

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2013 Air Force **DATE:** February 2012

<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207581F: <i>JOINT STARS</i>
--	---

COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	162.756	74.018	24.241	-	24.241	23.292	22.274	23.008	30.647	Continuing	Continuing
670003: <i>JSTARS</i>	162.756	74.018	24.241	-	24.241	23.292	22.274	23.008	30.647	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

**Note**  
The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding.

**A. Mission Description and Budget Item Justification**

The Joint Surveillance Target Attack Radar System (Joint STARS) program produces the world's premier airborne ground surveillance platform, meeting joint combat capability requirements. The 707-based E-8C Joint STARS aircraft provides all-weather radar-derived Command and Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) and targeting information on moving and stationary ground/surface targets to include dismounts, slowly moving rotary and fixed wing aircraft, and rotating antennas. Joint STARS provides target information for matching direct attack aircraft, standoff weapons, and ground-based attack assets against selected targets. It can be cued by other intelligence, surveillance, and reconnaissance (ISR) and target acquisition systems. This capability enables air and ground regional/geographic commanders to effectively make and execute battlefield decisions at the component commander's level to battlefield forces. It also helps achieve predictive battle space awareness. Activities also include studies and analyses to support both current program planning and execution and future program planning.

This program element enhances the war fighter's ability to achieve the joint vision of combat operations. It develops advanced battle management aids and information fusion technologies to enable rapid decisions in tracking and killing time-critical targets. Concept exploration, program definition/risk reduction efforts, and studies support continuous improvements in C2ISR, Network Centric Operations capabilities, and interoperability with Joint Service, Allied, and Coalition systems.

This program element comprises two major efforts, modernization and re-engineing:

**I. Modernization:**  
The modernization effort consists of multiple projects to develop and integrate system improvements, platform wide. These include, but are not limited to, the following: Spiral development, Enhanced Land Maritime Mode (ELMM), Diminishing Manufacturing Sources (DMS), Cockpit Avionics Upgrades, and Communications and Networking Upgrades (CNU). The modernization effort also includes support for Joint STARS Test and Infrastructure as well as upgrades to the Training and Support Systems. These efforts are detailed below.

Spiral Development - The spiral development is an umbrella for various technology development/ insertion efforts to enhance target identification, data processing and transmittal and weapon control capabilities, such as Joint STARS Net Enabled Weapons (JNEW) and Joint Surface Warfare (JSuW), Joint STARS Radar Modernization (JSRM), Blue Force Tracking, Battlefield Airborne Communication Node (BACN) and future program planning for AoA recommendations. The JSuW-JNEW effort includes participation in the JSuW Joint Capability Technology Demonstration (JCTD) and Engineering and Manufacturing Development (EMD) for

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2013 Air Force		<b>DATE:</b> February 2012
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207581F: <i>JOINT STARS</i>	
<p>Network Enabled Weapons (NEW) which includes, but is not limited to, Joint Air to Surface Standoff Missile-Air Surface Warfare-Anti-Surface Warfare (JASSM-ASuW). The JSRM program applies the Multi-Platform Radar Technology Insertion Program (MP-RTIP) technology to JSTARS. The MP-RTIP capability on the E-8 will provide the ability to detect, track and identify both stationary and moving ground vehicles. Spiral development also supports requirements for current Urgent Operational Needs (UON), Quick Reaction Capabilities (QRCs), top-down directed efforts, requirements definition, capability gap analysis, Pre-MSA technical risk reduction activities, Blue Force Tracking as well as other large airborne platform integration efforts including Self Defense Suite (SDS), and radar and aircraft performance improvements.</p> <p>Programs and projects under Spiral Development are procured under Kill Chain Enhancement- MN-38203.</p> <p>Enhanced Land Maritime Mode (ELMM) - The ELMM program, supporting Air Sea Battle, implements the maritime tracking &amp; improved land tracking upgrade to provide land and maritime tracking capability and improved imagery. ELMM incorporates imagery compression and advanced radar modes.</p> <p>Diminishing Manufacturing Sources (DMS) - DMS issues are categorized as Prime Mission Equipment-Diminishing Manufacturing Sources (PME-DMS) and Avionics DMS issues and are top issues for fleet viability. The PME-DMS program will address hardware and software DMS issues and COT technology refresh for both the Operator Work Station (OWS) Clipper computer and the Radar Airborne Signal Processor (RASP). Equipment Replacement will include: OWS processor, Central Computer Mass Storage Device (CCMSD), OWS Mass Storage Device (OWSMSD), Removable Media Module (RMM), Fiber Switches, Local Area Network (LAN) HUB, Serial Data HUB, RASP, and a Radar Sensor Interface (RSI) enabling the legacy radar receiver to communicate with the new RASP. The OWS operating system (Open VMS) will be upgraded to a modern Linux OS architecture, the 19" OWS display will be replaced with 27" displays, and software applications including Open Office (MS Office-like) and MoveINT Client will be installed. The Avionics DMS issues include, but are not limited to, Aircraft Information Program (AIP), Ground Proximity Warning System (GPWS), Communications, Navigation, Surveillance and Air Traffic Management (CNS/ATM) upgrades, Control and Display Unit (CDU) Replacement, Emergency Locator Transmitter (ELT), Flight Data Recorder (FDR), Electronic Flight Bag (EFB), Mode 5 Identification Friend or Foe (IFF), Embedded GPS Inertial (EGI) with Selective Availability Anti-Spoofing Module (SAASM)/M-Code GPS, Digital Multi-Function Flight Display (Attitude Direction Indicator, Horizontal Situation Indicator and Attitude Heading Reference System) , Automatic Dependent Surveillance-Broadcast (ADS-B), a new Flight Management System (FMS), Flight Director, Instrument Landing System (ILS) Marker Beacon multi-mode receiver (MMR), and digital engine instruments.</p> <p>Communications and Networking Upgrades (CNU) - A multi-phased CNU effort includes, but is not limited to, replacement of the E-8C Link 16 Tactical Data Link (TDL) equipment with National Security Agency (NSA) Cryptographic Modernization Program (CMP) compliant equipment, the Multifunctional Information Distribution System (MIDS) Joint Tactical Radio System (JTRS), Integrated Broadcast Services (IBS), the Family of Advanced Beyond Line of Sight Terminals (FAB-T), Advanced Tactical Data Links integration, Airborne Networking, and Network Centric operation enhancements.</p> <p>Test and Infrastructure - The test infrastructure includes the Joint STARS Extended Test Support (JETS) Program, Joint STARS Test Force (JTF), and C2 Enterprise Integration Facility (CEIF). All JSTARS efforts rely on the components of the test infrastructure to carry out RDT&amp;E activities. The infrastructure includes but is not limited to a dedicated, T-3 test aircraft, laboratories, support facilities, Priority Level (PL-2) security, information assurance, and range support.</p>		

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2013 Air Force **DATE:** February 2012

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	PE 0207581F: <i>JOINT STARS</i>

Training and support systems upgrades as a part of modernization efforts include, but are not limited to: Weapon Systems Trainer (WST); Navigator Training System (NTS); and Mission Crew Trainers to include a Mission Maintenance Trainer (MMT), Prime Mission Equipment-Maintenance Training Device (PME-MTD) and the Mission System Trainer (MST).

Other modernization efforts include interoperability with manned and unmanned platforms; space data links; advanced Battle-Management Command and Control (BMC2) concepts; 8.33/25 kHz VHF Radio with Single Channel Ground and Airborne Radio System (SINCGARS) voice and data communication; ISR Constellation; Air Moving Target Indicator (AMTI); Advanced Radar Modes (ARM); Aided Target Recognition (ATR); Synthetic Aperture Radar (SAR)/Enhanced Synthetic Aperture Radar (ESAR); Network Centric Collaborative Targeting (NCCT); and Beyond Line of Sight (BLOS) Network Architecture Upgrades (BNAU).

**II. Re-engineing:**

The second major Joint STARS effort is Re-Engineering. The JSTARS Re-Engineering program is a System Design and Demonstration (SDD) program to replace legacy TF33-P102C engines with JT8D-219 engines. The JT8D-219 engines are predicted to provide the E-8C aircraft improved performance, including thrust, altitude capability, mission duration, time to climb, critical field length (i.e. takeoff performance), fuel efficiency, noise abatement, emissions and reliability. It also adds the potential for additional electrical power generation for future system upgrades. SDD efforts include flight test, development of Weapon System trainer modification hardware and software, technical orders (i.e. flight and maintenance manuals) and technical data development, logistic development and analysis, technical analysis and evaluation, engineering support for MIL-STD airworthiness qualification, flight data analysis and upgrade of the T-3 test aircraft's Propulsion Pod System (PPS) and spare engines including upgrade of used JT8D-219 engines to make production representative. A PPS consists of new engines (4), pneumatic bleed air system, engine build up unit, thrust reversers, nacelles, pylons, exhaust ducts, controls, and instrumentation.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

Re-Engineering SDD will support non-recurring engineering activities including development, flight testing, flight manuals, pneumatic bleed air system, Weapon System Trainer development and MIL-STD air worthiness qualification.

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force** **DATE:** February 2012

<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207581F: <i>JOINT STARS</i>
--	---

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
Previous President's Budget	168.917	121.610	29.292	-	29.292
Current President's Budget	162.756	74.018	24.241	-	24.241
Total Adjustments	-6.161	-47.592	-5.051	-	-5.051
• Congressional General Reductions	-	-0.592			
• Congressional Directed Reductions	-	-47.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.727	-			
• Other Adjustments	-1.434	-	-5.051	-	-5.051

**Change Summary Explanation**

FY11 Congressional General Reduction of 1.434M in Other Adjustment row.

FY12 Congressional General Reduction (FFRDC, Sec. 8023) of 0.592M.

FY12 Congressional Directed Reduction of 47.0M from FY12 Defense Appropriation Act. Reason: contract delays

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
<b>Title:</b> Modernization	78.215	39.650	0.660	-	0.660
<b>Description:</b> Multiple projects to develop and integrate system improvements, platform wide					
<b>FY 2011 Accomplishments:</b> Completed JSuW Link 16 JCTD, continued JSRM radar receiver development, completed SYERS Demo, continued Avionics DMS development, completed ELMM SDD and began production, continued CNU-JTRS replacement development, continued 8.33/25 kHz Radio with SINCGARS retrofit, continued PME DMS RASP SDD, FVB mitigation, AoA, QRC efforts, and Spiral Development.					
<b>FY 2012 Plans:</b> Completing JSRM radar receiver development and beginning flight demo, continuing Avionics DMS development and studies, ELMM SDD production and retrofit, beginning CNU-JTRS production, continuing 8.33/25 kHz Radio with SINCGARS retrofit, PME DMS RASP and OWS SDD, FVB mitigation, QRC efforts, and Spiral Development.					

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2013 Air Force **DATE:** February 2012

<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207581F: <i>JOINT STARS</i>
--	---

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Not applicable.  <b><i>FY 2013 Base Plans:</i></b> Will complete JSRM radar receiver flight demo, will continue Avionics DMS development, will complete ELMM production and retrofit, will continue CNU-JTRS production, will complete 8.33/25 kHz Radio with SINCGARS retrofit, will complete PME DMS RASP and OWS SDD, will continue FVB mitigation, will continue QRC efforts, will continue Spiral Development.  <b><i>FY 2013 OCO Plans:</i></b> N/A					
<b><i>Title:</i></b> Test and infrastructure  <b><i>Description:</i></b> Test and Infrastructure Effort  <b><i>FY 2011 Accomplishments:</i></b> Supported Test and Infrastructure Effort including but not limited to Joint Test Force, JETS contract, CEIF, Information Assurance, range support, and PL-2 security; supporting T-3 aircraft, test labs, facilities.  <b><i>FY 2012 Plans:</i></b> Supporting Test and Infrastructure Effort including but not limited to Joint Test Force, JETS contract, CEIF, weight reduction studies, Information Assurance, range support, PL-2 security, T-3 aircraft, and test labs and facilities.  Not applicable.  <b><i>FY 2013 Base Plans:</i></b> Will support Test and Infrastructure Effort including but not limited to Joint Test Force, JETS contract, CEIF, software development, weight reduction studies, Information Assurance, range support, and PL-2 security; will support T-3 aircraft, test labs, facilities.  <b><i>FY 2013 OCO Plans:</i></b> N/A	42.745	29.629	23.581	-	23.581
<b><i>Title:</i></b> Re-Engining	41.796	4.739	-	-	-

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2013 Air Force **DATE:** February 2012

<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207581F: <i>JOINT STARS</i>
--	---

**C. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p><b>Description:</b> Replaces legacy TF-33 Propulsion Pod System (PPS) consisting of new engines, thrust reversers, nacelles, pylons, exhaust ducts, controls, instrumentation and all associated components.</p> <p><b>FY 2011 Accomplishments:</b> Supported non-recurring engineering activity including development, FAA Certification, Flight Testing, Flight Performance Manuals, Pneumatic SDD (bleed air), Maintenance Training.</p> <p><b>FY 2012 Plans:</b> Supporting SDD activity including Flight Testing, Flight Manuals, Pneumatic Bleed Air System, Weapon System Trainer, air worthiness qualification, production shutdown and storage.</p> <p>Not applicable.</p> <p><b>FY 2013 Base Plans:</b> N/A</p> <p><b>FY 2013 OCO Plans:</b> N/A</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	162.756	74.018	24.241	-	24.241

**D. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 0207581F, APAF: <i>JSTARS Modernization</i>	6.306	22.558	59.320	0.000	59.320	47.384	24.167	24.867	25.754	Continuing	Continuing

**E. Acquisition Strategy**

Development efforts are performed in an incremental method. Most major programs will be sole source to Northrop Grumman Corp. in Melbourne, Florida and Norwalk, Connecticut. Trainer programs are sole source to Rockwell Collins in Sterling, Virginia.

**F. Performance Metrics**

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force** **DATE:** February 2012

<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207581F: <i>JOINT STARS</i>	<b>PROJECT</b> 670003: <i>JSTARS</i>
--	---	---

<b>Product Development (\$ in Millions)</b>				<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Spiral Development	Various	NGC:Melb, FL	116.402	0.240	Nov 2011	0.160	Nov 2012	-		0.160	Continuing	Continuing	TBD
Communications & Network Upgrade (CNU)(Joint Tactical Radio System (JTRS))	SS/CPAF	NGC:Melb, FI	7.629	0.034	Nov 2011	-		-		-	0.000	7.663	7.697
ELMM/ARM	SS/CPFF	NGC:Melb, FI	96.509	-		-		-		-	0.000	96.509	96.545
PME DMS	SS/CPIF	NGC:Melb, FI	157.814	30.010	Nov 2011	-		-		-	0.000	187.824	202.612
JSRM	SS/CPAF	NGC:Melb, FI	104.877	4.366	Jan 2012	-		-		-	Continuing	Continuing	TBD
Avionics DMS	SS/CPAF	NGC:Melb, FL	3.062	2.345	Nov 2011	0.471	Jan 2012	-		0.471	Continuing	Continuing	TBD
Re-Engining	SS/CPIF	NGC:Melb, FI	296.667	4.424	Dec 2011	-		-		-	0.000	301.091	366.389
<b>Subtotal</b>			782.960	41.419		0.631		-		0.631			

**Remarks**

Where Various Contract Method & Types take place, earliest date funds will be obligated is noted.

<b>Support (\$ in Millions)</b>				<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			-	-		-		-		-	0.000	0.000	0.000

**Remarks**

Where Various Contract Method & Types take place, earliest date funds will be obligated is noted.

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
E-8C JSTARS Ext. Test Spt (JETS)	SS/CPAF	NGC:Melb, FI	612.260	24.229	Nov 2011	17.680	Nov 2012	-		17.680	Continuing	Continuing	TBD
JTF Test Ops/Support	Various	JTF:Melb, FI	86.242	3.433	Nov 2011	4.530	Nov 2012	-		4.530	Continuing	Continuing	TBD
<b>Subtotal</b>			698.502	27.662		22.210		-		22.210			

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force** **DATE:** February 2012

<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207581F: <i>JOINT STARS</i>	<b>PROJECT</b> 670003: <i>JSTARS</i>
--	---	---

<b>Test and Evaluation (\$ in Millions)</b>				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract

**Remarks**  
Where Various Contract Method & Types take place, earliest date funds will be obligated is noted.

<b>Management Services (\$ in Millions)</b>				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Various:Bedford, MA	10.497	4.937	Nov 2011	1.400	Nov 2012	-		1.400	Continuing	Continuing	TBD
<b>Subtotal</b>			10.497	4.937		1.400		-		1.400			

**Remarks**  
Where Various Contract Method & Types take place, earliest date funds will be obligated is noted.

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>		1,491.959	74.018		24.241		-	24.241			

**Remarks**

**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2013 Air Force		<b>DATE:</b> February 2012
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207581F: <i>JOINT STARS</i>	<b>PROJECT</b> 670003: <i>JSTARS</i>

--	--	--

**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2013 Air Force		<b>DATE:</b> February 2012
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207581F: <i>JOINT STARS</i>	<b>PROJECT</b> 670003: <i>JSTARS</i>

--	--	--

**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2013 Air Force		<b>DATE:</b> February 2012
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207581F: <i>JOINT STARS</i>	<b>PROJECT</b> 670003: <i>JSTARS</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Joint Surface Warfare (JSuW) p.1 of 2	1	2011	1	2011
Joint STARS Radar Modernization (JSRM) p.1 of 2	1	2011	4	2012
Avionics DMS Risk Reduction & Studies p.1 of 2	1	2012	4	2013
ELMM Design/Development p.1 of 2	1	2011	4	2011
ELMM Retrofit Production p.1 of 2	3	2011	4	2012
ELMM Sustainment p.1 of 2	1	2013	4	2017
CNU Phase I Design/Development p.1 of 2	1	2011	3	2012
CNU Production p.1 of 2	3	2012	1	2015
CNU Sustainment p.1 of 2	1	2015	4	2017
8.33/25 kHz Radio Retrofit p.1 of 2	1	2011	3	2013
8.33/25 kHz Radio Sustainment p.1 of 2	3	2013	4	2017
PME DMS SDD p.1 of 2	1	2011	2	2013
PME DMS Production p.1 of 2	3	2013	4	2017
Re-Engine SDD Phase II p.2 of 2	1	2011	1	2013
Re-Engine Production Phase IA p.2 of 2	1	2011	4	2012
Re-Engine Production Shutdown/Storage p.2 of 2	4	2012	4	2013