

**UNCLASSIFIED**

PE NUMBER: 0207410F

PE TITLE: Air and Space Operations Center - Weapon System (AOC-WS)

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	<b>DATE</b> <b>February 2008</b>
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<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>
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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	74.841	100.173	118.834	119.414	121.631	125.588	126.880	Continuing	TBD
4372 Space C2 Operations	0.000	8.530	24.457	6.537	15.562	17.926	18.299	Continuing	TBD
5117 Integration Development	74.841	71.881	81.137	93.476	83.399	83.745	84.231	Continuing	TBD
5218 Applications Development	0.000	7.646	4.256	8.622	10.186	11.399	11.602	Continuing	TBD
5220 Unit Level	0.000	6.585	6.777	7.538	7.605	7.751	7.888	Continuing	TBD
5242 Command and Control Air Replanning and Monitoring (C2ARM)	0.000	5.531	2.207	3.241	4.879	4.767	4.860	Continuing	TBD

FY2008 funding totals do not include \$2.1M FY2008 GWOT requirements still pending Congressional consideration.

The GWOT request for Air and Space Operations Center Weapon System, Project 675117 will provide Analyst Support Architecture/Predictive Awareness and Network Centric Analysis for Collaborative Intelligence Assessment (ASA/PANACIA). A CENTAF Urgent Operational Need for common Signals Intelligence analytical tool was validated by Air Combat Command in Mar 07. Need is to acquire, integrate and field PANACIA multi-INT fusion capability to be integrated into the Intelligence, Surveillance and Reconnaissance Division of AI Udeid Combined Air and Space Operations Center.

Space Command and Control (C2) continues work started in the NCMC - TW/AA System, PE 0305906F. Starting in FY08, Space C2 funds were transferred to the 674372 project line in the AOC PE to consolidate and unify Air Force air and space C2 development and integration.

Starting in FY08 Project 674790 in PE 0207438F (Theater Battle Management Core Systems) was transferred to PE 0207410F (AOC WS) and placed into Projects 675218, Applications Development and 675220, Unit Level.

Command and Control Air Replanning and Monitoring (C2ARM) is continuation of work started under the Family of Interoperable Operational Pictures (FIOP) Program Element for Web Enabled Execution Management Capability (WEEMC), later renamed Command and Control Execution Manager (C2EM). Funding prior to FY08 was received from various sources; the Air Force normalized the funding line in FY08 and programmed dollars through the Future Years Defense Program (FYDP) for this effort.

**(U) A. Mission Description and Budget Item Justification**

The Air and Space Operations Center Weapon System (AOC WS) program element provides development of Command and Control (C2) capabilities across the entire spectrum of air and space operations from the strategic to the tactical level. There are five projects within the AOC WS program element.

Space C2 provides integrated space information and command and control of space forces for the Joint Functional Component Command for Space (JFCC-Space), and Commander USSTRATCOM.

**Exhibit R-2, RDT&E Budget Item Justification**

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BUDGET ACTIVITY

**07 Operational System Development**

PE NUMBER AND TITLE

**0207410F Air and Space Operations Center - Weapon System (AOC-WS)**

Integration Development supports the Air and Space Operations Center Weapon System (AOC WS), AN/USQ-163 Falconer, the senior element of the Theater Air Control System (TACS). AOC WS is the weapon system the Commander, Air Force Forces (COMAFFOR) provides the Coalition/Joint Force Air Component Commander (C/JFACC) for planning, executing and assessing theater-wide air and space operations.

Application Development supports the Command and Control Air Operations software, formerly Theater Battle Management Core Systems program which develops force-level command, control and intelligence applications and infrastructure providing core air battle planning, management and execution capabilities.

Unit Level (UL) supports two primary mission areas: UL Operations software systems provide both the scheduling and mission preparation activities at the wing squadron level and the capabilities to report and track the success of each mission and influence decisions on future Air Battle Planning to refine future missions. UL Intel capabilities ensure detailed threat, target and imagery information are made available to mission commanders and aircrews planning current flight operations.

C2 Air Re-planning and Monitoring (C2ARM) [formerly Command and Control Execution Manager (C2EM)] continues to develop Air Force unique execution management capabilities and interface to the future Army Joint Automated Deep Operations Command System - Net Centric (JADOCS-NC) providing new web based joint mission execution management tools for the warfighter.

This program is Budget Activity 7 - Operation System Development because it provides funding for the modernization of a currently existing and operating system.

**(U) B. Program Change Summary (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	76.849	111.557	133.469
(U) Current PBR/President's Budget	74.841	100.173	118.834
(U) Total Adjustments	-2.008	-11.384	
(U) Congressional Program Reductions		-10.745	
Congressional Rescissions		-0.639	
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-2.008		

**(U) Significant Program Changes:**

In FY08 and out, funding for 675218 Applications Development, 675220 Unit Level, 675242 C2ARM, and 675372 Space C2 was moved to PE 0207410F.

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2008**

BUDGET ACTIVITY <b>07 Operational System Development</b>				PE NUMBER AND TITLE <b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>			PROJECT NUMBER AND TITLE <b>4372 Space C2 Operations</b>		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4372 Space C2 Operations	0.000	8.530	24.457	6.537	15.562	17.926	18.299	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

Space Command and Control (C2) continues work started in the NCMC - TW/AA System, PE 0305906F. Starting in FY08, Space C2 funds were transferred to the 674372 project line in the AOC PE to consolidate and unify Air Force air and space C2 development and integration.

**(U) A. Mission Description and Budget Item Justification**

Space Command and Control (C2) system provides integrated space information and C2 of space forces for the Joint Functional Component Command for Space (JFCC-Space). Space C2 System builds on the operationally accepted pathfinder Single Integrated Space Picture (SISP) system. The Space C2 system will provide a net-centric, service oriented, technical implementation architecture that meets JFCC-Space top priority requirements. This program develops an integrated C2 solution that consumes and integrates space information to provide JFCC-Space and CDR USSTRATCOM with situational awareness of space assets (e.g., location and status of forces provided by Space Situational Awareness (SSA) systems), notification and assessment of space events, course of action development, and ability to command space forces. Space C2 system will improve the ability of JFCC-Space to fulfill assigned responsibilities of warning support/assessment of space attack, global coordination and conduct of space campaign planning, provide continuous situational awareness of assigned assets, coordinate on space intelligence requirements and intelligence campaign plans, provide operational support for space capabilities to Standing Joint Force Headquarters, conduct planning, tasking, integration, command, control and operational execution for global space operations as directed by CDRUSSTRATCOM for support to combatant commanders and other JFCCs and JTFs.

**(U) B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Space C2 Technology Risk Reduction: technology development and demonstration of various technology elements (e.g., Space User Defined Operational Picture (UDOP) and security core services). Develops the to-be services oriented net-centric system architecture for the development phase. Creates and coordinates Milestone B documentation.	0.000	8.530	4.750
(U) Space C2 System: develop, test, and deliver space C2 services that will integrate Space Situational Awareness (SSA) data to provide an integrated space information environment for the JSpOC C2 node and improved deliberate assessment, planning, tasking and course of action (COA) development capability. Specifically, this system will provide an collaborative information environment utilizing a User-defined Operational Picture (UDOP) at the secret and TS/SCI levels. Capabilites developed will address the following Key Performance Parameters (KPPs): Space UDOP, emergency action conferencing, system availability, and net-readiness. Additionally, it will address the following Key System Attributes (KSAs): event monitoring, monitoring force and resource status, situation assessment, JSpOC Integrated Workspace, system reliability, and total ownership cost. Also, the program will continues to develop an integrated Space/Theater C2 operational environment and service oriented, net-centric architecture. This funding will also provide Space C2 sevices and infrastructure technology risk reduction, demonstrations, operational Pilots, and evaluation of 3rd party-developed space services that will provide the	0.000	0.000	19.707

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY <b>07 Operational System Development</b>	PE NUMBER AND TITLE <b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>	PROJECT NUMBER AND TITLE <b>4372 Space C2 Operations</b>
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(U) <b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
foundational core services and C2 for other space systems that provide information to the JSPOC.			
(U) Total Cost	0.000	8.530	24.457

(U) <b><u>C. Other Program Funding Summary (\$ in Millions)</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	

(U) N/A

(U) **D. Acquisition Strategy**  
 Risk Reduction Technology Development performed by Air Force Research Laboratory. System Development will be a continuation of Integrated Space Command and Control (ISC2) contract awarded with full and open competition for Space C2 applications and services. Leverages the Air and Space Operations Center-Weapon System Integrator (AOC WSI) contract for enterprise integration, core services, and infrastructure. Uses evolutionary acquisition strategy based on spiral/incremental development with emphasis on risk reduction technology demonstrations and operational pilots.

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**Exhibit R-3, RDT&E Project Cost Analysis**

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BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
<b>07 Operational System Development</b>				<b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>					<b>4372 Space C2 Operations</b>			
(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> Space C2 System Development	CP/AF	Lockheed Martin, Colorado Springs, CO		0.000		0.000		16.898	Mar-09	0.000	16.898	TBD
Space C2 Technology Risk Reduction	Mult	Air Force Research Laboratory, Albuquerque, NM				3.564	Feb-08	2.100	Nov-08		5.664	
Subtotal Product Development			0.000	0.000		3.564		18.998		0.000	22.562	TBD
Remarks:												
(U) <u>Support</u> Systems Engineering	CP/FF	MITRE, Colorado Springs, CO				2.910	Nov-07	2.626	Nov-08	0.000	5.536	TBD
A&AS	CP/FF	PASS/ETAS, Colorado Springs, CO				1.619	Nov-07	2.379	Nov-08		3.998	
Program Support		Colorado Springs, CO				0.437	Nov-07	0.454	Nov-08	0.000	0.891	TBD
Subtotal Support			0.000	0.000		4.966		5.459		0.000	10.425	TBD
Remarks:												
(U) Total Cost			0.000	0.000		8.530		24.457		0.000	32.987	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

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BUDGET ACTIVITY  
07 Operational System Development

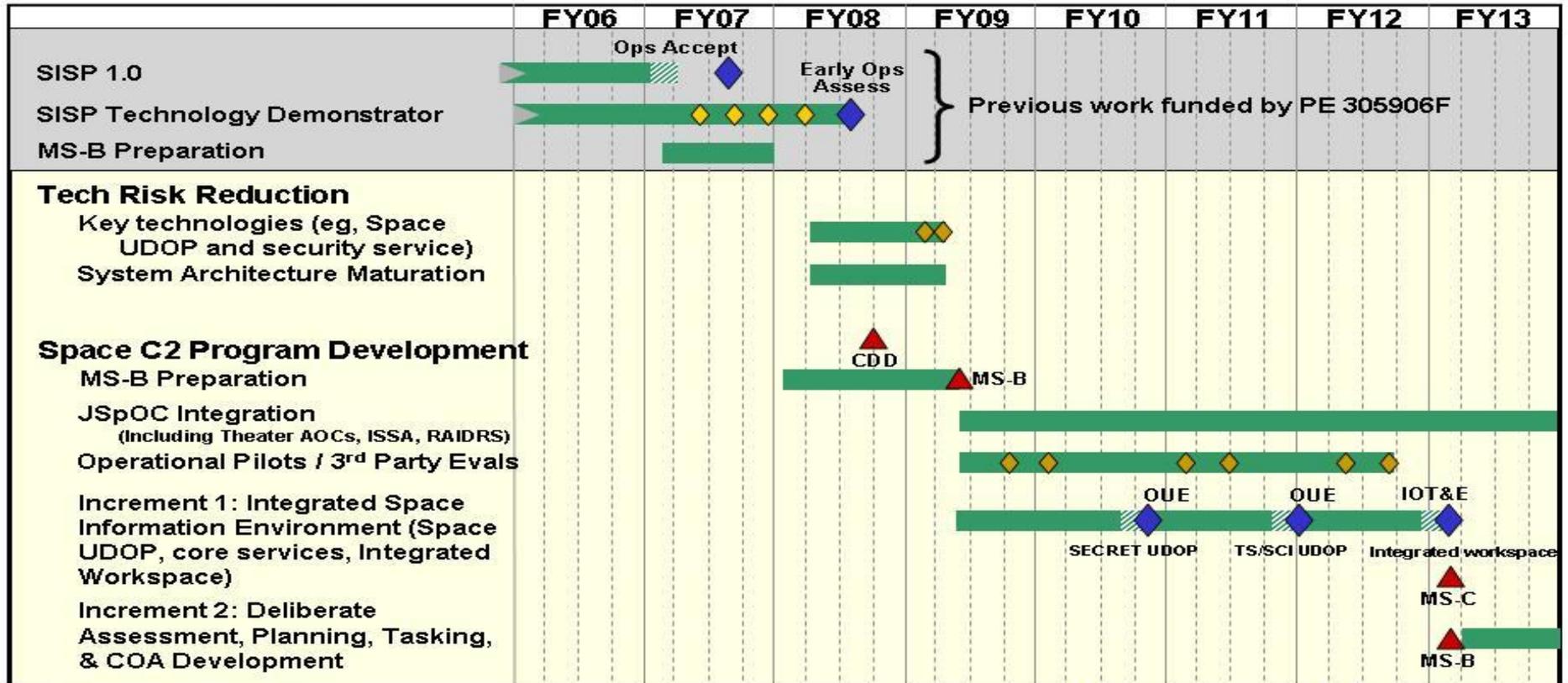
PE NUMBER AND TITLE  
0207410F Air and Space Operations  
Center - Weapon System (AOC-WS)

PROJECT NUMBER AND TITLE  
4372 Space C2 Operations



# Space C2 Program Schedule

850 ELSG



Funded Dev.
  Test

OUE = Operational Utility Evaluation

Ops Acceptance
  Ops Pilot / Demo

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<b>Exhibit R-4a, RDT&amp;E Schedule Detail</b>	DATE <b>February 2008</b>
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<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>	<b>PROJECT NUMBER AND TITLE</b> <b>4372 Space C2 Operations</b>
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	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) <b><u>Schedule Profile</u></b>			
(U) Space C2 Technology Risk Reduction Demonstrations, Pilots			1Q
(U) System Architecture			1Q
(U) Space C2 MS B (Increment 1)			2Q
(U) Pre MS A/B Tasks		4Q	

**Exhibit R-2a, RDT&E Project Justification**

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<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>				<b>PE NUMBER AND TITLE</b> <b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>			<b>PROJECT NUMBER AND TITLE</b> <b>5117 Integration Development</b>		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
5117 Integration Development	74.841	71.881	81.137	93.476	83.399	83.745	84.231	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

**(U) A. Mission Description and Budget Item Justification**

The Air and Space Operations Center Weapon System (AOC WS), AN/USQ-163 Falconer, the senior element of the Theater Air Control System (TACS), is the weapon system the Commander, Air Force Forces (COMAFFOR) provides the Combined/Joint Force Air Component Commander (C/JFACC) for planning, executing and assessing theater-wide air and space operations. The C/JFACC provides air and space support to the Combined/Joint Forces Commander (C/JFC) by coordinating, deconflicting and assessing the progress of various weapon systems to advance the C/JFC's campaign. The AOC WS develops operations strategy and planning documents. The weapon system also disseminates tasking orders, executes day-to-day peacetime and combat air and space operations, and provides rapid reaction to immediate situations by exercising positive control of friendly forces.

The AOC WS Integration Development project integrates system hardware and software to make the AOC WS a viable weapons system. This integration is in support of Falconer AOCs, Tailored Falconer AOCs, Functional AOCs, and Support units that are configured according to mission need. The project will develop and integrate Command and Control (C2) and Intelligence, Surveillance and Reconnaissance (ISR) capabilities through software and hardware improvements to the AOC WS baseline. To keep the future AOC Weapon System evolving to meet warfighter needs, the AOC WS program plans to develop the AOC through progressively improving capability increments. The AOC WS uses the Weapon System Integrator (WSI) contractor to ensure system of systems perspective and systems engineering rigor, to move the AOC WS Modernization to a Network-Centric Environment (NCE), to help develop the "to be" architecture, and to conduct other weapon system standardization and modernization activities as defined in AOC WS requirements documents. The AOC WS Integration Development project provides a structure to act as the focal point for systems integration, technical transition, and process refinement for rapidly evolving C2 programs, processes and concepts.

The program is in Budget Activity 7 - Operation System Development because it provides funding for the modernization of a currently existing and operating system.

**(U) B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) 10.1 Continue AOC integration and development of items to include, but not limited to, visualization, Coalition and Joint interoperability, airspace management and deconfliction, strategy and assessment, information management and keeping systems current and relevant to COCOM requirements.	55.954	37.805	20.439
(U) 10.1 Test, Integration, and Training (To include, but not limited to: Type 1, Part Task Trainer, Distributed Mission Operations, Virtual University, and Conversion of Courseware to Computer Based Training)	4.538	6.448	6.320
(U) 10.2 AOC Modernization. Development of a robust, open, net-centric infrastructure implemented by a services-oriented architecture. Includes initial integration of baseline capabilities and development of items to include, but not limited to, dynamic planning and execution, information management, multi-level security, predictive battlespace awareness and airspace management in support of the migration towards globally-linked Air and Space Operations Centers.	1.500	13.544	40.409

**Exhibit R-2a, RDT&E Project Justification**

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BUDGET ACTIVITY <b>07 Operational System Development</b>	PE NUMBER AND TITLE <b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>	PROJECT NUMBER AND TITLE <b>5117 Integration Development</b>
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(U) <b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) 10.2 Test, Modernization, and Training (To include, but not limited to: Type 1, Part Task Trainer, Distributed Mission Operations, Virtual University, and Conversion of Courseware to Computer Based Training)	0.000	0.000	1.299
(U) Systems Engineering	9.106	8.424	7.883
(U) Program Management Support	3.743	5.660	4.787
(U) Total Cost	74.841	71.881	81.137

(U) <b><u>C. Other Program Funding Summary (\$ in Millions)</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Other Procurement, AF PEC: 0207410F; BPAC: 83453A	26.797	43.363	35.050	53.216	28.766	22.181	31.446	Continuing	TBD

(U) **D. Acquisition Strategy**

The Air and Space Operations Center Weapon System PEO selected a Weapon System Integrator (WSI) through full and open competition, to ensure system of systems perspective and systems engineering rigor to move AOC Modernization to Network Centric Environment. The acquisition strategy builds on existing capabilities using evolutionary acquisition to standardize, modernize and sustain the AOC WS.

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**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

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BUDGET ACTIVITY				PE NUMBER AND TITLE						PROJECT NUMBER AND TITLE			
<b>07 Operational System Development</b>				<b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>						<b>5117 Integration Development</b>			
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2007 Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
(U) <u>Product Development</u> AOC Software Integration	CPAF	LMMS, Colorado Springs, CO		16.110	Jan-07					Continuing	TBD	TBD	
10.1 Integration & Version Upgrades	CPAF	LM WSI, Colorado Springs, CO		36.074	Jan-07	37.805	Jan-08	20.439	Nov-08	Continuing	TBD	TBD	
10.1 Training and Test	MIPR	AFMC,ESC, Hanscom AFB, MA, Eglin AFB, FL, Various		4.538	Nov-06	6.448	Dec-07	6.320	Dec-08	Continuing	TBD	TBD	
10.2 Modernization & Integration	CPAS	LM WSI, Colorado Springs, CO		1.500	Sep-07	13.544	Jan-08	40.409	Nov-08	Continuing	TBD	TBD	
10.2 Training and Test	MIPR	AFMC, ESC, Hanscom AFB, MA, Eglin AFB, FL, Various		0.000		0.000		1.299	Dec-08	Continuing	TBD	TBD	
Other Contracts (GSA, ETC)	MIPR	Various		3.770	Nov-06					Continuing	TBD	TBD	
Subtotal Product Development			0.000	61.992		57.797		68.467		Continuing	TBD	TBD	
Remarks:													
(U) <u>Support</u> Systems Engineering	CPFF; FFP	MITRE, Bedford, MA; ETASS, ESC, Hanscom AFB, MA		9.106	Oct-06	8.424	Oct-07	7.883	Oct-08	Continuing	TBD	TBD	
Program Office Support	Various	AFMC/ESC, Hanscom AFB, MA		3.743	Oct-06	5.660	Oct-07	4.787	Oct-08	Continuing	TBD	TBD	
Subtotal Support			0.000	12.849		14.084		12.670		Continuing	TBD	TBD	
Remarks:													
(U) Total Cost			0.000	74.841		71.881		81.137		Continuing	TBD	TBD	

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Exhibit R-3 (PE 0207410F)

Exhibit R-4, RDT&E Schedule Profile

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PE NUMBER AND TITLE  
0207410F Air and Space Operations  
Center - Weapon System (AOC-WS)

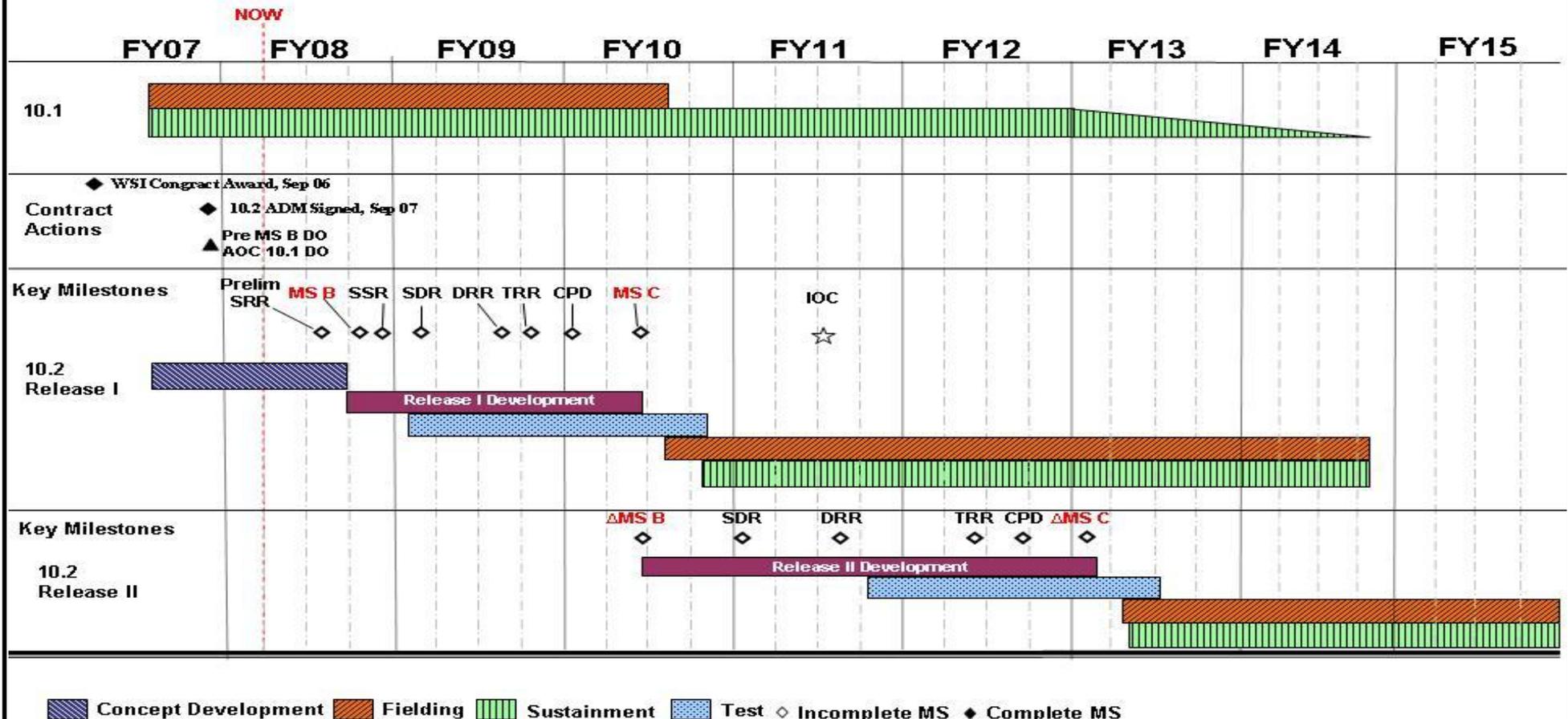
PROJECT NUMBER AND TITLE  
5117 Integration Development



# AOC WS Integrated Master Schedule



As of 7 Jan 08



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**Exhibit R-4a, RDT&E Schedule Detail**

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BUDGET ACTIVITY

**07 Operational System Development**

PE NUMBER AND TITLE

**0207410F Air and Space Operations  
Center - Weapon System (AOC-WS)**

PROJECT NUMBER AND TITLE

**5117 Integration Development**

**(U) Schedule Profile**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Increment 10.1 Fielding	1-4Q	1-4Q	1-4Q
(U) AOC 10.2 Concept Development	1-4Q	1-3Q	
(U) AOC System Design/Development 10.2		3-4Q	1-4Q
(U) Increment 10.2 Integration/Test			1-4Q
(U) Increment 10.2 MS B		4Q	

**Exhibit R-2a, RDT&E Project Justification**

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BUDGET ACTIVITY <b>07 Operational System Development</b>							PE NUMBER AND TITLE <b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>		PROJECT NUMBER AND TITLE <b>5218 Applications Development</b>	
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total	
5218 Applications Development	0.000	7.646	4.256	8.622	10.186	11.399	11.602	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0			

(U) **A. Mission Description and Budget Item Justification**  
 TBMCS Force Level provides operational viability of the current Joint System of Record (TBMCS 1.1.3) which delivers joint air battle planning, management and execution capabilities. The TBMCS Force Level follow on effort, known as Command and Control Air Operations Software (C2AOS), continues to evaluate future air and space command and control concepts identified through research, risk reduction, prototyping, current operations, exercises and demonstrations. This technology assessment will enable joint force-level command, control and intelligence applications providing joint air battle planning/re-planning, force allocation, management and execution capabilities to transition towards a net-centric environment. C2AOS focuses on, but is not limited to support of the Joint Forces Air Component Commander, the Air and Space Operations Center (AOC) and Net Enabled Command Capability (NECC) to include: planning and replanning of the Air Battle Plan; generation and dissemination of the Air Tasking Order; air and space defensive planning and execution; targeting; weaponeering; and numerous other applications supporting air operations command and control, utilized in the joint environment.  
 The program is in Budget Activity 7 - Operation System Development because it provides funding for the modernization of a currently existing and operating system.

(U) <b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) TBMCS Force Level Support	0.000	1.383	0.000
(U) NATO ICR&D (International Cooperation Research & Development) projects	0.000	0.300	0.450
(U) C2AOS (risk reduction and technology assessment)	0.000	0.625	0.000
(U) Training Development	0.000	1.500	0.800
(U) Test & Evaluation	0.000	1.180	0.800
(U) Program Support	0.000	2.658	2.206
(U) Total Cost	0.000	7.646	4.256

(U) <b>C. Other Program Funding Summary (\$ in Millions)</b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Other Procurement, AF, PE 0207410F, WSC 834520, PROG BG1000	0.000	11.863	11.994	16.135	15.086	15.433	15.790	Continuing	TBD
(U) O&M, PE 0207410F, PROG BG1000		16.209	16.942	18.247	17.432	16.726	16.686	Continuing	TBD

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PE NUMBER AND TITLE

0207410F Air and Space Operations  
Center - Weapon System (AOC-WS)

PROJECT NUMBER AND TITLE

5218 Applications Development

(U) D. Acquisition Strategy

Projects will be awarded following full and open competition and will use an evolutionary acquisition strategy based on incremental development.

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**Exhibit R-3, RDT&E Project Cost Analysis**

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**February 2008**

BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
<b>07 Operational System Development</b>				<b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>					<b>5218 Applications Development</b>			
(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> C2AOS (risk reduction and technology assessment)	Various	FFRDC and A&AS, Hanscom AFB, MA	0.000	0.000		0.625	Oct-07	0.000	Oct-08	Continuing	TBD	TBD
Subtotal Product Development			0.000	0.000		0.625		0.000		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u> TBMCS Force Level Support	FFP/FPIF/C PAF	Lockheed Martin, Colorado Springs, CO	0.000	0.000		1.383	Oct-07	0.000	Oct-08	Continuing	TBD	TBD
Subtotal Support			0.000	0.000		1.383		0.000		Continuing	TBD	TBD
Remarks:												
(U) <u>Test &amp; Evaluation</u> Test and Evaluation	MIPR	46th Test Squadron, Eglin AFB, FL	0.000	0.000		1.180	Nov-07	0.800	Nov-08	Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.000		1.180		0.800		Continuing	TBD	TBD
Remarks:												
(U) <u>Management</u> Program Support (MITRE, A&AS, Travel)	Various	Hanscom AFB, MA	0.000	0.000		2.658	Oct-07	2.206	Oct-08	Continuing	TBD	TBD
Subtotal Management			0.000	0.000		2.658		2.206		Continuing	TBD	TBD
Remarks:												
(U) <u>Training Development</u> Training development	CPAF	Lockheed Martin, Colorado Springs, CO	0.000	0.000		1.500	Feb-08	0.800	Feb-09		2.300	
Subtotal Training Development			0.000	0.000		1.500		0.800		0.000	2.300	0.000
Remarks:												
(U) <u>NATO ICR&amp;D Projects</u> NATO ICR&D Projects	Various	Hanscom AFB, MA	0.000	0.000		0.300	Oct-07	0.450	Oct-08		0.750	
Subtotal NATO ICR&D Projects			0.000	0.000		0.300		0.450		0.000	0.750	0.000
Remarks:												
(U) Total Cost			0.000	0.000		7.646		4.256		Continuing	TBD	TBD

R-1 Line Item No. 135

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Project 5218

Exhibit R-3 (PE 0207410F)

Exhibit R-4, RDT&E Schedule Profile

DATE

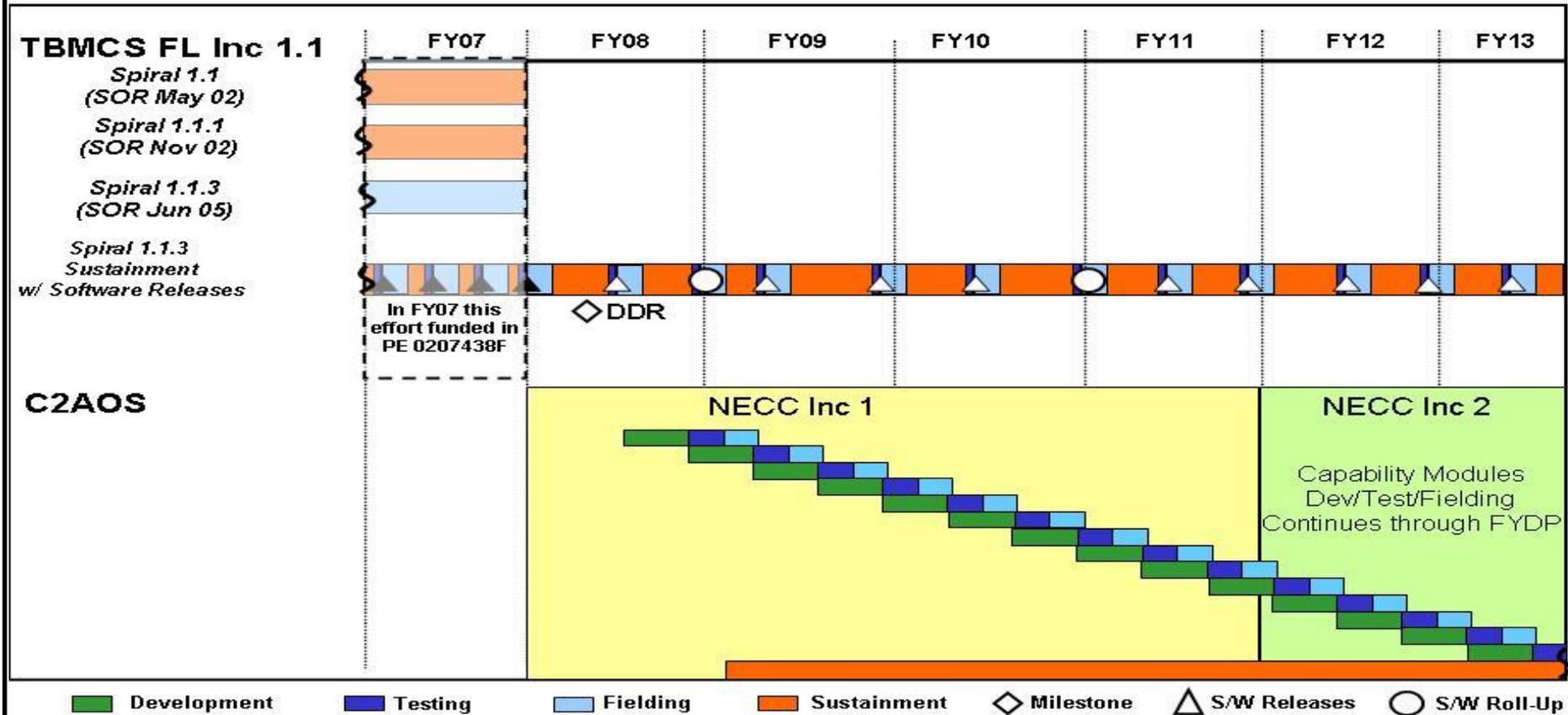
February 2008

BUDGET ACTIVITY  
07 Operational System Development

PE NUMBER AND TITLE  
0207410F Air and Space Operations  
Center - Weapon System (AOC-WS)

PROJECT NUMBER AND TITLE  
5218 Applications Development

# TBMCS-FL/C2AOS



As of 8 January 2008

R-1 Line Item No. 135

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Exhibit R-4 (PE 0207410F)

Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2008

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0207410F Air and Space Operations  
Center - Weapon System (AOC-WS)

PROJECT NUMBER AND TITLE

5218 Applications Development

(U) Schedule Profile

FY 2007

FY 2008

FY 2009

(U) TBMCS Force Level

1-4Q

1-4Q

(U) C2AOS (risk reduction and technology assessment)

1-4Q

1-4Q

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2008**

BUDGET ACTIVITY <b>07 Operational System Development</b>							PE NUMBER AND TITLE <b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>		PROJECT NUMBER AND TITLE <b>5220 Unit Level</b>	
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total	
5220 Unit Level	0.000	6.585	6.777	7.538	7.605	7.751	7.888	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0			

(U) **A. Mission Description and Budget Item Justification**  
 The Unit Level (UL) program, as the follow on to Theater Battle Management Core Systems-Unit Level, develops, integrates, fields, and maintains an evolving sequence of increasing software capabilities (Unit Command & Control - UC2) that support the execution of the air battle plan and the air tasking order message received from the force level systems. Unit Level Operations software systems provide both the scheduling and mission preparation activities at the wing and squadron level and the capabilities to report and track the success of each mission and influence decisions on future Air Battle Planning to refine future missions. Unit Level Intelligence capabilities ensure detailed threat, target and imagery information are made available to mission commanders and aircrews planning current flight operations. UL is fielded to the Wing Operations Center (WOC), the Maintenance Operations Center (MOC), the Squadron Operations Center (SOC), and many other work-centers.  
 The program is in Budget Activity 7 - Operation System Development because it provides funding for the modernization of a currently existing and operating system.

(U) <b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue Unit Level Operations and Intelligence increment software development/integration (formerly known as TBMCS-Unit Level)	0.000	4.301	4.372
(U) Test Support	0.000	0.845	0.860
(U) System Engineering	0.000	0.626	0.651
(U) Program Support (including contract engineering support, tech support, etc)	0.000	0.813	0.894
(U) Total Cost	0.000	6.585	6.777

(U) <b><u>C. Other Program Funding Summary (\$ in Millions)</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Other Procurement, AF, PE 0207410F, WSC 834520, PROG BG2000	0.000	10.686	10.531	12.863	11.939	12.172	12.231	Continuing	TBD
(U) O&M, PE 0207410F, PROG BG2000		2.860	2.169	2.183	1.079	1.099	1.703	Continuing	TBD

(U) **D. Acquisition Strategy**  
 Projects will be awarded following full and open competition and will use an evolutionary acquisition strategy based on increment development.

UNCLASSIFIED

**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

**February 2008**

BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
<b>07 Operational System Development</b>				<b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>					<b>5220 Unit Level</b>			
(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>												
Increment Development	TBD	TBD		0.000		4.301	Feb-08	4.372	Mar-09	Continuing	TBD	TBD
Subtotal Product Development			0.000	0.000		4.301		4.372		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u>												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Test &amp; Evaluation</u>												
Test Support	MIPR	46TS, Eglin AFB, FL		0.000		0.845	Oct-07	0.860	Oct-08	Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.000		0.845		0.860		Continuing	TBD	TBD
Remarks:												
(U) <u>System Engineering</u>												
	CPFF	MITRE, Bedford, MA				0.626	Oct-07	0.651	Oct-08	Continuing	TBD	TBD
Subtotal System Engineering			0.000	0.000		0.626		0.651		Continuing	TBD	TBD
Remarks:												
(U) <u>Program Support</u>												
	various	Hanscom AFB, MA				0.813	Oct-07	0.894	Oct-08	Continuing	TBD	TBD
Subtotal Program Support			0.000	0.000		0.813		0.894		Continuing	TBD	TBD
Remarks:												
(U)												
Subtotal			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			0.000	0.000		6.585		6.777		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2008

BUDGET ACTIVITY  
07 Operational System Development

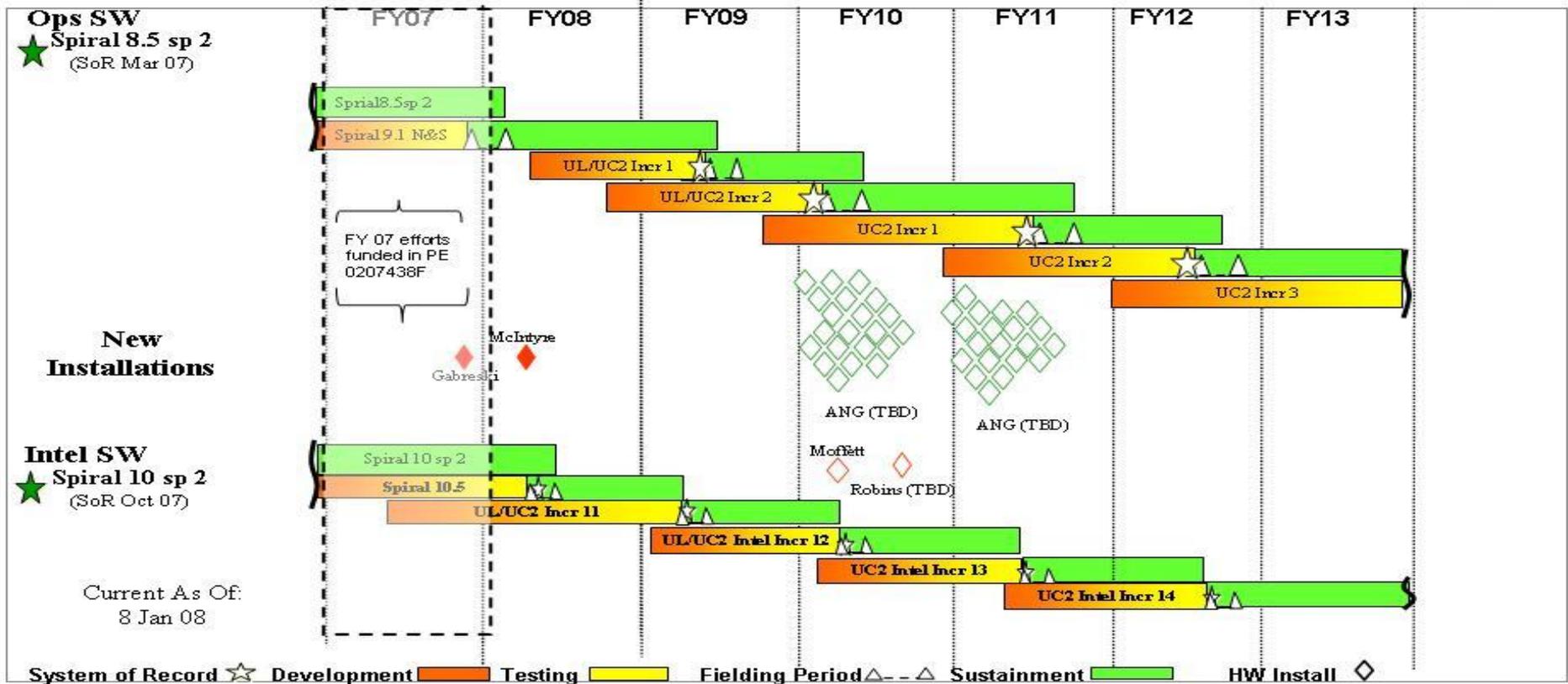
PE NUMBER AND TITLE  
0207410F Air and Space Operations  
Center - Weapon System (AOC-WS)

PROJECT NUMBER AND TITLE  
5220 Unit Level

FOR OFFICIAL USE ONLY



# UL/UC2 Program Schedule



FOR OFFICIAL USE ONLY

Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2008

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0207410F Air and Space Operations  
Center - Weapon System (AOC-WS)

PROJECT NUMBER AND TITLE

5220 Unit Level

(U) Schedule Profile

FY 2007

FY 2008

FY 2009

(U) Continue Unit Level Operations and Intelligence Increments/Spirals

1-4Q

1-4Q

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2008**

<b>BUDGET ACTIVITY</b> 07 Operational System Development				<b>PE NUMBER AND TITLE</b> 0207410F Air and Space Operations Center - Weapon System (AOC-WS)			<b>PROJECT NUMBER AND TITLE</b> 5242 Command and Control Air Replanning and Monitoring (C2ARM)		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
5242 Command and Control Air Replanning and Monitoring (C2ARM)	0.000	5.531	2.207	3.241	4.879	4.767	4.860	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

Command and Control Air Replanning and Monitoring (C2ARM) is continuation of work started under the Family of Interoperable Operational Pictures (FIOP) Program Element for Web Enabled Execution Management Capability (WEEMC), later renamed Command and Control Execution Manager (C2EM). Funding prior to FY08 was received from various sources; the Air Force normalized the funding line in FY08 and programmed dollars through the Future Years Defense Program (FYDP) for this effort.

**(U) A. Mission Description and Budget Item Justification**

In FY08, C2ARM shifted its focus from joint execution management to all aspects of air component mission monitoring and replanning. The joint execution management capabilities developed under WEEMC and C2EM will be made available to the military services for integration into their command and control systems, including the Air and Space Operations Center Weapon System (AOC WS). Following the completion of joint execution-management capability development, C2ARM will focus on, but will not be limited to, development of data services and improving the net-centric environment for a variety command, control and intelligence applications within the Air and Space Operations Center (AOC) as an enabler for transition to Net Enabled Command Capability. C2ARM will provide information services for air battle planning execution data to Command and Control Air Operations Software (C2AOS).

**(U) B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) C2ARM Development/Test	0.000	4.360	1.642
(U) System Engineering	0.000	0.538	0.215
(U) Program Support	0.000	0.633	0.350
(U) Total Cost	0.000	5.531	2.207

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) None									

**(U) D. Acquisition Strategy**

New award multi-year contract, evolutionary acquisition strategy, one delivery with increased capability per year, Competitive or limited competitive, CPIF.

UNCLASSIFIED

**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

**February 2008**

BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
<b>07 Operational System Development</b>				<b>0207410F Air and Space Operations Center - Weapon System (AOC-WS)</b>					<b>5242 Command and Control Air Replanning and Monitoring (C2ARM)</b>			
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>												
Product Development	TBD	TBD				4.360	May-08	1.642	May-09	Continuing	TBD	TBD
Subtotal Product Development			0.000	0.000		4.360		1.642		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u>												
Program Office Support	TBD	TBD	0.000	0.000		0.633	Jan-08	0.350	Jan-09	Continuing	TBD	TBD
Subtotal Support			0.000	0.000		0.633		0.350		Continuing	TBD	TBD
Remarks:												
(U) <u>Management</u>												
Management	TBD	TBD	0.000	0.000		0.000		0.000			0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Systems Engineering</u>												
Systems Engineering	TBD	TBD	0.000	0.000		0.538	Jan-08	0.215	Oct-08	Continuing	TBD	TBD
Subtotal Systems Engineering			0.000	0.000		0.538		0.215		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			0.000	0.000		5.531		2.207		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2008

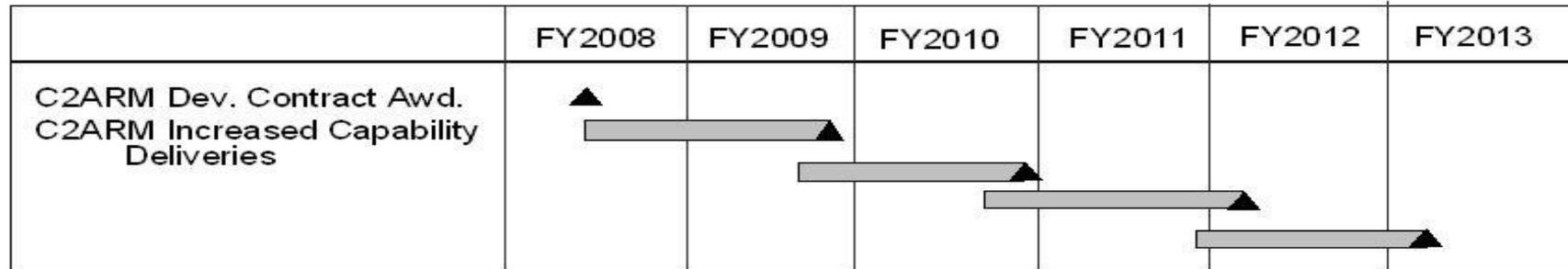
BUDGET ACTIVITY  
07 Operational System Development

PE NUMBER AND TITLE  
0207410F Air and Space Operations  
Center - Weapon System (AOC-WS)

PROJECT NUMBER AND TITLE  
5242 Command and Control Air  
Replanning and Monitoring (C2ARM)

# C2ARM Milestone Schedule

7 Jan. 2008



▬ Development/Test

▲ Delivery

Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2008

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0207410F Air and Space Operations  
Center - Weapon System (AOC-WS)

PROJECT NUMBER AND TITLE

5242 Command and Control Air  
Replanning and Monitoring (C2ARM)

(U) Schedule Profile

FY 2007

FY 2008

FY 2009

(U) C2ARM Development Contract Award

3Q

(U) C2ARM Increased Capability Deliveries

4Q