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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0207581F: JOINT STARS							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	97.625	185.616	168.917	0.000	168.917	72.228	32.273	32.385	32.876	Continuing	Continuing
670003: JSTARS	97.625	185.616	168.917	0.000	168.917	72.228	32.273	32.385	32.876	Continuing	Continuing
A. Mission Description and Budget Item Justification											
<p>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 surveillance and targeting information on moving and stationary ground targets, 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 commanders to effectively make and execute battlefield decisions. It also helps achieve predictive battlespace awareness. Activities also include studies and analyses to support both current program planning and execution and future program planning.</p>											
<p>This program element enhances the warfighter'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 Command & Control and ISR (C2ISR), Network Centric Operations capabilities, and interoperability with Joint Service, Allied, and Coalition systems. These efforts include, but are not limited to: Re-Engining; Radar Modernization; interoperability with manned and unmanned platforms; space data links; advanced Battle-Management Command and Control (BMC2) concepts; Electro Optical/Infrared (EO/IR) sensor activities; 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); Ground Moving Target Indicator (GMTI); Advanced Radar Modes (ARM); Aided Target Recognition (ATR); Synthetic Aperture Radar (SAR)/Enhanced Synthetic Aperture Radar (ESAR); Network Centric Collaborative Targeting (NCCT); Beyond Line of Sight (BLOS) networking; Urgent Operational Needs (UONs);and Enhanced Land/Maritime Mode (ELMM). Additionally, Blue Force Tracking and other large airborne platform integration efforts include weapons guidance capabilities, Self Defense Suite (SDS), and radar and aircraft performance improvements. Joint Network Enabled Weapons (JNEW) efforts include participation in the Joint Surface Warfare (JSuW) Joint Capability Technology Demonstration (JCTD) and Engineering and Manufacturing Development (EMD) for Network Enabled Weapons (NEW) which includes, but is not limited to Joint Air to Surface Standoff Missile-Air Surface Warfare (JASSM-ASuW). All of these efforts rely on the test infrastructure provided by the Joint STARS Test Support (JETS) program and C2 Enterprise Integration Facility (CEIF). JETS includes a dedicated test aircraft, laboratories, and support facilities used by the Joint STARS Test Force (JTF) to conduct RDT&E activities. Training and support systems development 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). Also included in this program element are programs to address Diminishing Manufacturing Sources (DMS), to include but not limited to Prime Mission Equipment (PME) DMS, Radar DMS, and Avionics DMS which includes, but is not limited to Aircraft</p>											

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force		DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
3600: Research, Development, Test & Evaluation, Air Force		PE 0207581F: JOINT STARS			
BA 7: Operational Systems Development					
Information Program (AIP), Ground Proximity Warning System (GPWS), Communications, Navigation, Surveillance and Air Traffic Management (CNS/ATM) upgrades, Control and Display Unit (CDU)-800Y Replacement, Emergency Locator Transmitter (ELT), Flight Data Recorder (FDR), 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) , a new Flight Management System (FMS), Flight Director, VOR/ILS/Marker Beacon multi-mode receiver (MMR), and digital engine instruments. A multi-phased Communications and Networking Upgrade (CNU) effort includes, but is not limited to Joint Tactical Radio System (JTRS), Integrated Broadcast Services (IBS), the Family of Advanced Beyond Line of Sight Terminals (FAB-T), wideband line of sight and beyond line of sight upgrades, Advanced Tactical Data Links integration, Airborne Networking, and Network Centric operation enhancements. The Joint STARS program will coordinate with and participate in projects developing international standards (including NATO standards) to ensure joint, allied, and coalition interoperability such as Joint Surface Warfare Joint Capability Technology Demonstration (JSuW JCTD) which provides Joint STARS with a prototype Precision Guided Munitions (PGMs) Guidance Capability and Joint STARS ASTOR Interoperability Program (JAIP).					
The JSTARS Re-Engining program provides the E-8 aircraft additional range and time on station, improved fuel economy, time to climb, and reliability. It also adds the potential for additional power generation for future systems. Efforts include non-recurring engineering, flight test, MIL-STD qualification, and flight data analysis.					
This program is in Budget Activity 7, Operational Systems Development, due to efforts supporting a post-Milestone C operational weapon system.					
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	81.025	140.670	0.000	0.000	0.000
Current President's Budget	97.625	185.616	168.917	0.000	168.917
Total Adjustments	16.600	44.946	168.917	0.000	168.917
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-1.054			
• Congressional Adds		46.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	16.600	0.000	168.917	0.000	168.917
Change Summary Explanation					
FY 2009 Funding Total includes \$16.6M increase for Re-Engining.					

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FY 2010 Funding Total includes \$46.0M increase for Re-Engining and a \$1.054M reduction for FFRDC FY 2011 Funding Total includes \$68.8M increase for Re-Engining and a \$0.886M reduction for fact of life changes.		

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0207581F: JOINT STARS				PROJECT 670003: JSTARS			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
670003: JSTARS	97.625	185.616	168.917	0.000	168.917	72.228	32.273	32.385	32.876	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
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 radar-derived all-weather surveillance and targeting information on moving and stationary ground targets, 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, and can be cued by other intelligence, surveillance, and reconnaissance (ISR) and target acquisition systems. This capability enables air and ground commanders to effectively make and execute battle decisions.											
This program element enhances the warfighter's ability to achieve the joint vision of combat operations. It develops advanced battle management aids and information fusion to enable rapid decisions in tracking and killing time-critical targets, and helps achieve predictive battlespace awareness. Concept exploration, program definition/risk reduction efforts, and studies support continuous improvements in Command/ Control and ISR (C2ISR) capabilities. These efforts include, but are not limited to, manned and unmanned platforms, space data links, advanced Battle-Management Command, Control and Communications (BMC3) concepts, ISR Constellation, Air Moving Target Indicator (AMTI), Ground Moving Target Indicator (GMTI), Mode 5/S and other large airborne platform integration efforts. The result is greater mission capability, higher mission reliability, and maximum weapon system availability.											
This program is in Budget Activity 7, Operational Systems Development, due to efforts supporting a post-Milestone III operational weapon system.											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
MAJOR THRUST: Joint STARS Modernization						35.698	89.957	61.669	0.000	61.669	
FY 2009 Accomplishments: In FY2009: Spiral Development, Kill Chain and Integration Analysis, Interoperability, BLOS, PME/ DMS Phase I, JSRM, SINCGARS, JSuW Implementation, 8.33/25 kHz Radio, Senior Year Electro-											

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
optical Reconnaissance System (SYERS) Study/Demonstration, CNU Phase I FAB-T Study, Joint STARS Radar Modernization (JSRM) RTR/WAS, Communications & Network Upgrade (CNU) Joint Tactical Radio System (JTRS), Enhanced Land/Maritime Mode (ELMM). FY 2010 Plans: In FY2010: Spiral Development, Communications & Network Upgrade (CNU) Joint Tactical Radio System (JTRS), ELMM, PME/DMS, JSRM RTR/WAS, Avionics DMS, Communications & Network Upgrade (CNU) Joint Tactical Radio System (JTRS), JSuW, Fleet Viability Board Studies, SINCGARS, 8.33/25 kHz Radio, Quick Reaction Capabilities (QRC). FY 2011 Base Plans: In FY2011: Spiral Development, SINCGARS, 8.33/25 kHz Radio, Phase II, CNU Phase I, Trainers, PME/DMS Phase II NRE, Avionics DMS (Spiral 1), QRC concept completion, JSuW. FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.						
MAJOR THRUST: Test and Infrastructure Effort FY 2009 Accomplishments: In FY2009: Test and Infrastructure Effort including but not limited to Joint Test Force, JSTARS Extended Test Support contract, Information Assurance, range support, PL-2 security, support of T-3 test aircraft, test labs, etc. FY 2010 Plans: In FY2010: Test and Infrastructure Effort including but not limited to Joint Test Force, JSTARS Extended Test Support contract, Information Assurance, range support, PL-2 security, support of T-3 test aircraft, test labs, etc.		34.846	32.916	35.403	0.000	35.403

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0207581F: JOINT STARS		PROJECT 670003: JSTARS	
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: In FY2011: Test and Infrastructure Effort including but not limited to Joint Test Force, JSTARS Extended Test Support contract, Information Assurance, range support, PL-2 security, support of T-3 test aircraft, test labs, etc. FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.					
MAJOR THRUST: Re-Engining FY 2009 Accomplishments: In FY2009: SORAP Complete, CFE/GFE - Retrofit Decision FY 2010 Plans: In FY2010: Non-recurring engineering activity including FAA Certification, Flight Testing, Flight Performance Manuals, Pneumatic System Design and Development (Bleed Air), Maintenance Training FY 2011 Base Plans: In FY2011: Non-recurring engineering activity including FAA Certification, Flight Testing, Flight Performance Manuals, Pneumatic System Design and Development (Bleed Air), Maintenance Training FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.	27.081	62.743	71.845	0.000	71.845
Accomplishments/Planned Programs Subtotals	97.625	185.616	168.917	0.000	168.917

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force									DATE: February 2010		
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C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PE 0207581F: JSTARS, (APAF, Modifications)	46.971	74.833	188.504	0.000	188.504	101.056	86.705	84.079	35.270	0.000	0.000
• PE 0207581F (1): JSTARS, (APAF, Spares)	8.934	20.836	6.697	0.000	6.697	17.379	3.532	1.512	1.540	0.000	0.000
D. Acquisition Strategy											
Most major programs will be sole source to Northrop Grumman Corp. in Melbourne, Florida. Trainer programs are sole source to Rockwell Collins in Sterling, Virginia.											
E. 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.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force											DATE: February 2010			
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Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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	
CNS/ATM (GATM)/8.33/25 k Hz VHF Radio	Various/ Various	NGC Melb,FI	3.281	0.000		0.000		0.000		0.000	0.000	3.281	Continuing	
Spiral Development	Various/ Various	NGC Melb,FI	2.394	8.418	Aug 2010	1.061	Nov 2010	0.000		1.061	0.000	11.873	Continuing	
Communications & Network Upgrade (CNU) (Joint Tactical Radio System (JTRS))	Various/ Various	NGC Melb,FI	4.091	3.127	Nov 2009	0.785	Nov 2010	0.000		0.785	0.000	8.003	Continuing	
ELMM/ARM	TBD/CPFF	NGC Melb,FI	5.131	2.287	Jan 2010	0.000		0.000		0.000	0.000	7.418	Continuing	
PME DMS	TBD/CPIF	NGC Melb,FI	0.728	59.126	Mar 2010	49.409	Nov 2010	0.000		49.409	0.000	109.263	Continuing	
SYERS Demonstration	TBD/FFP	HAFB MA	0.201	0.006	Jan 2010	0.000		0.000		0.000	0.000	0.207	Continuing	
Joint STARS Radar Modernization (JSRM)	TBD/CPIF	NGC Melb,FI	19.872	0.000		0.000		0.000		0.000	0.000	19.872	0.000	
Avionics DMS Baseline I/ Mode 5	TBD/TBD	NGC Melb,FI	0.000	16.993	Sep 2010	10.415	Nov 2010	0.000		10.415	0.000	27.408	0.000	
Subtotal			35.698	89.957		61.670		0.000		61.670	0.000	187.325		
Remarks Where Various Contract Method & Types take place, earliest date funds will be obligated is noted.														

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force											DATE: February 2010		
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Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
SPO Ops Support	Various/ Various	HAFB MA	0.000	0.000		0.000		0.000		0.000	0.000	0.000	Continuing
Subtotal			0.000	0.000		0.000		0.000		0.000	0.000	0.000	
Remarks Where Various Contract Method & Types take place, earliest date funds will be obligated is noted.													
Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
E-8C JSTARS Ext. Test Spt (JETS)	Various/ Various	NGC Melb,FI	28.301	27.188	Nov 2009	30.819	Nov 2010	0.000		30.819	0.000	86.308	Continuing
JTF Test Ops/Support	Various/ Various	JTF Melb,FI	6.545	5.728	Nov 2009	4.583	Nov 2010	0.000		4.583	0.000	16.856	Continuing
Subtotal			34.846	32.916		35.402		0.000		35.402	0.000	103.164	
Remarks Where Various Contract Method & Types take place, earliest date funds will be obligated is noted.													

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 Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
Re-Engining	Various/ Various	NGC Melb,FI	27.081	62.743	Jan 2010	71.845	Nov 2010	0.000		71.845	0.000	161.669	0.000
Subtotal			27.081	62.743		71.845		0.000		71.845	0.000	161.669	0.000
Remarks Where Various Contract Method & Types take place, earliest date funds will be obligated is noted.													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			97.625	185.616		168.917		0.000		168.917	0.000	452.158	
Remarks Total Prior Years Cost may include only FY 2009 data.													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

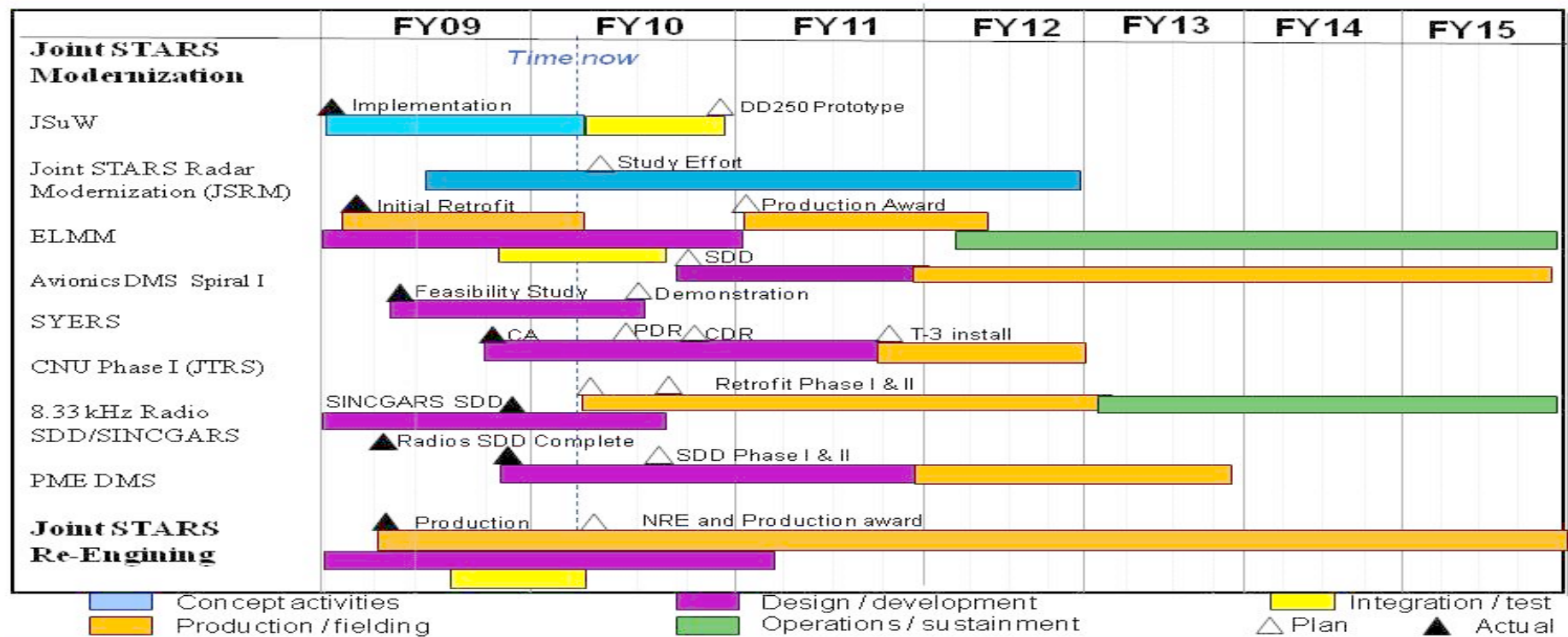
PE 0207581F: JOINT STARS

PROJECT

670003: JSTARS



Joint STARS Master Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force			DATE: February 2010
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Joint Surface Warfare (JSuW) Contract	1	2009	4	2010
Joint STARS Radar Modernization (JSRM) Contract	3	2009	4	2011
ELMM SDD Contract	1	2009	1	2011
ELMM Retrofit Contract	1	2009	2	2010
ELMM Production Contract	1	2011	4	2011
Avionics DMS EMD Phase I Start	4	2010	4	2011
SYERS Study/Demonstration Contract	4	2009	4	2009
CNU Phase I EMD Contract	4	2009	4	2011
CNU Production Contract	3	2011	4	2011
SINCGARS EMD Contract	2	2009	2	2010
8.33/25 kHz Radio Phase I Contract	3	2009	4	2011
8.33/25 kHz Radio Phase II Contract	2	2010	4	2011
PME Rasp Study Complete	2	2009	2	2009
PME DMS Phase I Contract	4	2009	2	2010
PME DMS Phase II Contract	2	2010	4	2011
Re-Engine Production Contract	2	2009	2	2010
Re-Engine EMD Contract	1	2009	1	2011
Re-Engine Integration and Test	3	2009	2	2010

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