

UNCLASSIFIED

PE NUMBER: 0207410F

PE TITLE: Air and Space Operations Center (AOC)

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2004
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0207410F Air and Space Operations Center (AOC)
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Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	68.890	27.513	27.695	32.763	58.499	82.650	72.551	Continuing	TBD
4372 Time Critical Targeting	22.160	2.233	2.334	2.384	1.287	1.289	27.307	Continuing	TBD
5117 Integration Development	46.730	25.280	25.361	30.379	57.212	81.361	45.244	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

The Air & Space Operations Center-Weapons System (AOC-WS), AN/USQ-163 Falconer, is the lead command element of the Theater Air Control System (TACS). It is the weapon system that the Joint Forces Air Component Commander (JFACC) uses for planning, executing, and assessing theater-wide air and space operations. The AOC-WS develops operational 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 JFACC provides air and space support to the Joint Forces Commander (JFC) by coordinating, deconflicting, and assessing the progress of various weapon systems to advance the JFC's campaign. The AOC-WS also provides Time Critical Targeting Functionality (TCTF), which improves C2 capability to locate and pursue time critical targets. The Air Force must improve the existing C2 capabilities of the AOC-WS by leveraging technology to modernize current systems and automate C2 and Intelligence, Surveillance, and Reconnaissance (ISR) processes.

The AOC-WS program provides system hardware, software, technical documents and technology refresh to make the AOC-WS a viable weapons system. The program consists of five full Falconer AOC-WSs, two Training & Innovation AOC-WSs, six Functional AOC-WSs and six Augmentation Training Suites. The program will upgrade all sites to a standard AOC-WS configuration according to the site's mission. This will also provide a single integrated technical manual package to the user. Block 10.1 will include initial hardware/software development, technical manuals, training, and required technology refresh to the Falconer and Training Suite sites only. To keep the future AOC-WS evolving to meet warfighter needs, the AOC-WS Program plans to develop a series of three Air Force Concept Of Operations (CONOPS) capability increments beginning in FY 05.

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

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget	71.459	27.887	36.217
(U) Current PBR/President's Budget	68.890	27.513	27.695
(U) Total Adjustments	-2.569	-0.374	
(U) Congressional Program Reductions		-0.374	
Congressional Rescissions			
Congressional Increases			
Reprogrammings	-0.712		
SBIR/STTR Transfer	-1.857		

(U) **Significant Program Changes:**

15 Dec 2003 Acquisition Decision Memorandum, signed by Asst SECAF (Acquisition), provides direction to the AOC-WS Program Director to award a contract, establishing a Lead Systems Integrator no later than FY06.

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0207410F Air and Space Operations Center (AOC)			PROJECT NUMBER AND TITLE 4372 Time Critical Targeting		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
4372 Time Critical Targeting	22.160	2.233	2.334	2.384	1.287	1.289	27.307	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

Note: \$9.53M was transferred from BPAC 674372 - Time Critical Targeting to fund BPAC 675117 - Integration Development in FY03

(U) A. Mission Description and Budget Item Justification

The Time Critical Targeting Functionality (TCTF) is an integrated set of automated decision aids / tools that enable successful prosecution of Time Sensitive Targets (TSTs) with key functionalities to include Terrain Analysis (TA), Intelligence Preparation of the Battlespace (IPB), tracking and nominating multiple TSTs, and Weapon Target Pairing (WTP). Current systems do not meet warfighter requirements for identifying TCTs and tasking strike assets within the limited window of vulnerability. TCTF funding supports development of enhanced C2 capabilities to find, fix, track, target, engage, and assess time critical targets (TCTs).

The primary program objective of the TCTF program is to provide capabilities to collect, share and aggregate decision quality data between Command and Control Centers of Operation, ISR assets and attack aircraft; correlate/fuse information; reduce AOC forward footprint; improve deployability; and make improvements in information sharing among coalition partners.

This program is a 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 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Spiral 8 software development and integration of TCT Functionality. Integration, fielding, and training completed in FY03. To better integrate program schedules in the C2 architecture, fielding to operational sites is deferred and combined with Spiral 9 fielding. Spiral 9 Increment functionality started in FY04 will include additional decision aids, situation awareness, and analytical software applications to locate, identify, track, nominate and recommend ISR/strike assignments against TCTs as defined in the TCT Functionality ORD. Spiral 9 provides an interface to the ISR Battle Manager to enable dynamic re-tasking of ISR assets to support prosecution of TCTs.	19.627		
(U) Conduct developmental and operational test and evaluation activities.	2.533		
(U) Complete development of 1st Post Core Increment		1.485	1.553
(U) Conduct test and evaluation activities for Post Core development		0.748	0.781
(U) Total Cost	22.160	2.233	2.334

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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0207410F Air and Space Operations Center (AOC)	PROJECT NUMBER AND TITLE 4372 Time Critical Targeting
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(U) C. Other Program Funding Summary (\$ in Millions)

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</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 (3080)	0.000	1.627	1.801	1.825	4.072	1.888	1.935	Continuing	TBD
(U) Operations & Maintenance AF	0.000	0.000	0.930	0.949	0.948	0.966	0.984	Continuing	TBD

(U) D. Acquisition Strategy

The acquisition approach provides for the horizontal integration of legacy C2ISR, the integration of emerging technologies, or the introduction of a revolutionary C2ISR warfighting capability. As a means to evaluate and integrate these applications, AFC2ISR and ESC established a Software Interoperability Facility for TCT (SWIFT,) a TCT capability that will be fielded at designated AOC-WS locations. An 8(a) set aside contract was awarded to design, develop, test, integrate, install, train and support TCT Functionality software. Separate contractors are being used to procure communication and computer hardware. The TCT Functionality is updated using evolutionary acquisition guidelines IAW DoDD 5000.1 and AFI 63-123. The system is supported using existing AOC-WS maintenance support structure (a combination of contract and organic resources). Systems Engineering and Technical Analysis (SETA) contracts are used to support the effort.

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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				
07 Operational System Development				0207410F Air and Space Operations Center (AOC)				4372 Time Critical Targeting				
<u>(U) Cost Categories</u>	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>Cost to</u>	<u>Total</u>	<u>Target</u>
(Tailor to WBS, or System/Item Requirements) (\$ in Millions)			<u>Prior to FY</u>	<u>2003</u>	<u>2003</u>	<u>2004</u>	<u>2004</u>	<u>2005</u>	<u>2005</u>	<u>Complete</u>	<u>Cost</u>	<u>Value of</u>
			<u>2003</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>			<u>Contract</u>
			<u>Cost</u>		<u>Date</u>		<u>Date</u>		<u>Date</u>			
<u>(U) Product Development</u>												
Zel Technologies	CPAF	AFMC/ESC	0.000	12.327	Nov-02	1.485	Oct-03	1.553	Oct-04	Continuing	TBD	
FFRDC	CPFF	AFMC/ESC	0.000	3.280	Nov-02					Continuing	TBD	
Subtotal Product Development			0.000	15.607		1.485		1.553		Continuing	TBD	0.000
Remarks:	Contract for Zel Technologies was awarded in October 2003 and will continue through FY04. TCT-F program slipped 10 months because of technical issues related to hardware interoperability problems with other programs, such as TBMCS, and other AOC programs. Comm and Comp equipment was completed in FY02. TBD (Training & Integration) and TBD (Development) in Dec 03 were erroneous award dates put in the Feb 2003 submittal.											
<u>(U) Support</u>												
FFRDC	FFP	AFMC/ESC	0.000	2.380	Nov-02					Continuing	TBD	
Non-FFRDC	FFP	AFMC/ESC	0.000	3.248	Nov-02					Continuing	TBD	
Subtotal Support			0.000	5.628		0.000		0.000		Continuing	TBD	0.000
Remarks:												
<u>(U) Test & Evaluation</u>												
Non-FFRDC	CPFF	AFMC/ESC	0.000	0.000		0.248	Sep-04	0.281	Sep-05	Continuing	TBD	
46TS	MIPR	AFMC/ESC	0.000	0.500	May-03	0.100	May-04	0.100	May-05	Continuing	TBD	
Zel Technologies	CPAF	AFMC/ESC	0.000	0.425	Jun-03	0.400	Jun-04	0.400	Jun-05		1.225	
Subtotal Test & Evaluation			0.000	0.925		0.748		0.781		Continuing	TBD	0.000
Remarks:												
<u>(U) Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Total Cost</u>			0.000	22.160		2.233		2.334		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

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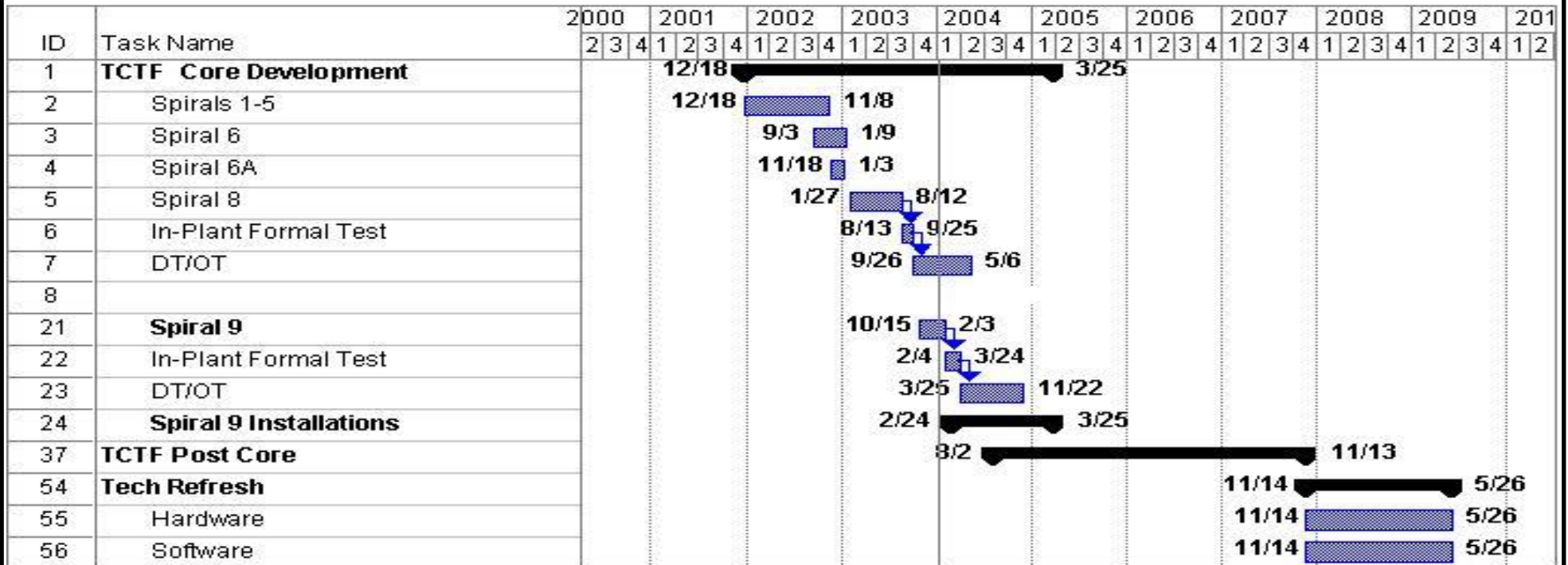
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BUDGET ACTIVITY
07 Operational System Development

PE NUMBER AND TITLE
0207410F Air and Space Operations
Center (AOC)

PROJECT NUMBER AND TITLE
4372 Time Critical Targeting

TCTF Schedule 2001 thru 2009



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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 (AOC)	PROJECT NUMBER AND TITLE 4372 Time Critical Targeting
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(U) <u>Schedule Profile</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) TCT Spiral 8 Core Development	4Q		
(U) TCT Spiral 9 Core Development		2Q	
(U) TCT Spiral 8 DT/OT		3Q	
(U) TCT Spiral 9 DT/OT		2Q	
(U) TCT Spiral 9 Fielding (1st Site)		4Q	
(U) TCT Post Core Development		3Q	
(U) TCT Spiral 9 Fielding (5 Falconer Sites)			2Q

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0207410F Air and Space Operations Center (AOC)			PROJECT NUMBER AND TITLE 5117 Integration Development		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
5117 Integration Development	46.730	25.280	25.361	30.379	57.212	81.361	45.244	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

AOC-WS program received an FY03 Congressional Plus-Up of \$37.2M for the purpose of integration development (BPAC 675117 Integration Development). In addition, \$9.53M was transferred from BPAC 674372 - Time Critical Targeting to fund BPAC 675117 in FY03.

(U) A. Mission Description and Budget Item Justification

Air and Space Operations Center - Weapon System (AOC-WS) PROGRAM: The AOC-WS program provides system hardware, software, technical documents and technology refresh to make the AOC-WS a viable weapons system. The program consists of five full Falconer AOC-WSs, two Training & Innovation AOC-WSs, six Functional AOC-WSs and six Augmentation Training Suites. The program will develop and integrate C2ISR capabilities to upgrade all sites to a standard AOC-WS configuration according to mission. To keep the future AOC weapon system evolving to meet warfighter needs, the AOC-WS Program plans to spirally develop a series of three Air Force (AF) Concept Of Operations (CONOPS) capability increments beginning in FY 07. The Government will use a Lead System Integrator to support development efforts beginning as early as November 2004. The AOC-WS will also expand capabilities for countering all threats. The AOC-WS program provides a necessary structure to transition and act as the focal point for a singular technical 'center of mass' for systems integration, technical transition, and process refinement for rapidly evolving C2 programs, process and concepts. Numerous independent systems inherent in the entire spectrum of command, control, and communications and Intelligence, Surveillance and Reconnaissance (ISR) battle management encompass a robust fully functioning AOC-WS.

The program is 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 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments/Planned Program	0.000	0.000	0.000
(U) Conduct further research and engineering, lay the groundwork, and establish weapon system infrastructure for the standardization of Block upgrades and systems architecture. Work continues and will be complete in FY04 using FY03 funding.	10.000		
(U) Continue AOC development and integration of legacy systems, multi-level security, visualization, and coalition interoperability.	14.365	12.280	12.361
(U) Developed and Fielded prototype AOC Formal Training Unit to support AOC operator initial qualification training and prototype Help Desk.	22.365		
(U) Spiral Development leading to Block 30 (10.2, 10.3, 10.4)		5.000	5.000
(U) System Engineering/Integration		3.500	3.500
(U) Program Management Support		4.500	4.500
(U) Total Cost	46.730	25.280	25.361

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PROJECT NUMBER AND TITLE

5117 Integration Development

(U) C. Other Program Funding Summary (\$ in Millions)(U) D. Acquisition Strategy

The acquisition strategy builds on existing capabilities, using evolutionary acquisition and spiral development to standardize, modernize and sustain AOC-WSs. On December 15, 2003, the Acquisition Decision Memorandum (ADM) directed the AOC-WS program office to award a contract to a Lead Systems Integrator no later than FY06. This acquisition approach provides for the horizontal integration of legacy C2ISR, the integration of emerging technologies, and the transformation to a revolutionary C2ISR warfighting capability. Evolutionary acquisition and spiral development IAW DoDD 5000.1 provide the opportunity to introduce advanced technologies into the AOC-WS. The system is supported using existing AOC-WS maintenance support structure (a combination of contract and organic resources). Systems Engineering and Technical Analysis (SETA) contracts are used to support the effort.

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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				
07 Operational System Development			0207410F Air and Space Operations Center (AOC)					5117 Integration Development				
<u>(U) Cost Categories</u>	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>Cost to</u>	<u>Total</u>	<u>Target</u>
(Tailor to WBS, or System/Item Requirements) (\$ in Millions)			<u>Prior to FY</u>	<u>2003</u>	<u>2003</u>	<u>2004</u>	<u>2004</u>	<u>2005</u>	<u>2005</u>	<u>Complete</u>	<u>Cost</u>	<u>Value of</u>
			<u>2003</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>			<u>Contract</u>
			<u>Cost</u>		<u>Date</u>		<u>Date</u>		<u>Date</u>			
<u>(U) Product Development</u>												
Lockheed Martin Mission Systems	CPAF	AFMC/ESC	0.000	9.400	Apr-03					Continuing	TBD	TBD
Training	MIPR	AFMC/ESC	0.000	1.500	Apr-03	9.000	Jan-04	6.700	Jan-05	Continuing	TBD	TBD
Other Contracts (GSA, ETC)	MIPR	AFMC/ESC	0.000	17.400	Mar-03	4.700	Nov-03	2.200	Nov-04	Continuing	TBD	TBD
Block 10.1 and 10.2 AOC Development	MIPR	AFMC/ESC	0.000	9.363	Apr-03					Continuing	TBD	TBD
AF CONOPS Spiral	MIPR	AFMC/ESC	0.000					4.300	Jan-05	Continuing	TBD	TBD
Subtotal Product Development			0.000	37.663		13.700		13.200		Continuing	TBD	TBD
Remarks:												
<u>(U) Support</u>												
MITRE	CPFF	AFMC/ESC	0.000	2.500	Oct-02	3.500	Dec-03	3.700	Oct-04	Continuing	TBD	TBD
Non-FFRDC	FFP	AFMC/ESC	0.000	5.567	Dec-02	6.580	Feb-04	6.961	Dec-04	Continuing	TBD	TBD
Program Office Support	Various	AFMC/ESC	0.000	0.500	Oct-02	0.900	Oct-03	0.900	Oct-04	Continuing	TBD	TBD
Subtotal Support			0.000	8.567		10.980		11.561		Continuing	TBD	TBD
Remarks:												
<u>(U) Test & Evaluation</u>												
46TS	MIPR	AFMC/ESC	0.000	0.500	Feb-03	0.600	Dec-03	0.600	Nov-04	Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.500		0.600		0.600		Continuing	TBD	TBD
Remarks:												
<u>(U) Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	TBD
Remarks:												
<u>(U)</u>												
Subtotal			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Total Cost</u>			0.000	46.730		25.280		25.361		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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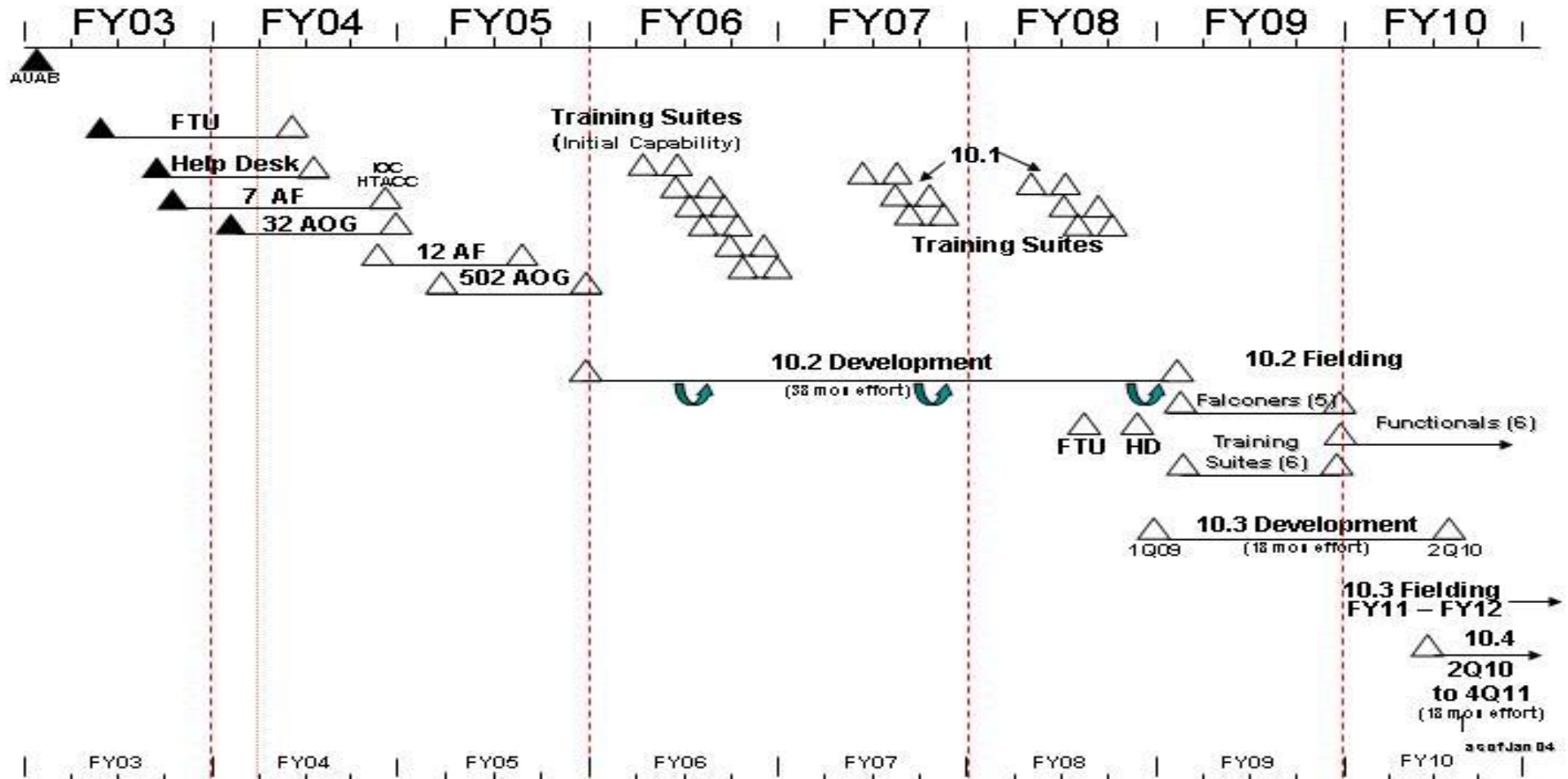
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PE NUMBER AND TITLE
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5117 Integration Development

AOC WS Integrated Master Schedule



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	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) <u>Schedule Profile</u>			
(U) Initiated evaluation of current applications and technologies	1Q		
(U) Initiated/continued Block 10.1 Spiral Development	1Q		
(U) Field prototype FTU and Help Desk		1Q	
(U) Fielded Block 10.1 increment Falconer Site 1-AI Udeid AB, Qatar (AUAB)	1Q		
(U) Field Block 10.1 increment Falconer Site 2-7th AF		4Q	
(U) Initiate Block 10.2 Spiral Development			4Q
(U) Field Block 10.1 increment Falconer Site 3- 32nd AOG			1Q
(U) Field Block 10.1 increment Falconer Site 4- 12th AF			3Q
(U) Field Block 10.1 increment Falconer Site 5- 502nd AOG			4Q