.

Threshold Breaches

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

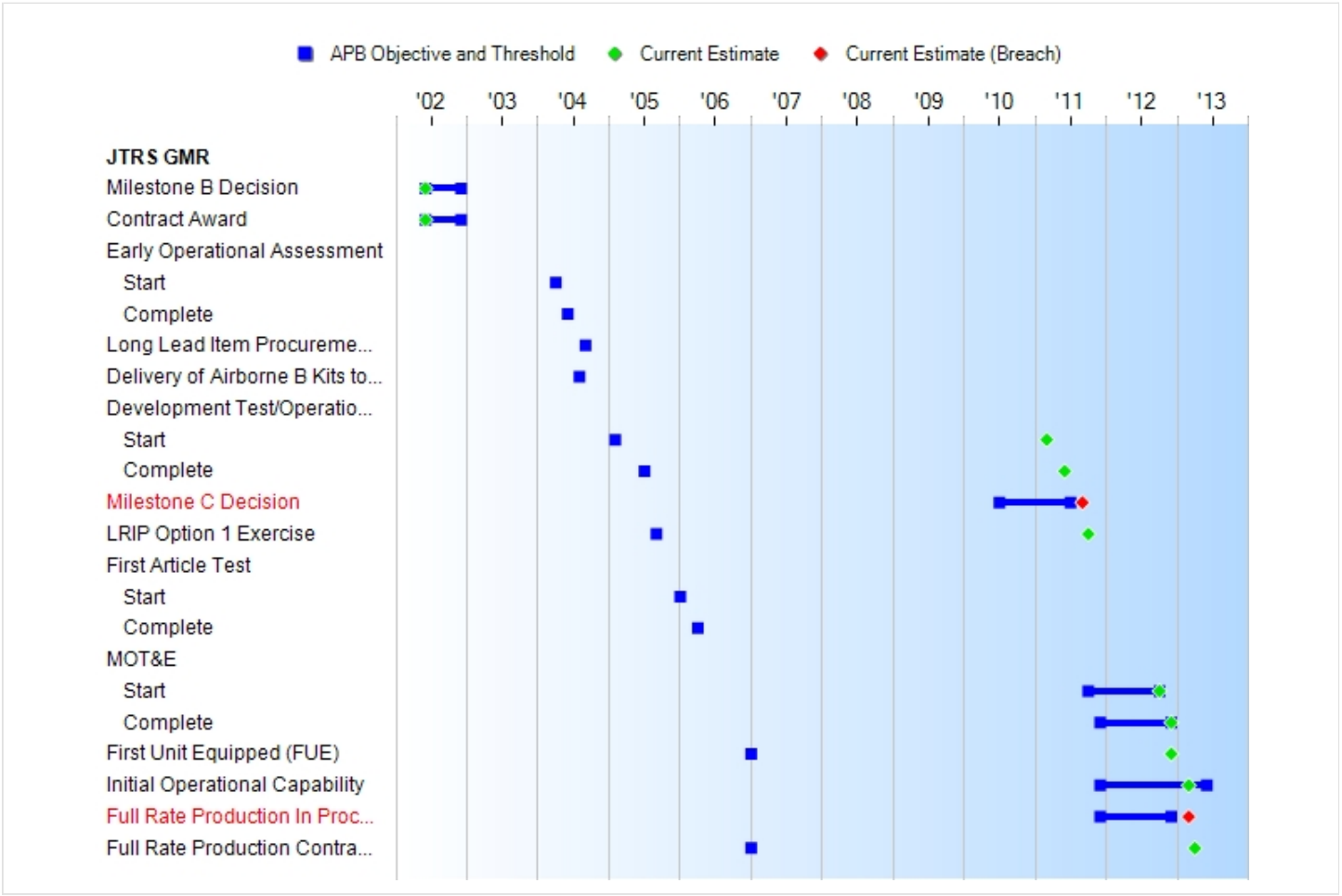
Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Explanation of Breach

Schedule: Due to the extension of Developmental Testing to include additional performance data for the Wideband Networking Waveform (WNW), which is integral to the operation of the GMR, and to better inform Office of the Secretary of Defense (OSD) decision makers, Milestone C (MS C) has moved to 4th Quarter FY 2011. Subsequently, Full Rate Production (FRP) moved to 2nd Quarter FY 2013. A Program Deviation Report (PDR) will be submitted to address in accordance with DODI 5000.002, Enclosures 4 and 10, USC 2435.

RDT&E: The Program Manager (PM) submitted a PDR to the OSD in December 2008, indicating that the program would experience a total RDT&E cost threshold breach. Funding to address these issues has been provided as part of Program Decision Memorandum (PDM) III.

Schedule


APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'02
'03
'04
'05
'06
'07
'08
'09
'10
'11
'12
'13
JTRS GMR
Milestone B Decision
Contract Award
Early Operational Assessment
Start
Complete
Long Lead Item Procureme...
Delivery of Airborne B Kits to...
Development Test/Operatio...
Start
Complete
Milestone C Decision
LRIP Option 1 Exercise
First Article Test
Start
Complete
MOT&E
Start
Complete
First Unit Equipped (FUE)
Initial Operational Capability
Full Rate Production In Proc...
Full Rate Production Contra...

Milestones	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	
Milestone B Decision	JUN 2002	JUN 2002	DEC 2002	JUN 2002	
Contract Award	JUN 2002	JUN 2002	DEC 2002	JUN 2002	
Early Operational Assessment					
Start	APR 2004	N/A	N/A	N/A	
Complete	JUN 2004	N/A	N/A	N/A	
Long Lead Item Procurement Option 1 Approval OIPT	SEP 2004	N/A	N/A	N/A	
Delivery of Airborne B Kits to Aviation for Airworthiness Certification and Integration	AUG 2004	N/A	N/A	N/A	
Development Test/Operational Test/Limited User Test					
Start	FEB 2005	N/A	N/A	MAR 2011	(Ch-2)
Complete	JUL 2005	N/A	N/A	JUN 2011	(Ch-2)
Milestone C Decision	AUG 2005	JUL 2010	JUL 2011	**SEP 2011**[1]	(Ch-1)
LRIP Option 1 Exercise	SEP 2005	N/A	N/A	OCT 2011	(Ch-1)
First Article Test					
Start	JAN 2006	N/A	N/A	N/A	(Ch-4)
Complete	APR 2006	N/A	N/A	N/A	(Ch-4)
MOT&E					
Start	AUG 2006	OCT 2011	OCT 2012	OCT 2012	(Ch-3)
Complete	OCT 2006	DEC 2011	DEC 2012	DEC 2012	(Ch-3)
First Unit Equipped (FUE)	JAN 2007	N/A	N/A	DEC 2012	(Ch-3)
Initial Operational Capability	N/A	DEC 2011	JUN 2013	MAR 2013	(Ch-3)
Full Rate Production In Process Review	FEB 2007	DEC 2011	DEC 2012	**MAR 2013**[1]	(Ch-3)
Full Rate Production Contract Award	JAN 2007	N/A	N/A	APR 2013	(Ch-3)

[1] *APB Breach*

Acronyms And Abbreviations

LRIP - Low Rate Initial Production
MOT&E - Multi-Service Operational Test and Evaluation
OIPT - Overarching Integrated Product Team

Change Explanations

(Ch-1) The Milestone C (MS C) decision moved from February 2011 to September 2011 due to the extension of Developmental Testing to include additional performance data for the Wideband Networking Waveform (WNW), which is integral to the operation of the GMR, and to better inform OSD decision makers.

(Ch-2) Development Test/Operational Test/Limited User Test has been changed to represent the Limited User Test only. The dates are adjusted accordingly.

(Ch-3) The commencement of Multi-Service Operational Test & Evaluation (MOT&E) has moved from September 2012 to October 2012 and the end date from November 2012 to December 2012. Initial Operational Capability (IOC) moved from November 2012 to March 2013. Full Rate Production (FRP) In Process Review moved from

November 2012 to March 2013. Changes are due to the movement of MS C and MOT&E's end date. A Program Deviation Report (PDR) will be submitted in accordance with DODI 5000.002, Enclosures 4 and 10, USC 2435.

(Ch-4) First Article Test is no longer scheduled to be conducted.

Performance

Characteristics	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Have an internal growth capability	Open System Architecture IAW JTA; Modular, Scaleable, Flexible Form Factors	Open system architecture in accordance with DISR; Modular, Scaleable, Flexible Form Factors	Open system architecture in accordance with DISR; Modular, Scaleable, Flexible Form Factors	TBD	Open system architecture in accordance with DISR; Modular, Scaleable, Flexible Form Factors.
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	By operators in their operational environment.
Multi-channel routing and retransmission	Objective waveforms that are compatible in mode (voice, data, or video) and use compatible data rates	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	KPP waveforms that are same in mode (voice, data, or video) and use like data rates and operate at permissible security classification levels.
Support time-critical waveforms	SINCGARSE SIP (MIL-STD188-220) HAVE QUICK IIUHF D AMASATCO M (MIL-STD188-181) w/EPLRS WNW (new, modified or existing waveform) and non-	See Annexes D and F of ORD 3.2.1	See Annexes D and F of ORD 3.2.1	TBD	See Annexes D and F of ORD 3.2.1.

	KPP LINK-16 (-) for TACP				
Operate on designated number of channels at the same time	GPS+8 (Vehicular), GPS+10 (Airborne)	8 Vehicular	4 Vehicular	TBD	GPS+4 (Vehicular)
Scaleable networking services	Maritime/Fixed Domain	All Domains	All Domains	TBD	All Domains
Network extension/coverage	Across Organizational boundaries	Across organizational boundaries	Across organizational boundaries	TBD	Across organizational boundaries.
JTR System network interoperability	Inter-operate with Allied/Coalition and commercial networks; satisfy 100% of top-level IERs	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements in the Joint integrated architecture	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements designated as enterprise-level or critical in the Joint integrated architecture	TBD	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements designated as enterprise level or critical in the Joint integrated architecture.
Operational Availability (Ao)	0.99 Channel / 0.96 (Set)	0.99 Channel/0.96 (Set)	0.96 Channel	TBD	0.96 (Channel)
Net Ready (NR) capability	N/A	The system must fully support executionof all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the	The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the	TBD	The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the

		technical requirements for Net-Centric military operations to include: 1) DISR mandated GIG IT standards and profiles identified in the TV1 2) DISR mandated GIG KIPs identified in the KIP declaration (Table 31) 3) NCOW RM Enterprise Services 4) Information assur-ance requirements including availability, integrity, authenticat-ion, confidential-ity, and nonrepudiat-ion, and issuance of an ATO by the DAA 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent	technical requirements for transition to Net-Centric military operations to include: 1) DISR mandated GIG IT standards and profiles identified in the TV1 2) DISR mandated GIG KIPs identified in the KIP declaration (Table 31) 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authenticat-ion, confidential-ity, and nonrepudiat-ion, and issuance of an IATO by the DAA 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent		technical requirements for transition to Net-Centric military operations to include: 1) DISR mandated GIG IT standards and profiles identified in the TV1 2) DISR mandated GIG KIPs identified in the KIP declaration (Table 31) 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authenti-cation, confidentiality, and non-repudiation, and issuance of an IATO by the DAA 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent

		data processing specified in the applicable joint and system integrated architecture views	data processing specified in the applicable joint and system integrated architecture views		data processing specified in the applicable joint and system integrated architecture views.

Requirements Source: Increment 1 JTRS Ground Mobile Radio (GMR) Performance Requirements for Increment 1 are based on JROCM 131-06 dated June 29, 2006 and JROCM 171-06 dated August 28, 2006. The JROCM 131-06 mandated the NR KPP and JROCM 171-06 approved the ORD version 3.2

Acronyms And Abbreviations

ATO - Authority To Operate
DAA - Designated Approving Authority
DAMA - Demand Assigned Multiple Access
DISR - DoD Information Technology Standards Registry
DOD IEA - Department of Defense Information Enterprise Architecture
DODAF - Department of Defense Architecture Framework
EDM - Engineering Development Model
EPLRS - Enhanced Position Location Reporting System
ESIP - Enhanced SINCGARS Improvement Program
GIG - Global Information Grid
GPS - Global Positioning System
IA - Information Assurance
IATO - Interim Authority To Operate
IAW - In Accordance With
IER - Information Exchange Requirement
IT - Information Technology
JTA - Joint Technical Architecture
JTR - Joint Tactical Radio
KIP - Key Interface Profile
KPP - Key Performance Parameters
MIL-STD - Military Standard
NCOW-RM - Net Centric Operations and Warfare - Reference Model
ORD - Operational Requirements Document
SAASM - Selective Availability Anti-Spoofing Module
SATCOM - Satellite Communications
SINCGARS - Single Channel Ground and Airborne Radio System
TACP - Tactical Air Control Party
TBD - To Be Determined
TV - Technical View
UHF - Ultra High Frequency
WNW - Wideband Networking Waveform

Change Explanations

None

Track To Budget

RDT&E				
APPN 1319	BA 05	PE 0604280N	(Navy)	
	Project 3074	JTRS/Ground Mobile Radio	(Shared)	
	Project 9D72	Army Tactical Radios for PEO Integration	(Shared)	(Sunk)
APPN 2040	BA 05	PE 0604280A	(Army)	
	Project 162	JTRS/Ground Mobile Radio	(Shared)	
APPN 2040	BA 05	PE 0604805A	(Army)	
	Project D615	Command, Project 615 Control, Comm Systems - Eng Dev/JTRS- Ground Domain Integration	(Shared)	(Sunk)
APPN 3600	BA 05	PE 0604280F	(Air Force)	
	Project 5068	JTRS/Ground Mobile Radio	(Shared)	

The JTRS Common RDT&E funding is consolidated under one Navy Program Element (PE 0604280N) in the execution and budget years (FY10-FY12). Army Program Element (PE 0604280A) and Air Force Program Element (PE 0604280F) represent outyear funding. Army Program Element (PE 06048505A) represents prior year funding.

Procurement				
APPN 1109	BA 04	PE 0206313M	(Navy)	
	ICN 4633	Marine Corps Communication Equipment / Radio Systems	(Shared)	
APPN 2035	BA 02		(Army)	
	ICN B90100	JTRS GMR	(Shared)	
APPN 3080	BA 03	PE 0207423F	(Air Force)	
	ICN 837100	Air Force Procurement	(Shared)	(Sunk)

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2002 $M			BY2002 $M	TY $M		
Appropriation	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	845.1	1209.8	1330.9	**1467.2**[1]	901.1	1356.7	1666.8
Procurement	13592.1	13060.9	14367.1	12135.4	18211.8	19387.1	17835.0
Flyaway	11855.4	--	--	10589.6	15879.3	--	15564.7
Recurring	11855.4	--	--	10580.5	15879.3	--	15553.6
Non Recurring	0.0	--	--	9.1	0.0	--	11.1
Support	1736.7	--	--	1545.8	2332.5	--	2270.3
Other Support	1087.3	--	--	660.4	1462.7	--	966.8
Initial Spares	649.4	--	--	885.4	869.8	--	1303.5
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	14437.2	14270.7	N/A	13602.6	19112.9	20743.8	19501.8

[1] ***APB Breach***

Quantity	SAR Baseline Dev Est	Current APB Development	Current Estimate
RDT&E	302	140	91
Procurement	108086	86512	86865
Total	108388	86652	86956

The unit of measure is a JTRS GMR radio set which is capable of running 2, 3, or 4 channels.

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2012 President's Budget / December 2010 SAR (TY$ M)

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	1483.3	101.4	18.7	24.5	29.6	8.6	0.7	0.0	1666.8
Procurement	0.0	146.0	212.7	251.6	232.4	201.1	251.0	16540.2	17835.0
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 2012 Total	1483.3	247.4	231.4	276.1	262.0	209.7	251.7	16540.2	19501.8
PB 2011 Total	1485.7	251.8	240.4	280.7	306.4	306.5	236.3	16022.9	19130.7
Delta	-2.4	-4.4	-9.0	-4.6	-44.4	-96.8	15.4	517.3	371.1

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	91	0	0	0	0	0	0	0	0	91
Production	0	0	308	490	629	608	522	689	83619	86865
PB 2012 Total	91	0	308	490	629	608	522	689	83619	86956
PB 2011 Total	131	0	321	531	714	887	934	693	82868	87079
Delta	-40	0	-13	-41	-85	-279	-412	-4	751	-123

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	--	--	--	--	--	--	202.9
2008	--	--	--	--	--	--	262.8
2009	--	--	--	--	--	--	245.8
2010	--	--	--	--	--	--	200.3
2011	--	--	--	--	--	--	101.4
2012	--	--	--	--	--	--	18.7
2013	--	--	--	--	--	--	2.3
2014	--	--	--	--	--	--	0.8
Subtotal	**91**	**--**	**--**	**--**	**--**	**--**	**1035.0**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
2007	--	--	--	--	--	--	178.1
2008	--	--	--	--	--	--	226.5
2009	--	--	--	--	--	--	209.3
2010	--	--	--	--	--	--	168.7
2011	--	--	--	--	--	--	84.2
2012	--	--	--	--	--	--	15.3
2013	--	--	--	--	--	--	1.9
2014	--	--	--	--	--	--	0.6
Subtotal	**91**	**--**	**--**	**--**	**--**	**--**	**884.6**

The JTRS Common RDT&E funding was consolidated under one Navy Program Element (PE-0604280N) in the execution and budget years(FY11-12) to consolidate execution under one Military Department (MILDEP).

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
2002	--	--	--	--	--	--	49.6
2003	--	--	--	--	--	--	87.8
2004	--	--	--	--	--	--	169.8
2005	--	--	--	--	--	--	97.2
2006	--	--	--	--	--	--	167.1
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	--
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	--	--	--	--	--	19.7
2014	--	--	--	--	--	--	27.8
2015	--	--	--	--	--	--	8.5
2016	--	--	--	--	--	--	0.7
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**628.2**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
2002	--	--	--	--	--	--	49.1
2003	--	--	--	--	--	--	85.3
2004	--	--	--	--	--	--	161.0
2005	--	--	--	--	--	--	89.6
2006	--	--	--	--	--	--	149.9
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	--
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	--	--	--	--	--	15.8
2014	--	--	--	--	--	--	21.9
2015	--	--	--	--	--	--	6.6
2016	--	--	--	--	--	--	0.5
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**579.7**

The Joint Tactical Radio System (JTRS) Common RDT&E funding was consolidated under one Navy Program Element (PE-0604280N) in the execution and budget years (FY11-FY12) to consolidate execution under one Military Department (MILDEP).

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
2013	--	--	--	--	--	--	2.5
2014	--	--	--	--	--	--	1.0
2015	--	--	--	--	--	--	0.1
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**3.6**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
2013	--	--	--	--	--	--	2.0
2014	--	--	--	--	--	--	0.8
2015	--	--	--	--	--	--	0.1
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**2.9**

The JTRS Common RDT&E funding was consolidated under one Navy Program Element (PE-0604280N) in the execution and budget years(FY11-FY12) to consolidate execution under one Military Department (MILDEP).

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	298	118.0	--	11.1	129.1	12.6	141.7
2012	471	171.5	--	--	171.5	33.4	204.9
2013	606	201.4	--	--	201.4	42.6	244.0
2014	579	186.5	--	--	186.5	35.3	221.8
2015	502	161.1	--	--	161.1	32.7	193.8
2016	668	204.5	--	--	204.5	39.0	243.5
2017	712	210.1	--	--	210.1	41.0	251.1
2018	450	132.8	--	--	132.8	33.6	166.4
2019	8188	1607.8	--	--	1607.8	205.7	1813.5
2020	8192	1482.1	--	--	1482.1	191.3	1673.4
2021	8192	1423.1	--	--	1423.1	186.4	1609.5
2022	8193	1389.1	--	--	1389.1	183.7	1572.8
2023	8193	1367.9	--	--	1367.9	181.0	1548.9
2024	8193	1354.9	--	--	1354.9	202.3	1557.2
2025	8193	1347.4	--	--	1347.4	201.8	1549.2
2026	8193	1343.9	--	--	1343.9	204.1	1548.0
2027	8193	1343.5	--	--	1343.5	205.7	1549.2
2028	8193	1345.5	--	--	1345.5	206.3	1551.8
Subtotal	**86209**	**15391.1**	**--**	**11.1**	**15402.2**	**2238.5**	**17640.7**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
2011	298	97.2	--	9.1	106.3	10.4	116.7
2012	471	139.0	--	--	139.0	27.1	166.1
2013	606	160.6	--	--	160.6	33.9	194.5
2014	579	146.2	--	--	146.2	27.7	173.9
2015	502	124.2	--	--	124.2	25.2	149.4
2016	668	155.0	--	--	155.0	29.6	184.6
2017	712	156.6	--	--	156.6	30.5	187.1
2018	450	97.3	--	--	97.3	24.6	121.9
2019	8188	1158.5	--	--	1158.5	148.3	1306.8
2020	8192	1050.1	--	--	1050.1	135.5	1185.6
2021	8192	991.4	--	--	991.4	129.9	1121.3
2022	8193	951.6	--	--	951.6	125.8	1077.4
2023	8193	921.4	--	--	921.4	121.9	1043.3
2024	8193	897.4	--	--	897.4	134.0	1031.4
2025	8193	877.5	--	--	877.5	131.4	1008.9
2026	8193	860.6	--	--	860.6	130.7	991.3
2027	8193	846.0	--	--	846.0	129.5	975.5
2028	8193	833.1	--	--	833.1	127.7	960.8
Subtotal	**86209**	**10463.7**	**--**	**9.1**	**10472.8**	**1523.7**	**11996.5**

Army procurement quantities are reflective the JTRS Ground Mobile Radios (GMR) Army Acquisition Objective (AAO). The GMR Basis of Issue Plan (BOIP) will be completed during calendar year 2011.

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
2011	10	3.8	--	--	3.8	0.5	4.3
Subtotal	**10**	**3.8**	**--**	**--**	**3.8**	**0.5**	**4.3**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
2011	10	3.2	--	--	3.2	0.4	3.6
Subtotal	**10**	**3.2**	**--**	**--**	**3.2**	**0.4**	**3.6**

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
2012	19	7.1	--	--	7.1	0.7	7.8
2013	23	6.8	--	--	6.8	0.8	7.6
2014	29	9.6	--	--	9.6	1.0	10.6
2015	20	6.6	--	--	6.6	0.7	7.3
2016	21	6.8	--	--	6.8	0.7	7.5
2017	--	--	--	--	--	--	--
2018	73	20.9	--	--	20.9	2.9	23.8
2019	73	17.8	--	--	17.8	3.0	20.8
2020	73	16.5	--	--	16.5	2.6	19.1
2021	73	15.9	--	--	15.9	2.6	18.5
2022	73	15.5	--	--	15.5	2.4	17.9
2023	73	15.3	--	--	15.3	5.0	20.3
2024	60	12.5	--	--	12.5	4.9	17.4
2025	36	7.4	--	--	7.4	4.0	11.4
Subtotal	**646**	**158.7**	**--**	**--**	**158.7**	**31.3**	**190.0**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
2012	19	5.7	--	--	5.7	0.6	6.3
2013	23	5.4	--	--	5.4	0.6	6.0
2014	29	7.5	--	--	7.5	0.8	8.3
2015	20	5.1	--	--	5.1	0.5	5.6
2016	21	5.1	--	--	5.1	0.6	5.7
2017	--	--	--	--	--	--	--
2018	73	15.3	--	--	15.3	2.1	17.4
2019	73	12.8	--	--	12.8	2.1	14.9
2020	73	11.7	--	--	11.7	1.8	13.5
2021	73	11.0	--	--	11.0	1.9	12.9
2022	73	10.6	--	--	10.6	1.6	12.2
2023	73	10.3	--	--	10.3	3.3	13.6
2024	60	8.3	--	--	8.3	3.2	11.5
2025	36	4.8	--	--	4.8	2.6	7.4
Subtotal	**646**	**113.6**	**--**	**--**	**113.6**	**21.7**	**135.3**

Low Rate Initial Production

At the Milestone B, Low Rate Initial Production (LRIP) was not to exceed ten percent (10%) of total Production for all Services. Specific quantity amounts will be identified at the Milestone C.

Foreign Military Sales

None

Nuclear Cost

None

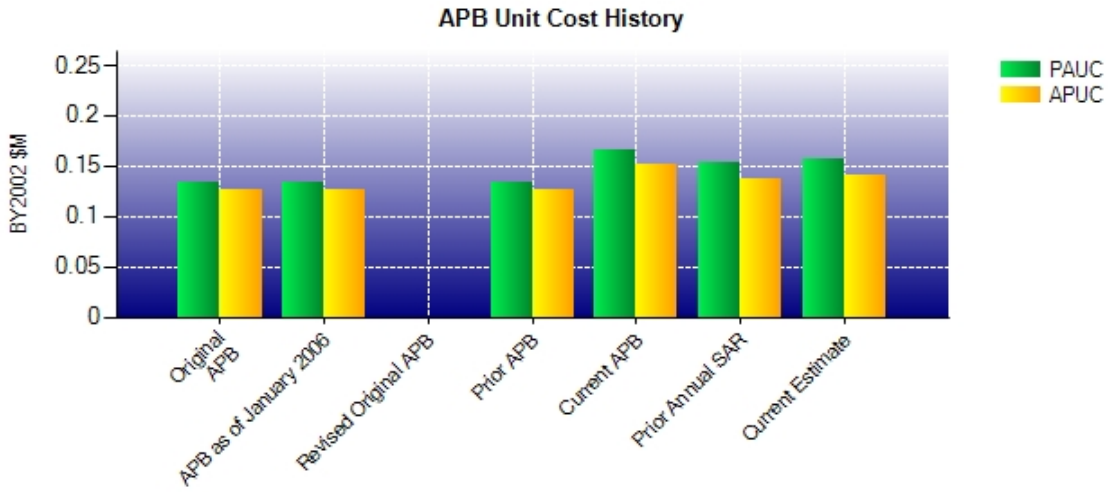
Unit Cost

Unit Cost Report

Unit Cost	BY2002 $M Current UCR Baseline (JAN 2008 APB)	BY2002 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	14270.7	13602.6	
Quantity	86652	86956	
Unit Cost	0.165	0.156	-5.45
Average Procurement Unit Cost (APUC)			
Cost	13060.9	12135.4	
Quantity	86512	86865	
Unit Cost	0.151	0.140	-7.28

Unit Cost	BY2002 $M Original UCR Baseline (JUN 2002 APB)	BY2002 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	14437.2	13602.6	
Quantity	108388	86956	
Unit Cost	0.133	0.156	+17.29
Average Procurement Unit Cost (APUC)			
Cost	13592.1	12135.4	
Quantity	108086	86865	
Unit Cost	0.126	0.140	+11.11

Unit Cost History



		BY2002 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	JUN 2002	0.133	0.126	0.176	0.168
APB as of January 2006	JUN 2002	0.133	0.126	0.176	0.168
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	JUN 2002	0.133	0.126	0.176	0.168
Current APB	JAN 2008	0.165	0.151	0.239	0.224
Prior Annual SAR	DEC 2009	0.153	0.137	0.220	0.201
Current Estimate	DEC 2010	0.156	0.140	0.224	0.205

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	
0.176	-0.001	0.009	0.028	0.000	0.012	0.000	0.000	0.048	0.224

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Dev Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.168	-0.001	0.007	0.023	0.002	0.006	0.000	0.000	0.037	0.205

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	JUN 2002	N/A	JUN 2002
Milestone C	N/A	AUG 2005	N/A	SEP 2011
IOC	N/A	N/A	N/A	MAR 2013
Total Cost (TY $M)	N/A	19112.9	N/A	19501.8
Total Quantity	N/A	108388	N/A	86956
Prog. Acq. Unit Cost (PAUC)	N/A	0.176	N/A	0.224

Cost Variance

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	901.1	18211.8	--	19112.9
Previous Changes				
Economic	+20.6	-33.4	--	-12.8
Quantity	+9.3	-2955.2	--	-2945.9
Schedule	+392.2	+1985.1	--	+2377.3
Engineering	-126.6	+139.8	--	+13.2
Estimating	+419.6	+226.2	--	+645.8
Other	--	--	--	--
Support	--	-59.8	--	-59.8
Subtotal	+715.1	-697.3	--	+17.8
Current Changes				
Economic	+0.3	-34.5	--	-34.2
Quantity	--	-22.1	--	-22.1
Schedule	--	+21.3	--	+21.3
Engineering	--	-0.2	--	-0.2
Estimating	+50.3	+335.3	--	+385.6
Other	--	--	--	--
Support	--	+20.7	--	+20.7
Subtotal	+50.6	+320.5	--	+371.1
Total Changes	+765.7	-376.8	--	+388.9
CE - Cost Variance	1666.8	17835.0	--	19501.8
CE - Cost & Funding	1666.8	17835.0	--	19501.8

Summary Base Year 2002 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	845.1	13592.1	--	14437.2
Previous Changes				
Economic	--	--	--	--
Quantity	+8.8	-1823.1	--	-1814.3
Schedule	+346.4	+23.7	--	+370.1
Engineering	-105.2	+33.2	--	-72.0
Estimating	+332.5	+295.4	--	+627.9
Other	--	--	--	--
Support	--	-202.6	--	-202.6
Subtotal	+582.5	-1673.4	--	-1090.9
Current Changes				
Economic	--	--	--	--
Quantity	--	-18.0	--	-18.0
Schedule	--	-3.0	--	-3.0
Engineering	--	-0.2	--	-0.2
Estimating	+39.6	+226.2	--	+265.8
Other	--	--	--	--
Support	--	+11.7	--	+11.7
Subtotal	+39.6	+216.7	--	+256.3
Total Changes	+622.1	-1456.7	--	-834.6
CE - Cost Variance	1467.2	12135.4	--	13602.6
CE - Cost & Funding	1467.2	12135.4	--	13602.6

Previous Estimate: December 2009

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+0.3
Adjustment for current and prior escalation. (Estimating)	-0.3	-0.3
Decreased Army estimate associated with the transfer of funding from the Army program element to the Navy program element in FY 2012. (Estimating)	-5.2	-6.4
Increased Army estimate associated with implementing Joint Counter RCIED (Radio Controlled Improvised Explosive Device) Electronic Warfare (JCREW) interoperability on the JTRS GMR. (Estimating)	+42.0	+53.1
Decreased Navy estimate resulting from a redistribution of funding from JTRS GMR to MIDS. (Estimating)	-2.0	-2.4
Increased Navy estimate associated with the transfer of funding from the Army and Air Force program elements to the Navy program element. (Estimating)	+10.3	+12.6
Decreased Air Force estimate associated with the transfer of funding from the Air Force program element to the Navy program element in FY 2012. (Estimating)	-5.2	-6.3
RDT&E Subtotal	+39.6	+50.6

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-34.5
Adjustment for current and prior escalation. (Estimating)	+0.1	0.0
Adjustment for current and prior escalation. (Support)	0.0	+0.1
Stretch-out of procurement buy profile. (Army) (Schedule)	0.0	+23.3
Increased Army per unit cost associated with a quantity requirements shift. (Estimating)	+221.1	+329.0
Increase in Initial Spares resulting from an increased per unit estimating adjustment. Intitial spares is estimated as a percentage of recurring manufacturing (Army). (Support)	+14.1	+22.9
Increase in Other Support resulting from an increased per unit cost estimating adjustment. Other support is estimated as a percentage of recurring manufacturing. Other support includes: Training, Data, Fielding, Support Equipment, and Technical Insertion/Modifications. (Army) (Support)	+7.1	+11.3
Decrease in Other Support. While the total quantities did not change, the USMC procurement was accelerated by two (2) years which reduced the projected need associated with Other Support categories. Other support includes: Training, Data, Fielding, Support Equipment, and Technical Insertion/Modifications. (Navy) (Support)	-7.1	-10.5
Stretch-out of procurement buy profile. (Navy) (Schedule)	0.0	+1.6
Decrease in Initial Spares associated with a shortened procurement profile. (Navy) (Support)	0.0	-0.2
Total Quantity variance resulting from a decrease of 83 4-channel GMR radios from 93 to 10 (Air Force). (Subtotal)	-21.5	-26.4
Quantity variance resulting from a decrease of 83 4-channel GMR radios from 93 to 10 (Air Force). (Quantity)	(-18.0)	(-22.1)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(-3.0)	(-3.6)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(-0.2)	(-0.2)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-0.3)	(-0.5)

Increased estimating change resulting from a shortened procurement profile. (Navy) (Estimating)	+3.9	+5.2
Decrease in Other Support associated with the decrease in total procurement quantities. Other support is estimated as a percentage of recurring manufacturing. Other support includes: Training, Data, Fielding, Support Equipment, and Technical Insertion/Modifications (Air Force). (Support) (QR)	-0.6	-0.8
Decrease in Initial Spares associated with the decrease in total procurement quantities. Intial Spares is estimated as a percentage of recurring manufacturing (Air Force). (Support) (QR)	-1.8	-2.1
Air Force estimating adjustment associated with the quantity reallocation across the Services. The Program Office Estimate (POE) assumes shared learning across Line Replaceable Units (LRUs) which has resulted in unit cost increases against this area. (Estimating)	+1.4	+1.6
Procurement Subtotal	+216.7	+320.5

(QR) Quantity Related

Contracts

Appropriation: RDT&E	
Contract Name	**JTRS GMR**
Contractor	THE BOEING COMPANY
Contractor Location	HUNTINGTON BEACH, CA 92647
Contract Number, Type	DAAB07-02-C-C403, CPAF
Award Date	June 24, 2002
Definitization Date	June 24, 2002

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
235.5	N/A	302	1195.4	N/A	131	1385.7	1385.7

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-135.5	-4.7
Previous Cumulative Variances	-85.5	-19.2
Net Change	-50.0	+14.5

Cost And Schedule Variance Explanations

The net unfavorable cost variance of -50.0M is an indicator of continued technical challenges associated with the completion of hardware development and Security concerns which have had residual impacts to the Non-Waveform Software.

The net favorable schedule variance increase of +14.5M is an indicator that the contractor continues to work toward completing the tasks identified on the program schedule.

Contract Comments

From June 2002 through December 2010 the JTRS GMR Contractor team has experienced challenges which have had adverse cost implications against the Hardware, Waveform Porting, and Non-Waveform Software development. Meeting National Security Agencysecurity requirements has also impacted the aforementioned items as well as the contractor support costs for: Program Management, Systems Engineering, and Logistics.

The contract price increase can be directly correlated to the cost and scope growth over this period of time. The fee margin has only increased as new scope was added to the contract. With the exception of a few hardware redesign activities, design and development have completed; testing is in process.

Quantities were reduced as a result of the program restructure in 2007. The 302 service quantities included the Army Rotary Wing, Air Force and USMC RDTE quantities. At the rebaseline, the radios for these organizations were removed; emphasis on the go forward plan was for a ground vehicular variant only (comprised mostly of Army platforms).

This contract is now over 90% complete and will no longer be reported.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	91	91	91	100.00%
Production	0	0	86865	0.00%
Total Program Quantities Delivered	91	91	86956	0.10%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	19501.8	Years Appropriated	10
Expenditures To Date	1584.8	Percent Years Appropriated	37.04%
Percent Expended	8.13%	Appropriated to Date	1730.7
Total Funding Years	27	Percent Appropriated	8.87%

Operating and Support Cost

Assumptions And Ground Rules
1. Estimates are based on the August 2007 JTRS GMR cost estimate. The JTRS GMR Increment 1 CARD was approved in April 2007 by the JTRS JPEO. 2. GMR total radios are 86,865 (2-4 channels). O&S costs include requirements for Army, Air Force and the US Marine Corps. 3. O&S costs are calculated based on the recurring radio manufacturing. These costs will sustain the GMR radio after release into the field. 4. Operating and Support (O&S) Costs reflect the average annual cost for all radios. 5. System life is estimated at 20 years. 6. There is no antecedent program to this system.

Costs BY2002 $K		
Cost Element	**JTRS GMR Average Annual Cost (Per Radio)**	**No Antecedent**
Unit-Level Manpower	--	--
Unit Operations	3.74	--
Maintenance	--	--
Sustaining Support	2.36	--
Continuing System Improvements	--	--
Indirect Support	--	--
Other	--	--
Total Unitized Cost (Base Year 2002 $)	6.10	--

Total O&S Costs $M	JTRS GMR	No Antecedent
Base Year	10595.8	--
Then Year	19007.7	--