EXHIBIT R-2, RDT&E Budget Item Justification							DATE: May 2009	
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE							
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)							
COST ($ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total Cost	**830.791**	**845.057**	**876.374**					
3020 Multifunctional Information Distribution System (MIDS) JTRS	**79.696**	**27.265**	**12.658**					
3073 Airborne/Maritime/Fixed Station (AMF) JTRS	**96.128**	**203.012**	**325.017**					
3074 Ground Mobile Radio (GMR) JTRS	**262.848**	**195.776**	**203.562**					
3075 Handheld/Manpack/Small Form Fit (HMS) JTRS	**150.586**	**164.190**	**133.014**					
3076 JTRS Network Enterprise Domain (JNED)	**241.533**	**241.351**	**202.123**					
9999 Digital Modular Radio (DMR)	**0.000**	**1.995**	**0.000**					
9999 Army Tactical Radios for FCS	**0.000**	**11.468**	**0.000**					

In FY08-FY10, Program Element (PE) 0604280N represents the total JTRS RDT&E Budget (includes Multifunctional Information Distribution System (MIDS) JTRS, Airborne and Maritime/Fixed Station (AMF) JTRS, Ground Mobile Radio (GMR) JTRS, Handheld/Manpack/Small Form Fit (HMS) JTRS, and JTRS Network Enterprise Domain (JNED)).

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 MegaHertz (MHz) to 2 GigaHertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS will be a hardware-configurable and software-programmable radio system that provides increased interoperability, flexibility and adaptability to support varied mission requirements.

(AMF) AMF JTRS is a key enabler to the transformation of airborne, maritime, and land based communications toward network-centric operations. AMF JTRS will operate with legacy radios and waveforms used by civilian and military airborne, surface, subsurface, and fixed station platforms. AMF JTRS is intended to provide new radio networking capability as well as replace existing radio systems, which are facing long-term sustainment issues. AMF JTRS capabilities will be incrementally developed, with each increment building on the technological achievements of its predecessor, while providing expanded capabilities.

(MIDS) MIDS- Low Volume Terminal (LVT) is a jam-resistant, secure, digital (voice and data) information distribution system enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The technical objective of the MIDS JTRS program is to transform the MIDS-LVT into a four-channel, Software Communications Architecture (SCA) compliant JTRS, while maintaining current Link-16 and tactical air navigation system (TACAN) functionality. MIDS JTRS is designed to be plug-and-play interchangeable for U.S. Navy and U.S. Air Force platforms that use MIDS-LVT, while accommodating future technologies and capabilities. Improvements such as Link-16 enhanced throughput, Link-16 frequency remapping, and programmable crypto will also be realized in the MIDS JTRS design. The MIDS JTRS core terminal includes four 2 MHz to 2 GHz programmable channels that allow the warfighter to use multiple waveforms in development by JNED. Total core terminal program requirements include: terminal development, F/A-18 Level 0 integration, software hosting (operating environment/waveforms) and production transition.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: May 2009

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION (continued):

(GMR) 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.

(HMS) HMS provides the JTRS capability to meet Joint Ground Mounted, Dismounted & Embedded Radio Requirements. Increment 1, Phase 1 will develop SFF-A (1 and 2 Channel) and SFF-C(v)1 running Soldier Radio Waveform (SRW) for use in a sensitive but unclassified environment (Type 2). Increment 1, Phase 2 will develop the 2 Channel Manpack, SFF-B, SFF-D, and SFF-J, and 2 Channel Handheld. Phase 2 radios are all Type 1 compliant for use in a classified environment running Ultra High Frequency (UHF), Satellite Communications (SATCOM), High Frequency (HF), Enhanced Position Location and Reporting System (EPLRS), Soldier Radio Waveform (SRW), Mobile User Objective System (MUOS), and Single Channel Ground to Air Radio System (SINCGARS) waveforms.

(JNED) JNED is responsible for the development and delivery of software-defined, legacy radio waveforms and networking waveforms that support Net-Centric operational warfare at sea, air and on the ground. Networking waveforms extend the Global Information Grid (GIG) to the last tactical mile and to the warfighter. The JNED team is responsible for (1) the overall management and oversight of the JTRS Waveform program, (2) development, validation, and evolution of a common JTRS Software Communications Architecture (SCA), (3) development and evolution of waveform software applications, (4) development of software cryptographic algorithms and equipment applications, (5) testing and certification of JTRS waveforms, network services, network management, and software products, and (6) JTRS networking and network management software components. Services are responsible for acquiring and fielding host radio hardware and integrating JTRS into Service platforms.

JUSTIFICATION FOR BUDGET ACTIVITY:
This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2008	FY 2009	FY 2010	FY 2011
FY09 President's Budget	835.366	834.650	246.714	
FY10 President's Budget	830.791	845.057	876.374	
Total Adjustments	-4.575	10.407	629.660	
Summary of Adjustments				
Congressional Adjustments		13.500		
Small Business Innovative Research (SBIR) / Federal Technology Transfer	-6.400			
JTRS annual RDT&E transfer to Navy from other Services	1.825		491.932	
JTRS annual RDT&E to O&M transfer for NED Sustainment			-6.972	
DoD Program Adjustments to JTRS Development			155.299	
Rate/Misc. Adjustments		-3.093	-10.599	
	-4.575	10.407	629.660	

Schedule:

Technical:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)

(U)OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	PY	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	To Complete	Total Cost
RDTE, Army PE 0604805A, Project 615 (JTRS Cluster 1 / GMR)	571.542										
RDTE, Army PE 0604805A, Project 61A (JTRS Cluster 5 / HMS)	242.657										
0604805A Command, Control, Communications Sys. - Eng Dev Total	814.199	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
RDTE, Army PE 0604280A, Project 162 (AMF JTRS)		0.000	0.000	0.000							
RDTE, Army PE 0604280A, Project 162 (MIDS JTRS)		0.000	0.000	0.000							
RDTE, Army PE 0604280A, Project 162 (JNED)	632.951	0.000	0.000	0.000							
RDTE, Army PE 0604280A, Project 162 (GMR JTRS)		0.000	0.000	0.000							
RDTE, Army PE 0604280A, Project 162 (HMS JTRS)		0.000	0.000	0.000							
0604280A Joint Tactical Radio System Total	632.951	0.000	0.000	0.000							
RDTE, Air Force PE 0604280F, Project 5068 (AMF JTRS)	154.189	0.000	0.000	0.000							
RDTE, Air Force PE 0604280F, Project 5068 (MIDS JTRS)		0.000	0.000	0.000							
RDTE, Air Force PE 0604280F, Project 5068 (JNED)		0.000	0.000	0.000							
RDTE, Air Force PE 0604280F, Project 5068 (GMR JTRS)		0.000	0.000	0.000							
RDTE, Air Force PE 0604280F, Project 5068 (HMS JTRS)		0.000	0.000	0.000							
0604280F Joint Tactical Radio Systems Total	154.189	0.000	0.000	0.000							
O&M, 4A6M - Service Wide Communications (JTRS JPEO)	19.568	16.089	11.041	11.124							
O&M, 4A6M - Service Wide Communications (JNED)			1.823	6.836							
O&M, 4A6M - Service Wide Communications (MIDS)				15.300							
O&M, 4B7N - Space and Electronic Warfare Systems (MIDS)	3.933	0.602	3.668	3.804							

ACQUISITION STRATEGY:

ACQUISITION STRATEGY:

In Feb 2005 all JTRS programs were realigned under the JPEO JTRS. In Nov 2005 the DAE and Senior JTRS Leadership restructured JTRS to emphasize cost and schedule performance while executing a moderate technical risk plan.

(AMF JTRS) FY10 budget supports the JTRS AMF SDD efforts. A joint AF/Navy/Army team manages the development of a common core radio design that will be the basis for satisfying the AMF requirements. AMF completed Pre-System Development and Demonstration (SDD) contracts in early FY07, which were awarded to two competing vendors in late FY04. These efforts included System, Hardware, and Software Development reviews, Preliminary Design Reviews and technical risk reduction activities. The AMF program awarded the SDD contract on March 28, 2008. This effort is leveraging technical solutions derived from efforts resulting from the Pre-SDD contracts as well as from JPEO Enterprise activities. A Critical Design Review (CDR) is planned for 4th quarter FY09. SDD development continues in FY10 through FY12 for the AMF JTRS system Engineering Development Models (EDMs), associated testing and integration, development engineering and management support for associated JTR system components.

(MIDS JTRS) MIDS JTRS development will be initiated as a major modification to the MIDS-LVT using an Engineering Change Proposal to the existing production contracts. Development efforts include the Phase 2B Core terminal. The U.S. prime contractors from the MIDS-LVT program (Data Link Solutions and ViaSat, Inc.) will cooperatively design and develop the Core terminal. Each prime contactor will build and qualify Production Verification Terminals. The U.S. will implement a continuous competition strategy between DLS and ViaSat that will be maintained throughout the MIDS JTRS production phase. This strategy was successfully used on MIDS-LVT production. The FY10 budget supports development and implementation of a Crypto Modernization and Frequency Remapping capabilities as well as MIDS system engineering and technical support to the program.

(JNED) JNED, formerly Joint Waveforms Program Office, is responsible for common core activities including developing and evolving the software-defined legacy and networking waveforms that operate on multiple hardware sets and in all operational environments that support network-centric operational warfare, as well as common networking services solutions. Waveform developments will be procured through full and open contract competitions, except when special circumstanc support sole source acquisition. The JNED program is developing waveforms and Cryptographic Equipment applications (CEAs) for use within the JTRS community. The module developer will develop CEAs. The FY10 Budget supports continued development of waveforms, supporting software, and testing support, as well as the National Security Agency (NSA) evaluation of software crypto libraries.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)

ACQUISITION STRATEGY (Cont.):

(GMR JTRS) This project supports the JTRS GMR SDD efforts. After a Milestone (MS) B Decision in 3QFY02, the GMR development effort was awarded to develop multichannel ground and airborne configurations (airborne is now realigned under AMF). The JTRS GMR supports an evolutionary acquisition strategy and was based on an aggressive acquisition schedule. In June 2002, a Cost Plus Award Fee (CPAF) contract was competitively awarded to develop or acquire numerous SCA compliant waveforms, define common form-fit-function configurations for vehicular versions of the JTRS hardware, and successfully port the waveforms to JTRS hardware produced by two different developers. Although Waveform development is part of the contract, the Waveform development is funded and managed under the JNED. A software reprogrammable radio providing the warfighter with the multiband and multimode capability, networkable radio system which provides simultaneous voice, data and video communications to increase interoperability, flexibility, and adaptability in support of varied mission requirements for vehicular platforms is being developed. The Engineering Development Models (EDM) design is complete. The FY10 budget supports testing of EDMs with the conclusion of the Production Qualification Test (PQT) and the conducting of the System Integration Test (SIT) and Limited User Test (LUT).

(HMS JTRS) This project supports the JTRS HMS SDD efforts. The JTRS HMS Program began with the development of the HMS Radios following Milestone (MS) B approval on April 26, 2004. HMS uses an evolutionary acquisition strategy and will deliver NSA certified capabilities. Following full and open competition, a single Cost-Plus-Award Fee (CPAF) contract was awarded on July 16, 2004. The contract is structured to address Increment 1. JTRS HMS Increment 1 consists of 2 phases of development. Increment 1, Phase 1 will develop SFF-A (1 and 2 Channel) and SFF-C(v)1 running Soldier Radio Waveform (SRW) for use in a sensitive but unclassified environment (Type 2). Increment 1, Phase 2 will develop the 2 Channel Manpack, SFF-B, SFF-D, and SFF-J, which are all Type 1 compliant for use in a classified environment running Ultra High Frequency (UHF), Satellite Communications (SATCOM), High Frequency (HF), Enhanced Position Location and Reporting System (EPLRS), Soldier Radio Waveform (SRW), Mobile User Objective System (MUOS), and Single Channel Ground to Air Radio System (SINCGARS) waveforms. The FY10 budget supports integration, testing, continued development of prototypes, and development of EDMs.

MAJOR PERFORMERS:

Prime Contractors: AMF JTRS: SDD Contractor is Lockheed Martin Corporation; MIDS JTRS: Data Link Solutions and ViaSat Inc.; JNED: Boeing, ITT, and Lockheed Martin; GMR JTRS: Boeing; HMS JTRS: General Dynamics C4 Systems

METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

EXHIBIT R-2a, RDT&E Project Justification					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3020 MIDS JTRS				
COST ($ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total Project Cost	**79.696**	**27.265**	**12.658**					
3020 Multifunctional Information Distribution System (MIDS) JTRS	**79.696**	**27.265**	**12.658**					
RDT&E Articles Qty								

In FY08-FY10, Project No. 3020 represents the total Multifunctional Information Distribution System (MIDS) RDT&E budget for those years. Beginning in FY10, all references to MIDS funding includes funding for both MIDS-LVT and MIDS JTRS.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 MegaHertz (MHz) to 2 GigaHertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS will be a hardware-configurable and software-programmable radio system that provides increased interoperability, flexibility and adaptability to support varied mission requirements.

(MIDS) MIDS- Low Volume Terminal (LVT) is a jam-resistant, secure, digital (voice and data) information distribution system enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The technical objective of the MIDS JTRS program is to transform the MIDS-LVT into a four-channel, Software Communications Architecture (SCA) compliant JTRS, while maintaining current Link-16 and tactical air navigation system (TACAN) functionality. MIDS JTRS is designed to be plug-and-play interchangeable for U.S. Navy and U.S. Air Force platforms that use MIDS-LVT, while accommodating future technologies and capabilities. Improvements such as Link-16 enhanced throughput, Link-16 frequency remapping, and programmable crypto will also be realized in the MIDS JTRS design. The MIDS JTRS core terminal includes three 2 MHz to 2 GHz programmable channels that allow the warfighter to use multiple waveforms in development by JNED. Total core terminal program requirements include: terminal development, F/A-18 Level 0 integration, software hosting (operating environment/waveforms) and production transition.

EXHIBIT R-2a, RDT&E Project Justification		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3020 MIDS JTRS

(U) B. Accomplishments/Planned Program

	FY 08	FY 09	FY 10	FY 11
MIDS JTRS	79.696	27.265	12.658	
RDT&E Articles Quantity				

FY08: Continued MIDS JTRS Phase 2B development and qualification of the Core terminal program. Conducted government testing. Provided MIDS systems engineering, Communications Security (COMSEC), logistics, airborne networking, configuration and data management and program management. Continued F/A-18 Level 0 platform integration, test and evaluation including developmental and operational test and supported equipment development.

FY09: Continue MIDS JTRS Phase 2B development and qualification of the Core terminal program. Obtain Core terminal certifications for Communications Security (COMSEC), Electromagnetic Compatibility (EMC) Features, Air Worthiness, SCA compliance and joint interoperability. Conduct Government testing. Achieve MS C. Provide MIDS systems engineering, COMSEC, logistics, airborne networking, configuration and data management and program management. Complete F/A-18 Level 0 platform integration, test and evaluation and support equipment development.

FY10: Provide development and implementation of a Crypto Modernization (CM) capability for MIDS, a mandate required by the NSA, that will replace or update several hardware, software and firmware components within the MIDS terminal. Provide Frequency Remapping development and enhancements, a required Department of Transportation (DOT) mandate to enable the continued use of MIDS Link-16 to remap at least 14 of its 51 data transmission and receipt time slots to frequencies which do not interfere with current and planned Federal Aviation Administration (FAA) safety of flight systems. Provide MIDS systems engineering, COMSEC, logistics, airborne networking, configuration and data management and program management.

Note:
In FY08-FY10, Project No. 3020 represents the total Multifunctional Information Distribution System (MIDS) RDT&E budget for those years.

Exhibit R-3 Cost Analysis (MIDS JTRS page 1)									DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)							PROJECT NUMBER AND NAME 3020 MIDS JTRS			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 11 Cost	FY 11 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
MIDS JTRS HW/SW (Phase 2B Core)	CPIF	DLS Cedar Rapids, IA	115.575	4.426	1Q					0.000	120.001	
MIDS JTRS HW/SW (Phase 2B Core)	CPIF	ViaSat Inc. Carlsbad, CA	119.043	6.394	1Q					0.000	125.437	
MIDS JTRS HW/SW (Phase 2C TTNT JPCP)	CPFF	DLS Cedar Rapids, IA	11.667							0.000	11.667	
MIDS JTRS HW/SW (Phase 2C TTNT JPCP)	CPFF	ViaSat Inc. Carlsbad, CA	5.548							0.000	5.548	
MIDS JTRS HW/SW (Phase 2D TTNT JPCP)	CPIF	DLS Cedar Rapids, IA	0.000							0.000	0.000	
MIDS JTRS HW/SW (Phase 2D TTNT JPCP)	CPIF	ViaSat Inc. Carlsbad, CA	0.000							0.000	0.000	
MIDS JTRS Production Transition	FFP	DLS Cedar Rapids, IA	18.771							0.000	18.771	
MIDS JTRS Production Transition	FFP	ViaSat Inc. Carlsbad, CA	2.768							0.000	2.768	
MIDS JTRS Preoperational Support	CPFF	DLS Cedar Rapids, IA	0.767							0.000	0.767	
MIDS JTRS Preoperational Support	CPFF	ViaSat Inc. Carlsbad, CA	0.163							0.000	0.163	
MIDS JTRS Spec. Development (Phase 2A)	FFP	DLS Cedar Rapids, IA	1.383							0.000	1.383	
MIDS JTRS Spec. Development (Phase 2A)	FFP	ViaSat Inc. Carlsbad, CA	0.704							0.000	0.704	
MIDS JTRS Proposal Prep (Phase 2B Core)	FFP	DLS Cedar Rapids, IA	0.600							0.000	0.600	
MIDS JTRS Proposal Prep (Phase 2B Core)	FFP	ViaSat Inc. Carlsbad, CA	1.922							0.000	1.922	
MIDS Link 16 HW/SW Development	FFP	DLS Cedar Rapids, IA	0.000			4.005	1Q			0.000	4.005	
MIDS Link 16 HW/SW Development	FFP	ViaSat Inc. Carlsbad, CA	0.000			4.004	1Q			0.000	4.004	
Subtotal Product Development			278.911	10.820		8.009				0.000	297.740	

Remarks:

Development Support												
* F/A-18 Level 0 Development Support (Unique)	WX	China Lake	1.526							0.000	1.526	
* F/A-18 Level 0 Integrated Logistics Support (Unique)	WX	Pax River	0.412	2.703	1Q	0.300	1Q			0.000	3.415	
Subtotal Support			1.938	2.703		0.300				0.000	4.941	

Remarks:
In PYs-FY10, Project No. 3020 represents the total MIDS RDT&E budget for those years.

Exhibit R-3 Cost Analysis (MIDS JTRS page 2)									DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)							PROJECT NUMBER AND NAME 3020 MIDS JTRS			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY's Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 11 Cost	FY 11 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation												
* F/A-18 Level 0 Developmental Test & Evaluation (Unique)	WX	Pax River	4.209	0.000								
* F/A-18 Level 0 Operational Test & Evaluation (Unique)	WX	China Lake	0.173	1.802	3Q							
* F/A-18 Test Assets	FFP	DLS Cedar Rapids, IA	8.850									
* F/A-18 Test Assets	FFP	ViaSat Inc. Carlsbad, CA	7.365									
* F/A-18 EDMs	FFP	DLS Cedar Rapids, IA	2.740									
* F/A-18 EDMs	FFP	ViaSat Inc. Carlsbad, CA	2.475									
Government Testing	WX	SSC San Diego	1.535	0.150	1Q							
Engineering Support and Labor/SCS Changes	WX	China Lake	8.005	1.304	1Q							
NAVAIR Labor	WX	Pax River	2.686	1.813	1Q	0.600	1Q					
ECP 6277 Preparation	WX	Boeing	1.563	0.400	3Q							
Subtotal T&E			39.601	5.469		0.600						
Remarks: * Items marked with an asterisk (*) designate Navy unique tasks.												
Management Support												
Contractor Engineering Support	CPFF	Various	11.685	2.210	1Q	1.350	1Q					
Government Engineering Support	WX	Various	17.495	3.807	1Q	1.449	1Q					
Program Management Support	CPFF	Various	6.961	2.096	1Q	0.650	1Q					
Airborne Networking Support	WX	SSC San Diego	1.313									
Travel			0.857	0.160	1Q	0.300	1Q					
Subtotal Management			38.311	8.273		3.749						
Total Cost			358.761	27.265		12.658						
Remarks: In PYs-FY10, Project No. 3020 represents the total MIDS RDT&E budget for those years.												

EXHIBIT R4, Schedule Profile																																DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)												PROJECT NUMBER AND NAME 3020 MIDS JTRS																			
Fiscal Year	2008				2009				2010				2011				2012				2013				2014				2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MIDS JTRS Core Terminal								MS C																								
	FAQT																															
					PTTs/PVTs							LRIP Deliveries																					
Test & Evaluation Milestones F/A-18 Level 0 Integration TECHEVAL			DT																													
OPEVAL								OT		IOC																						

Exhibit R-4, Schedule Profile

Exhibit R-4a, Schedule Detail					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3020 MIDS JTRS				
Schedule Profile	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
MIDS JTRS Migration Core Terminal								
Phase 2B: Design, Development, Fabrication and Qualification								
System Development		2Q						
Preliminary Design Review (PDR)								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Contractor Testing (FAQT)	1Q	2Q						
Milestone C		4Q						
Government Testing		2Q,3Q						
Production Verification Terminal Delivery (PVT)		2Q,3Q						
Production Transition Terminal Delivery (PTT)	4Q	4Q						
Full Rate Production Decision			1Q					
Test and Evaluation								
F/A-18 Level 0 Integration								
Technical Evaluation (TECHEVAL)	1Q	3Q						
Operational Evaluation (OPEVAL)		4Q						
Initial Operational Capability (IOC)			2Q					
MIDS JTRS TTNT JPCP								
Phase 2C: Specification Development								

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding						DATE: May 2009		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3020 MIDS JTRS			
Program Title	**FY 2008**	**FY 2009**	**FY2010**	**FY2011**	**FY2012**	**FY2013**	**FY2014**	**FY2015**
X3020 Multifunctional Information Distribution System (MIDS JTRS)	4.692	4.500	4.500					

Note: In FY08-FY10, funding represents the total MIDS termination liability (TL) funding profile.

Exhibit R-5 Termination Liability in Major Acquisition Programs RDTEN

EXHIBIT R-2a, RDT&E Project Justification				DATE: May 2009				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3073 Airborne/Maritime/Fixed Station (AMF) JTRS				
COST ($ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total Project Cost	**96.128**	**203.012**	**325.017**					
3073 Airborne/Maritime/Fixed Station (AMF) JTRS	**96.128**	**203.012**	**325.017**					

In FY08-FY10, Project No. 3073 represents the total AMF JTRS RDT&E budget for those years.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

JTRS is the Department of Defense (DoD) family of common that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 MegaHertz (MHz) to 2 GigaHertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS will be a hardware-configurable and software-programmable radio system that provides increased interoperability, flexibility and adaptability to support varied mission requirements.

(AMF) AMF JTRS is a key enabler to the transformation of airborne, maritime, and land based communications toward network-centric operations. AMF JTRS will operate with legacy radios and waveforms used by military airborne, surface, subsurface, and fixed station platforms. AMF JTRS is intended to provide new radio networking capability as well as replace existing radio systems, which are facing long-term sustainment issues. AMF JTRS capabilities will be incrementally developed, with each increment building on the technological achievements of its predecessor, while providing expanded capabilities.

EXHIBIT R-2a, RDT&E Project Justification		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3073 Airborne/Maritime/Fixed Station (AMF) JTRS

(U) B. Accomplishments/Planned Program

	FY 08	FY 09	FY 10	FY 11
AMF JTRS	96.128	203.012	325.017	
RDT&E Articles Quantity				

FY08: Received Milestone B approval in 2nd quarter FY08. System Development & Demonstration (SDD) contract awarded in 2nd Quarter FY08. Began development efforts including hardware and software designs. Continued systems engineering and management support for associated JTR system components.

FY09: Continue SDD design activities to Critical Design Review (CDR) planned for 4th quarter FY09; continue EDM hardware and non-waveform software development and integration; continue waveform porting activities; continue platform integration development for AMF test program; and NSA information assurance activities and verification of design. Continue development engineering and management support for associated JTR system components.

FY10: Continue EDM hardware and non-waveform software development and integration; continue waveform porting activities; continue platform integration development for AMF test program; conduct initial hardware and software demonstration with the AMF JTR Set-M/F; and continue NSA information assurance activities and verification of design. Continue development engineering and management support for associated JTR system components. Conduct Contractor Development Test Readiness Review for AMF JTR Set-SA; conduct initial hardware/software demonstration with the AMF JTR-Set SA.

Note:
In FY08-FY10, Project No. 3073 represents the total AMF JTRS RDT&E budget for those years.

Exhibit R-3 Cost Analysis (AMF JTRS page 1)								DATE: May 2009				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		**PROGRAM ELEMENT** 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				**PROJECT NUMBER AND NAME** 3073 Airborne/Maritime/Fixed Station (AMF) JTRS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 11 Cost	FY 11 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
MIDS JTRS HW/SW (Phase 2A/2B Core)	CPIF	DLS Cedar Rapids, IA	8.563									
MIDS JTRS HW/SW (Phase 2A/2B Core)	CPIF	ViaSat Inc. Carlsbad, CA	4.078									
AMF JTRS Development - JTR System (Pre-SDD)	CPFF	The Boeing Co, Anaheim, CA	45.603									
AMF JTRS Development - JTR System (Pre-SDD)	CPFF	Lockheed Martin, Manassas, VA	45.335									
AMF JTRS Development - JTR SET (SDD)	CPAF/IF	Lockheed Martin, Manassas, VA	87.005	180.000	2Q	262.789	1Q					
AMF JTRS - Requirements Planning and Risk Reduction	Various	Various	8.662			3.063	1-4Q					
AMF JTRS - Systems Engineering	Various	Various	68.045	9.283	1-4Q	17.364	1-4Q					
Systems Engineering - JTRS Implementation-Navy Unique	Various	Various	15.634									
H/W Development: DMR HF Power Amplifier	FFP	GDDS	4.901									
Systems Engineering - JTF WARNET	Various	Various	7.481									
Subtotal Product Development			295.307	189.283		283.216		0.000				

Remarks: JTF Warnet and DMR are no longer funded on this project.

Development Support												
AMF JTRS - Acquisition, and ILS Support	Various	Various	9.239	4.054	1-4Q	7.012	1-4Q					
Software Dev: DMR Build 6.4	FFP	GDDS	12.861									
Subtotal Support			22.100	4.054		7.012		0.000				

Remarks:
PY column only includes the Navy portion of the budget for AMF JTRS. Prior to FY07, Air Force AMF JTRS funding resided in Air Force PE 0604280F, Project 5068. Prior to FY07, Navy AMF JTRS funding resided in this Navy PE, Project 3073. FY07 and FY08 PYs represent the total AMF JTRS RDT&E budget for those years.
In FY09, Project No. 3073 represents the total AMF JTRS RDT&E budget.
DMR is no longer funded on this project.

Exhibit R-3 Cost Analysis (AMF JTRS page 2)													DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3073 Airborne/Maritime/Fixed Station (AMF) JTRS						
Cost Categories		Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 11 Cost	FY 11 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation													
AMF JTRS - Test and Evaluation and Test Support		Various	Various	18.433	4.350	1-4Q	26.446	1-4Q					
DMR T&E (FOTE)		WX	SSC-SD	1.724									
DMR T&E (FOTE)		WX	SSC-CH	1.732									
Subtotal T&E				21.889	4.350		26.446						
Remarks: DMR is no longer funded on this project.													
Management Services													
AMF Business Operations Management and Support		Various	Various	14.506	5.325	1-4Q	8.343	1-4Q					
Subtotal Management				14.506	5.325		8.343						
Remarks:													
Total Cost				353.802	203.012		325.017				Continuing	Continuing	

Remarks:
PY column only includes the Navy portion of the budget for AMF JTRS. Prior to FY07, Air Force AMF JTRS funding resided in Air Force PE 0604280F, Project 5068. Prior to FY07, Navy AMF JTRS funding resided in this Navy PE, Project 3073. The FY07 and FY08 PYs represent the total AMF JTRS RDT&E budget for thoseyears.
In FY09, Project No. 3073 represents the total AMF JTRS RDT&E budget.

Exhibit R-3, Project Cost Analysis

EXHIBIT R4, Schedule Profile																																DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)																PROJECT NUMBER AND NAME 3073 Airborne/Maritime/Fixed Station (AMF) JTRS															
Fiscal Year	2008				2009				2010				2011				2012				2013				2014				2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
AMF JTRS **Acquisition Milestone Schedule**		MS B ▼																														
AMF JTRS **Product Development Schedule**		Contract Award ▼						CDR ▼			▲ HW/SW Demo-SA			HW/SW Demo-M/F ▼																			

Exhibit R-4, Schedule Profile

Exhibit R-4a, Schedule Detail					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3073 Airborne/Maritime/Fixed Station (AMF) JTRS			
Schedule Profile	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Milestone B (MS-B)	2Q							
Contract Award SDD	2Q							
Critical Design Review (CDR)		4Q						
Initial HW/SW Demonstration - SA			3Q					
Initial HW/SW Demonstration - M/F			4Q					
Eng Dev Model (EDM) Delivery-SA								
EDM Delivery-M/F								
Milestone C (MS C)								
Low-Rate Initial Production I -SA								
Low-Rate Initial Production I -M/F								

Exhibit R-4a, Schedule Detail

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding						DATE: May 2009		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3073 Airborne/Maritime/Fixed Station (AMF) JTRS			
Program Title	**FY 2008**	**FY 2009**	**FY2010**	**FY2011**	**FY2012**	**FY2013**	**FY2014**	**FY2015**
X3073 Airborne, Maritime, Fixed Site JTRS (AMF JTRS)	0.000	19.917	17.672					

Note: FY08-10 amounts represent the total termination liability (TL) funding.

Exhibit R-5 Termination Liability in Major Acquisition Programs RDTEN

EXHIBIT R-2a, RDT&E Project Justification					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)			
COST ($ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total Project Cost	**262.848**	**195.776**	**203.562**					
3074 Ground Mobile Radio (GMR) JTRS	**262.848**	**195.776**	**203.562**					

In FY08-FY10, Project No. 3074 represents the total Ground Mobile Radio (GMR) JTRS RDT&E budget for those years.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

JTRS is the Department of Defense (DoD) family of common that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 MegaHertz (MHz) to 2 GigaHertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS will be a hardware-configurable and software-programmable radio system that provides increased interoperability, flexibility and adaptability to support varied mission requirements.

(GMR) 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 using new networking Waveforms and current Waveforms.

EXHIBIT R-2a, RDT&E Project Justification		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)

B. Accomplishments/Planned Program

	FY 08	FY 09	FY 10	FY 11
Ground Mobile Radio (Common)	262.848	195.776	203.562	
RDT&E Articles Quantity				

FY08: Supported the design, development and manufacture of GMR EDMs, technical support, and Radio Application SW Functional Qualification Test.

FY09: Supports the design, development, manufacture and delivery of GMR EDMs, technical support, and start of the Production Qualification Test (PQT).

FY10: Supports the design, development, manufacture and delivery of GMR EDMs, technical support, System Integration Test (SIT), Limited User Test (LUT), and National Security Agency (NSA) Certification.

Note:
In FY08-FY10, Project No. 3074 represents the total GMR JTRS RDT&E budget for those years.

Exhibit R-3 Cost Analysis (JTRS GMR page 1)												DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 11 Cost	FY 11 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
JTRS GMR GFE	Various	Various	4.000									
JTRS GMR 1 SDD	C/CPAF	BOEING, Anaheim, CA	413.232	157.759	1-4Q	155.619	1-4Q					
JTRS DEVELOPMENT - System Engineering Support	Various	Various	3.148	3.575	1-2Q	7.010	1-2Q					
Technology Development efforts	Various	Various	5.100	9.092	2Q	7.569	2Q					
Subtotal Product Development			425.480	170.426		170.198						
Remarks:												
Development Support												
JTRS Antenna Study	Various	Various	2.025									
JTRS Tech Support	Various	Various	1.940	1.716	1-2Q	3.484	1-2Q					
Subtotal Support			3.965	1.716		3.484						

Remarks:
PYs column only reflects prior year Navy GMR JTRS costs for FY07-08. Prior to FY07, GMR JTRS funding resided in Army PE 0604805A, Project 615. In FY09-10, Project No. 3074 represents the total GMR JTRS RDT&E budget.

Exhibit R-3, Project Cost Analysis

Exhibit R-3 Cost Analysis (JTRS GMR page 2)								DATE: May 2009				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 11 Cost	FY 11 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
JTRS EPG test bed & test planning	MIPR	EPG, Fort Huachuca, AZ	6.006	1.783	1-4Q	4.100	1-4Q					
JTRS M&S	MIPR	USAIC, Ft. Huachuca, AZ	2.500	2.036	2Q	1.630	2Q					
JTRS Test In-house Spt & Gov activities	Various	Various	4.573	1.747	1-2Q	0.840	1-2Q					
JTRS EOA/SIT/LUT/MOTE Test Activity	Various	EPG, Fort Huachuca, AZ/Various	0.825	3.387	1-3Q	7.682	1-3Q					
Subtotal T&E			13.904	8.953		14.252						
Remarks:												
Contractor Engineering Support												
JTRS Business Engineering Mgmt	Various	Various	7.895	4.984	1-4Q	5.408	1-4Q					
PMO Support	Various	Various	14.035	9.687	1-4Q	10.220	1-4Q					
JTRS MITRE support	MIPR	MITRE, Ft. Monmouth, NJ	0.513									
Subtotal Management			22.443	14.671		15.628						
Total Cost			465.792	195.766		203.562						

Remarks:
PYs column only reflects prior year Navy GMR JTRS costs for FY07-08. Prior to FY07, GMR JTRS funding resided in Army PE 0604805A, Project 615. In FY09-10, Project No. 3074 represents the total GMR JTRS RDT&E budget.

Exhibit R-3, Project Cost Analysis

EXHIBIT R4, Schedule Profile			DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)		PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)

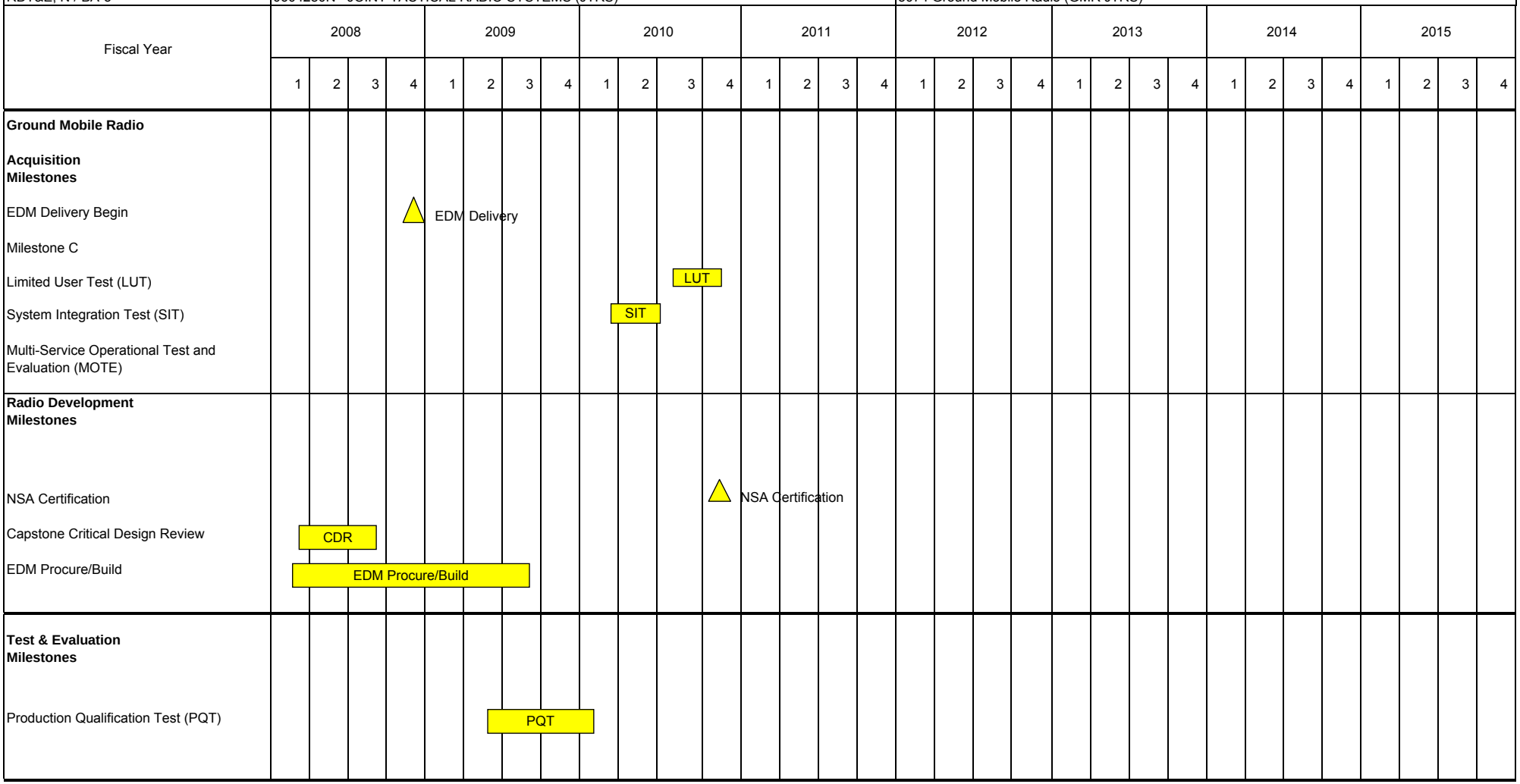

Exhibit R-4, Schedule Profile

Exhibit R-4a, Schedule Detail					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)			
Schedule Profile	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Capstone Critical Design Review (CDR)	1-3Q							
EDM Procure/Build	1-4Q	1-3Q						
EDM Delivery Begin	4Q							
Production Qualification Test (PQT)		2-4Q	1Q					
JTRS - Army GMR System Integration Test (SIT)			1-3Q					
Limited User Test			3-4Q					
JTRS GMR Milestone C								
JTRS - Multi-Service Operational Test and Evaluation								
NSA Certification			4Q					

Exhibit R-4a, Schedule Detail

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)			
Program Title	**FY 2008**	**FY 2009**	**FY2010**	**FY2011**	**FY2012**	**FY2013**	**FY2014**	**FY2015**
X3074 Ground Mobile Radio (GMR JTRS)	42.001	32.416	14.132					

Note:

In FY08-FY10, GMR JTRS represents the total termination liability (TL) funding profile.

Exhibit R-5 Termination Liability in Major Acquisition Programs RDTEN

EXHIBIT R-2a, RDT&E Project Justification				DATE: May 2009				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)				
COST ($ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total Project Cost	**150.586**	**164.190**	**133.014**					
3075 Handheld, Manpack, Small Form Fit (HMS) JTRS	**150.586**	**164.190**	**133.014**					

In FY08-FY10, Project No. 3075 represents the total HMS JTRS RDT&E budget for those years.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

JTRS is the Department of Defense (DoD) family of common that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 MegaHertz (MHz) to 2 GigaHertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS will be a hardware-configurable and software-programmable radio system that provides increased interoperability, flexibility and adaptability to support varied mission requirements.

(HMS) HMS provides the JTRS capability to meet Joint Ground Mounted, Dismounted & Embedded Radio Requirements. Increment 1, Phase 1 will develop SFF-A (1 and 2 Channel) and SFF-C(v)1 running Soldier Radio Waveform (SRW) for use in a sensitive but unclassified environment (Type 2). Increment 1, Phase 2 will develop the 2 Channel Manpack, SFF-B, SFF-D, and SFF-J, and 2 Channel Handheld. Phase 2 radios are all Type 1 compliant for use in a classified environment running Ultra High Frequency (UHF), Satellite Communications (SATCOM), High Frequency (HF), Enhanced Position Location and Reporting System (EPLRS), Soldier Radio Waveform (SRW), Mobile User Objective System (MUOS), and Single Channel Ground to Air Radio System (SINCGARS) waveforms.

EXHIBIT R-2a, RDT&E Project Justification		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)

(U) B. Accomplishments/Planned Program

	FY 08	FY 09	FY 10	FY 11
Handheld/Manpack/Small Form Fit (Common)	150.586	164.900	133.014	
RDT&E Articles Quantity				

FY08: Supported the design, development and manufacture of Small Form Fit D (SFF-D); Engineering Development Modules (EDM); Technical support; Increment 1, Phase 1 Contractor Development Test (CDT) and Government Development Test (GDT).

FY09: Supports the CDT and GDT for Phase 1 radios; Milestone C for Phase 1 SFF-C(v)1; technical support for Phase 1; Phase 2 design and development for EDMs; Phase 2 Design Readiness Review (DRR); technical support for Phase 2.

FY10: Supports Phase 1 First Article Test (FAT), Phase 1 Operational Test (OT); and Phase 1 Information Assurance certification; technical support for Phase 1; Phase 2 EDM manufacturing, CDT, and GDT; technical support for Phase 2.

Note:
In FY08-FY10, Project No. 3075 represents the total HMS JTRS RDT&E budget for those years.

Exhibit R-3 Cost Analysis (JTRS HMS page 1)												DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 11 Cost	FY 11 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
JTRS HMS Design, Development and Manufacture of Engineering Development Models (EDMs)	C/CPAF	General Dynamics C4 Systems, Scottsdale, AZ	217.949	127.980	1Q	81.979	1Q					
JTRS HMS Development System Engineering Support	Various	Various	18.226	7.338	1-2Q	6.779	1-2Q					
Technology Development efforts	Various	Various	3.217	5.100	2Q	5.355	2Q					
Subtotal Product Development			239.392	140.417		94.113						
Remarks:												
Development Support												
JTRS Technical Support	Various	Various	11.440	4.056	1-3Q	5.209	1-3Q					
Subtotal Support			11.440	4.056		5.209						

Remarks:
PYs column only reflects prior year Navy HMS costs for FY07-08. Prior to FY07, HMS JTRS funding resided in Army PE 0604805A, Project 61A. In FY09-10, Project No. 3075 represents the total HMS JTRS RDT&E budget.

Exhibit R-3, Project Cost Analysis

Exhibit R-3 Cost Analysis (JTRS HMS page 2)													DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 11 Cost	FY 11 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation													
JTRS EPG test bed and planning	MIPR	EPG, Ft. Huachuca, AZ	0.200	0.100	1Q	0.000							
JTRS Modeling and Simulation	MIPR	USAIC, Ft. Huachuca, AZ	0.550	0.100	4Q	0.100	4Q						
JTRS Test In-house Support & Government	Various	Various	7.153	2.736	1-3Q	10.340	1-3Q						
Phase 1 T&E (CDT, GDT, LUT, OT)	Various	Various	0.150	5.875		5.90							
Phase 2 T&E (CDT, GDT, LUT, OT)	Various	Various	0.000	0.250		5.750							
Subtotal T&E			8.053	9.061		22.090							
Remarks:													
Contractor Engineering Support													
Project Management Office Support	Various	Various	18.045	7.371	1-4Q	8.941	1-4Q						
JTRS Business/ Engineering Management	Various	Various	6.540	3.284	1-4Q	2.660	1-4Q						
Subtotal Management			24.585	10.655		11.602							
Remarks:													
Total Cost			283.470	164.190		133.014							

Remarks:
PYs column only reflects prior year Navy HMS costs for FY07-08. Prior to FY07, HMS JTRS funding resided in Army PE 0604805A, Project 61A. In FY09-10, Project No. 3075 represents the total HMS JTRS RDT&E budget.

Exhibit R-3, Project Cost Analysis

EXHIBIT R4, Schedule Profile			DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)		PROJECT NUMBER AND NAME 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)

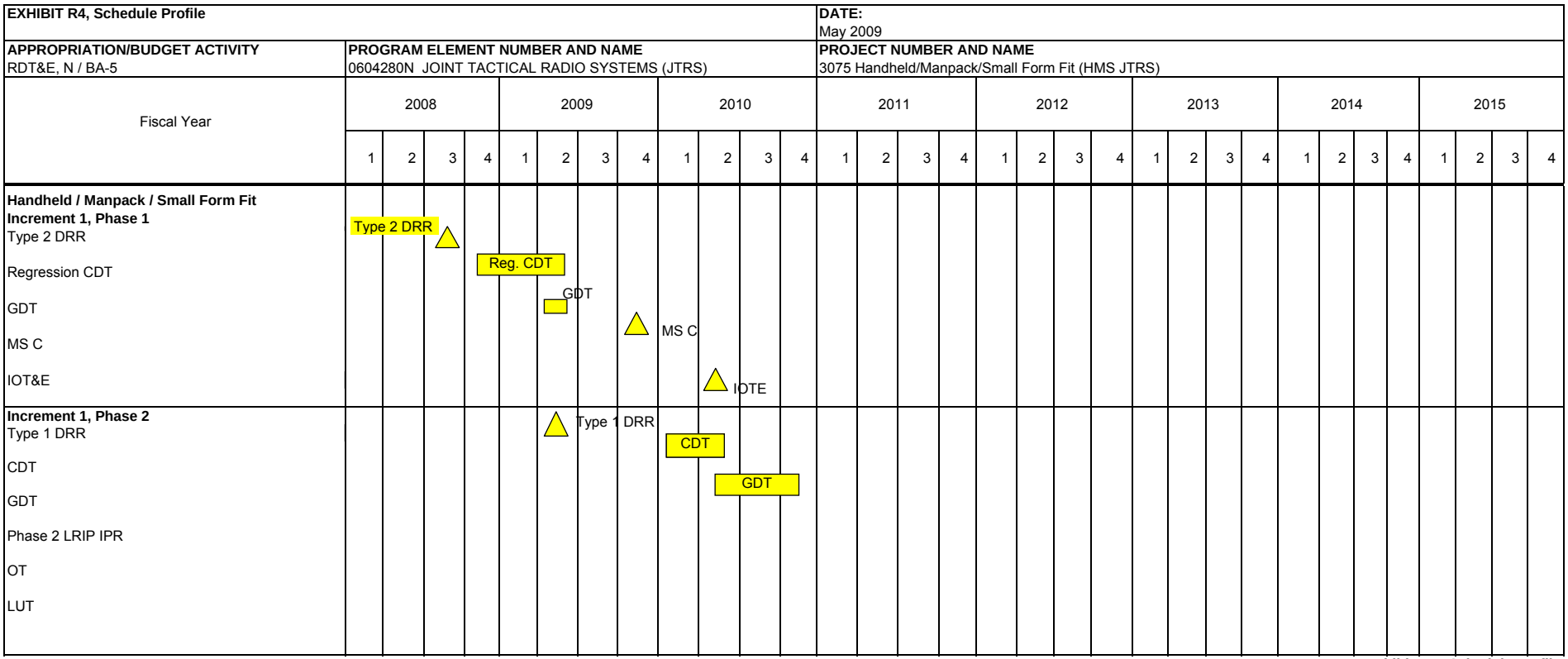

Exhibit R-4, Schedule Profile

Exhibit R-4a, Schedule Detail					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)			
Schedule Profile	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Increment 1, Phase 1								
Type 2 DRR	3Q							
Regression CDT	4Q	1-2Q						
GDT		2Q						
MS C		4Q						
IOT&E			2Q					
Increment 1, Phase 2								
Type 1 DRR		2Q						
CDT			1-2Q					
GDT			2-4Q					
MS C								
LUT								
OT								

Exhibit R-4a, Schedule Detail

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding						DATE: May 2009		
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**				**PROJECT NUMBER AND NAME**			
RDT&E, N / BA-5	0604280N JOINT TACTICAL RADIO SYSTEMS				3075 Handheld/Manpack/Small Form Fit (HMS JTRS)			
Program Title	**FY 2008**	**FY 2009**	**FY2010**	**FY2011**	**FY2012**	**FY2013**	**FY2014**	**FY2015**
X3075 JTRS Handheld / Manpack / Small Form Fit (HMS)	21.228	20.837	7.500					

Note: In FY08-FY10, HMS JTRS represents the total termination liability (TL) funding profile.

Exhibit R-5 Termination Liability in Major Acquisition Programs RDTEN

EXHIBIT R-2a, RDT&E Project Justification					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)			
COST ($ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total Project Cost	**241.533**	**241.351**	**202.123**					
3076 JTRS Network Enterprise Domain (JNED)	**241.533**	**241.351**	**202.123**					

In FY08-FY10, Project No. 3076 represents the total JNED RDT&E budget.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 MegaHertz (MHz) to 2 GigaHertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS will be a hardware-configurable and software-programmable radio system that provides increased interoperability, flexibility and adaptability to support varied mission requirements.

(JNED) JNED is responsible for the development and delivery of software-defined, legacy radio waveforms and networking waveforms that support Net-Centric operational warfare at sea, air and on the ground. Networking waveforms extend the Global Information Grid (GIG) to the last tactical mile and to the warfighter. The JNED team is responsible for (1) the overall management and oversight of the JTRS Waveform program, (2) development, validation, and evolution of a common JTRS Software Communications Architecture (SCA), (3) development and evolution of waveform software applications, (4) development of software cryptographic algorithms and equipment applications, (5) testing and certification of JTRS waveforms, network services, network management, and software products, and (6) JTRS networking and network management software components. Services are responsible for acquiring and fielding host radio hardware and integrating JTRS into Service platforms.

EXHIBIT R-2a, RDT&E Project Justification		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)

(U) B. Accomplishments/Planned Program

	FY 08	FY 09	FY 10	FY 11
JTRS Network Enterprise Domain (JNED)	241.533	241.351	202.123	
RDT&E Articles Quantity				

FY08 ($241.533): Continued development and acquisition of Increment 1 networking waveforms that support Net-Centric operational warfare at sea, air and on the ground to extend the Global Information Grid (GIG) to the last tactical mile and the warfighter. Continued JNED program support and other related activities.

Networking Waveforms:

- **Wideband Networking Waveform (WNW)** ($49.675) is a high data rate networking waveform application that provides the lower tactical Internet backbone and connects tactical forces across the battle sphere. WNW will feature two signals-in-space (SiS), which are the Orthogonal Frequency Division Multiplexing (OFDM) and Anti-Jam (AJ). WNW will provide high throughput, dynamically adaptable connectivity for the exchange of Internet Protocol (IP) based voice, data, and video traffic. WNW will support network nodes on mobile, airborne, and maritime platforms. WNW includes networking services, security, High Assurance IP Equipment (HAIPE) capabilities, red-black switching, and internal routing of other WNW signals. Completed development for and delivered WNW v3.0 in 2Q FY08 and WNW v3.1 in 3Q FY08. Platforms include: GMR and AMF.

- **Soldier Radio Waveform (SRW)** ($34.763) will operate on JTR sets to provide a networked battlefield communications capability for disadvantaged users engaged in land combat operations and will support voice, data, and video communications on and over the immediate battlefield. These forces include vehicles, rotary wing, dismounted soldiers, munitions, sensors, and unmanned air vehicles (UAV). Functional software applications will use SRW enabled JTR sets over IP capable networks and sub-networks. SRW will be interoperable with higher throughput, IP-based network waveforms, such as WNW. As applicable, these IP-based networking waveforms will enable information exchanges through the GIG to the soldier and provide entirely new capabilities for battlefield communications and information sharing. Completed development and performed initial FQT of SRW v1.0c Unattended Ground Sensor / Non-line-of-sight (UGS/NLOS) in 4Q FY08. Platforms include: GMR, AMF and HMS.

- **Mobile User Objective System (MUOS)** ($2.821) will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems. MUOS offers secure streaming video, netted communications, and voice/data in real time to provide essential connectivity. JNED program will modify this waveform, making it compatible and certifiable to meet DoD security requirements plus enable porting to JTR sets. Began Development effort of MUOS v3.0 in 3Q FY08. Platforms include: HMS and AMF.

- **Joint Airborne Networking -Tactical Edge (JAN-TE)** ($19.450) will operate on JTR airborne sets to provide a networked tactical communications capability for tactical aircraft. JAN-TE will provide increased throughput, highly responsive connectivity, and ad hoc mobile networking for fighters engaged in air operations. This networking waveform is uniquely designed and engineered for highly maneuverable, fast moving aircraft for rapidly establishing networks to share high value data communications. PDR conducted in 2Q FY08. Platform includes: MIDS.

Network Enterprise Services ($54.759)**:** Continued development and acquisition of JTRS Network Enterprise Services (JNES) to include JTRS Enterprise Network Manager (JENM) and Enterprise Network Services (ENS). Continued to provide JNED technical support, including waveform development, systems engineering, spectrum allocation, system security engineering and problem resolution and support of Software Communications Architecture (SCA) activities. Completed development of JTRS WNW Network Manager (JWNM) Version 3.0 in 3Q FY08.

Legacy Radio Waveforms ($80.065) Continued the development and acquisition of legacy software and other related activities to support the legacy waveform development of High Frequency (HF). Completed Build 2.2 of the Enhanced Position Location and Reporting System (EPLRS) development and performed FQT in 1Q FY08. Provided technical guidance to Platform Program Management offices (PMO). Continued to support Waveform integration, test and evaluation to include hardware and software waveform certification process (SCA compliance testing) to meet program requirements. Continued JNED program management office support. Continued Software Trouble Report (STR) correction to both software-defined legacy radio and networking waveforms.

Note:
In FY08-FY10, Project No. 3076 represents the total JNED RDT&E budget for those years.

EXHIBIT R-2a, RDT&E Project Justification		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)

(U) B. Accomplishments/Planned Program

	FY 08	FY 09	FY 10	FY 11
JTRS Network Enterprise Domain (JNED)	241.533	241.351	202.123	
RDT&E Articles Quantity				

FY09 ($241.351): Continue development and acquisition of Increment 1 networking waveforms that support Net-Centric operational warfare at sea, air and on the ground to extend the GIG to the last tactical mile and the warfighter. Continue JNED program support and other related activities.

Networking Waveforms:

- **WNW** ($58.263) is a high data rate networking waveform application that provides the lower tactical Internet backbone and connects tactical forces across the battle sphere. WNW will feature two signal in-space (SiS), which are the Orthogonal Frequency Division Multiplexing (OFDM) and Anti-Jam (AJ). WNW will provide high throughput, dynamically adaptable connectivity for the exchange of Internet Protocol (IP) based voice, data, and video traffic. WNW will support network nodes on mobile, airborne, and maritime platforms. WNW includes networking services, security, High Assurance IP Equipment (HAIPE) capabilities, red-black switching, and internal routing of other WNW signals. Complete development and deliver WNW v3.5 in 1Q FY09 and v3.6 in 3Q FY09. Complete development and perform FQT for v4.0 in 4Q FY09. Platforms include: GMR and AMF.

- **SRW** ($18.032) will operate on JTR sets to provide a networked battlefield communications capability for disadvantaged users engaged in land combat operations and will support voice, data, and video communications on and over the immediate battlefield. These forces include vehicles, rotary wing, dismounted soldiers, munitions, sensors, and unmanned air vehicles (UAV). Functional software applications will use SRW enabled JTR sets over IP capable networks and sub-networks. SRW will be interoperable with higher throughput, IP-based network waveforms, such as WNW. As applicable, these IP-based networking waveforms will enable information exchanges through the GIG to the soldier and provide entirely new capabilities for battlefield communications and information sharing. Complete development and perform FQT for v1.0c Soldier Systems (SS) in 2Q FY09 and version Delta for HMS in 3Q FY09. Begin development of SRW v1.1c. Platforms include: GMR, AMF and HMS.

- **MUOS** ($41.296) will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems. MUOS offers secure streaming video, netted communications, and voice/data in real time to provide essential connectivity. JNED program will modify this waveform, making it compatible and certifiable to meet DoD security requirements plus enable porting to JTR sets. Continue development effort of MUOS v3.0 in FY09. Platforms include: HMS and AMF.

- **JAN-TE** ($0.386) will operate on JTR airborne sets to provide a networked tactical communications capability for tactical aircraft. JAN-TE will provide increased throughput, highly responsive connectivity and ad hoc mobile networking for fighters engaged in air operations. This networking waveform is uniquely designed and engineered for highly maneuverable, fast moving aircraft for rapidly establishing networks to share high value data communications. USD(AT&L) directed that the development of the JAN-TE waveform be discontinued after Critical Design Review in October 2008.

Network Enterprise Services ($51.567): Continue development and acquisition of JTRS Network Enterprise Services (JNES) to include JTRS Enterprise Network Manager (JENM) and Enterprise Network Services (ENS). Continue to provide JNED technical support, including waveform development, systems engineering, spectrum allocation, system security engineering and problem resolution an support of Software Communications Architecture (SCA) activities. Complete development of JTRS WNW Network Manager (JWNM) v3.5 in 1Q FY09. Complete development and perform FQT for JWNM v4.0 in 4Q FY09. Complete development and perform FQT for Soldier Radio Waveform Network Manager (SRWNM) 1.0R in 4Q FY09.

Legacy Radio Waveforms ($71.807) Continue the development and acquisition of legacy software and other related activities to support the legacy waveform development of High Frequency (HF). Complete the development and perform FQT for Link 16 in 2Q FY09. Continue to provide JNED technical support, including waveform development, systems engineering, spectrum allocation, system security engineering and problem resolution and support of Software Communications Architecture (SCA) activities. Provide technical guidance to the Platform Program Management offices (PMO). Continue to support waveform integration, test and evaluation to include hardware and software waveform certification process (SCA compliance testing) to meet program requirements. Continue JNED program management office support. Continue Software Trouble Report (STR) correction to both software-defined legacy radio and networking waveforms. Provide post FQT support to platforms during Legacy Waveform porting activities.

Note:
In FY08-FY10, Project No. 3076 represents the total JNED RDT&E budget for those years.

EXHIBIT R-2a, RDT&E Project Justification		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)

(U) B. Accomplishments/Planned Program

	FY 08	FY 09	FY 10	FY 11
JTRS Network Enterprise Domain (JNED)	241.533	241.351	202.123	
RDT&E Articles Quantity				

FY10 ($202.123): Continue development and acquisition of Increment 1 networking waveforms that support Net-Centric operational warfare at sea, air and on the ground to extend the GIG to the last tactical mile and the warfighter. Continue JNED program support and other related activities.

Networking Waveforms:

- **WNW** ($18.489) is a high data rate networking waveform application that provides the lower tactical Internet backbone and connects tactical forces across the battle sphere. WNW will feature two signals-in-space (SiS), which are the Orthogonal Frequency Division Multiplexing (OFDM) and Anti-Jam (AJ). WNW will provide high throughput, dynamically adaptable connectivity for the exchange of Internet Protocol (IP) based voice, data, and video traffic. WNW will support network nodes on mobile, airborne, and maritime platforms. WNW includes networking services, security, High Assurance IP Equipment (HAIPE) capabilities, red-black switching, and internal routing of other WNW signals. Provide post FQT support to platforms during WNW porting activities. Platforms include: GMR and AMF.

- **SRW** ($7.494) will operate on JTR sets to provide a networked battlefield communications capability for disadvantaged users engaged in land combat operations and will support voice, data, and video communications on and over the immediate battlefield. These forces include vehicles, rotary wing, dismounted soldiers, munitions, sensors, and unmanned air vehicles (UAV). Functional software applications will use SRW enabled JTR sets over IP capable networks and sub-networks. SRW will be interoperable with higher throughput, IP-based network waveforms, such as WNW. As applicable, these IP-based networking waveforms will enable information exchanges through the GIG to the soldier and provide entirely new capabilities for battlefield communications and information sharing. Complete development and FQT of SRW v1.1c in 2QFY10. Provide post FQT support to platforms during SRW v1.0c porting activities. Platforms include: GMR, AMF and HMS.

- **MUOS** ($19.863) will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems. MUOS offers secure streaming video, netted communications, and voice/data in real time to provide essential connectivity. JNED program will modify this waveform, making it compatible and certifiable to meet DoD security requirements plus enable porting to JTR sets. Continue development of MUOS v3.0. Platforms include: HMS and AMF.

Network Enterprise Services ($76.258): Continue development and acquisition of JTRS Network Enterprise Services (JNES) to include JTRS Enterprise Network Manager (JENM) and Enterprise Network Services (ENS). Continue to provide JNED technical support, including waveform development, systems engineering, spectrum allocation, system security engineering, problem resolution and support of Software Communications Architecture (SCA) activities. Complete development and perform FQT for Soldier Radio Waveform Network Manager (SRWNM) 1.0+in 3Q FY10 and JENM Phase 1 in 3Q FY10.

Legacy Radio Waveforms ($80.019) Continue to support waveform integration, test and evaluation to include hardware and software waveform certification process (SCA compliance testing) to meet program requirements. Complete development and perform FQT for HF v4.0 in 1Q FY10. Continue JNED program management office support. Begin Software Trouble Report (STR) correction to both software-defined legacy radio and networking waveforms. Continue to provide post FQT support to platforms during Legacy Waveform porting activities. Begin enhancements to legacy waveforms.

Note:
In FY08-FY10, Project No. 3076 represents the total JNED RDT&E budget.

Exhibit R-3 Cost Analysis (JTRS NED page 1)													DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 11 Cost	FY 11 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Product Development													
Architecture Development and Validation, Evolve and Provide CM Mgmt of SCA	Various	Various	1.500	0.150	1Q	0.482	1-2Q						
Waveform Development:													
Wideband Networking Waveform (WNW)	C/CPAF	Boeing, Huntington Beach, CA	60.749	58.263	1Q								
Soldier Radio Waveform (SRW)	CPIF	ITT, Clifton NJ	62.599	17.882	1Q	7.494							
Mobile User Objective System (MUOS)	CPIF/AF	Lockheed Martin, Sunnyvale, C.	4.292	41.296	2Q	19.863	1-2Q						
Joint Airborne Networking -Tactical Edge (JAN-TE)	CPFF	Rockwell Collins, Cedar Rapids IA	36.201	0.386	1Q	0.000							
Legacy Software-Defined Radio Waveforms	Various	Various	34.044	8.936	1Q	36.666	1-2Q						
Network Enterprise Services Development	Various	Various	142.832	51.567	1Q	65.612	1-2Q						
Post FQT / Software Sustainment	Various	Various		1.928	1Q	32.239	1-2Q						
Certification (interim SCA Compliance Testing)	Various	Various	5.044	3.265	1Q	2.093	1-2Q						
Subtotal Product Development			347.261	183.673		164.449							
Remarks:													
Development Support													
FFRDC - MITRE Technical Support	MIPR	MITRE, Ft. Monmouth, NJ	5.883	2.255	1Q	2.274	1-2Q						
Subtotal Support			5.883	2.255		2.274							
Remarks: PYs column only reflects prior year Navy JNED costs for FY07-08. Prior to FY07, funding for JNED resided in Army PE 0604280A, Project 162. In FY09-10, Project No. 3076 represents the total JNED RDT&E budget.													

Exhibit R-3, Project Cost Analysis

Exhibit R-3 Cost Analysis (JTRS NED page 2)								DATE: May 2009				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			**PROGRAM ELEMENT** 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			**PROJECT NUMBER AND NAME** 3076 JTRS Network Enterprise Domain (JNED)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 11 Cost	FY 11 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
N/A	N/A	N/A	0.000	0.000		0.000						
Subtotal T&E			0.000	0.000		0.000						
Remarks:												
Contractor Engineering Support												
Program Management Support	Various	Various	109.888	55.423	1Q	35.400	1-2Q					
Subtotal Management			109.888	55.423		35.400						
Remarks:												
Total Cost			463.032	241.351		202.123						

Remarks: PYs column only reflects prior year Navy JNED costs for FY07-08. Prior to FY07, funding for JNED resided in Army PE 0604280A, Project 162. In FY09-FY10, Project No. 3076 represents the total JNED RDT&E budget.

Exhibit R-3, Project Cost Analysis

EXHIBIT R4, Schedule Profile			DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)		PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)

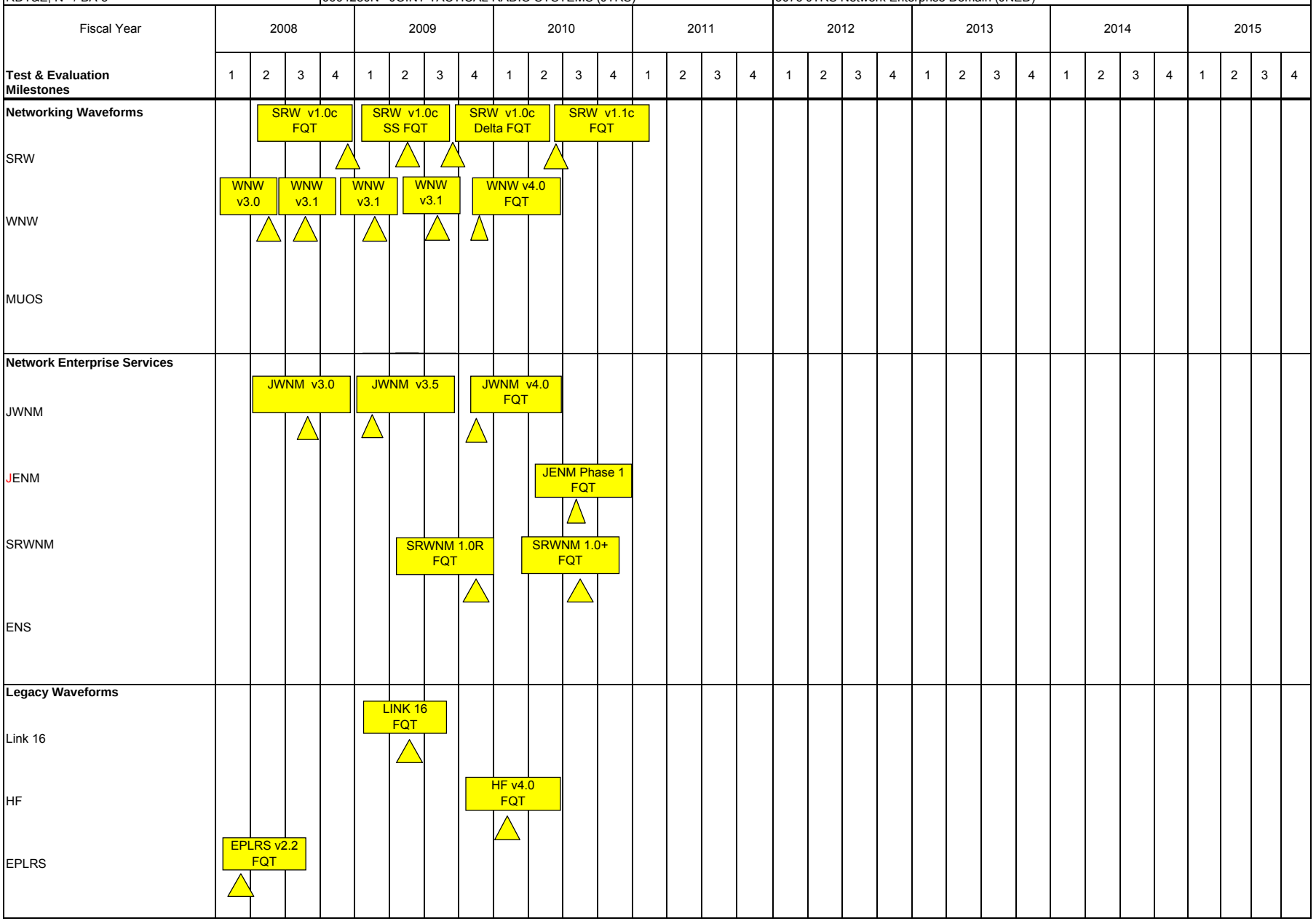

Exhibit R-4, Schedule Profile

Exhibit R-4a, Schedule Detail				DATE: May 2009				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JT			PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)				
Schedule Profile	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Networking Waveforms								
SRW v1.0c (UGS/NLOS)	4Q							
SRW V1.0c (SS)		2Q						
SRW V1.0c Delta for HMS		3Q						
SRW v1.1c			2Q					
WNW v 3.0	2Q							
WNW v 3.1	3Q							
WNW v 3.5		1Q						
WNW v 3.6		3Q						
WNW v 4.0		4Q						
MUOS 3.0								
Network Enterprise Services								
JWNM v 3.0	3Q							
JWNM v 3.5		1Q						
JWNM v 4.0		4Q						
JENM Phase 1			3Q					
JENM Phase 2								
JENM Phase 3								
SRWNM 1.0R		4Q						
SRWNM 1.0+			3Q					
ENS Phase 1								
Legacy Waveforms								
Link 16		2Q						
HF v4.0			1Q					
EPLRS v2.2	1Q							

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)			
Program Title	**FY 2008**	**FY 2009**	**FY2010**	**FY2011**	**FY2012**	**FY2013**	**FY2014**	**FY2015**
X3076 JTRS Network Enterprise Domain (JNED)	24.713	21.664	4.366					

Note:
FY08-FY10 funding above represents the total JNED termination liability (TL) funding profile.

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE: **May 2009**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYS			PROJECT NUMBER AND NAME 9999 Congressional Increases				
COST ($ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total Project Cost		**1.195**						
Digital Modular Radio (DMR)		**1.195**						

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Digital Modular Radio (DMR) provides improvements for fleet radio requirements in the HF, VHF, and UHF frequency band. The DMR replaces and will be interoperable and backwards compatible with legacy systems. The DMR is a digital, modular, software programmable, multi-channel, multi-function and multi-band (2MHz-2 GHz) radio system.

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **May 2009**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	9999 Congressional Increases

(U) B. Accomplishments/Planned Program

	FY08	FY09	FY10	FY11
Digital Modular Radio (DMR)		1.195		
RDT&E Articles Quantity				

FY09: Developed Workstation Authentication and Software Signature version 6.4.4 for a DMR security enhancement required by the National Security Agency (NSA).

Exhibit R-2a, RDTEN Project Justification

EXHIBIT R-2a, RDT&E Project Justification					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 9999 Congressional Increases			
COST ($ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total Project Cost	**0.000**	**11.468**	**0.000**					
Army Tactical Radios for FCS	**0.000**	**11.468**	**0.000**					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

JTRS is the Department of Defense (DoD) family of **common software-defined programmable radios** that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 MegaHertz (MHz) to 2 GigaHertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS will be a hardware-configurable and software-programmable radio system that provides increased interoperability, flexibility and adaptability to support varied mission requirements.

(GMR) 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 **using new networking Waveforms and current Waveforms.**

EXHIBIT R-2a, RDT&E Project Justification		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	9999 Congressional Increases

B. Accomplishments/Planned Program

	FY 08	FY 09	FY 10	FY 11
Future Combat Systems (FCS)	0.000	**11.468**	**0.000**	
RDT&E Articles Quantity				

FY09: This is supporting the design, development, manufacture and delivery of GMR Engineering Design Models (EDM).