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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE June 2001		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207410F AEROSPACE OPERATION CENTER (AOC)					PROJECT 4372		
COST (\$ in Thousands)		FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4372	Time Critical Targeting	0	0	19,514	26,075	2,519	2,522	2,524	1,415	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

FY03-FY07 budget numbers do not reflect the DoD strategic review results.

Concept Exploration/Concept Definition efforts were financed in FY00 and FY01 in PE 028060F. FY02 Time Critical Targeting Functionality is being funded in PE 0270410. Time Critical Targeting Functionality is transitioning to PE 0207410F.

(U) **A. Mission Description**

The Air Operations Center (AOC) enables the successful prosecution of the air campaign by Air Force, joint, and coalition leaders allowing them to make rapid and effective Command and Control (C2) decisions by providing the necessary air operations C2 and force execution tools. The AOC program also 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, processes 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. The AOC program utilizes the spiral development acquisition process supported by the Combined Air Operations Center-eXperimental (CAOC-X) located at Langley AFB, Virginia. CAOC-X serves as the place and process to bring together the user, tester, and developer to improve the ability of C2 systems to support the USAF's Air Expeditionary Forces. In addition, CAOC-X serves as the technical and operational baseline for all U.S. air operations centers. The AOC will eventually incorporate many current USAF C2 programs (e.g. Global Command and Control System (GCCS), Theater Battle Management Core Systems (TBMCS), Global Combat Support System-Air Force (GCSS-AF) and Affordable Moving Surface Target Engagement (AMSTE), under its umbrella as their functionality is incorporated in the AOC weapon system. The initial AOC phase incorporates Time Critical Target (TCT) Functionality. TCT provides a Command and Control (C2) capability for the Joint Forces Commander (JFC) / Joint Force Air Component Commander (JFACC) to defeat theater TCTs across the spectrum of conflict. Coupled with updated operational procedures, the TCT Functionality supports tighter integration of C2, Intelligence, Surveillance and Reconnaissance (ISR) and attack systems. The TCT Functionality will utilize a mix of land, air space and sea assets to obtain required information. Follow-on AOC initiatives will include spiral-developed enhancements to TBMCS, DCGS, and other relevant C2 systems supporting the AF's global command and control system for today and tomorrow.

The primary program objectives of the AOC are to:

- Provide capabilities to collect, share and aggregate decision quality data between C2 nodes, ISR assets and attack aircraft
- Integrate the relevant AOC weapon system components to provide improved USAF, joint and coalition air operations C2

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<p>(U) <u>A. Mission Description Continued</u></p> <ul style="list-style-type: none"> - Provide a scaleable, integrated capability to the AOCs that is fully supportable - Support receipt and display of ISR data through the use of existing and acquired communication systems - Develop regular updates to initial capability on a spiral development timeline (12-18 month) - Continue to drive down life cycle cost for the evolving system - Evaluate Commercial Off-the-Shelf (COTS)/Government Off-the-Shelf (GOTS) and service/coalition C2 and ISR systems for integration into the AOC baseline - Continue to reduce footprint to support field deployments - Comply with Defense Information Infrastructure Common Operating Environment (DII COE) and Joint Technical Architecture (JTA) requirements to enhance air ops C2 interoperability - Overall, develop a system that is meets the intent of Joint Vision 2010 and 2020 <p>(U) <u>FY 2000 (\$ in Thousands)</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">(U) \$0</td> <td style="width: 10%;"></td> <td style="width: 80%;">No Activity</td> </tr> <tr> <td>(U) \$0</td> <td></td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">(U) \$0</td> <td style="width: 10%;"></td> <td style="width: 80%;">No Activity</td> </tr> <tr> <td>(U) \$0</td> <td></td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">(U) \$17,222</td> <td style="width: 10%;"></td> <td style="width: 80%;">Develop and integrate software capability meeting threshold requirements of the Operational Requirements Document, TCT Functionality, ACAT III, AC2ISRC. Core Increment functionality will include target development, sensor integration, threat launch and impact prediction, weapon-to-target pairing, intelligence preparation of the battlespace, and terrain and mobility analyses. Support evolving air ops C2 concepts, exercises and user evaluations (e.g. CAOC-X)</td> </tr> <tr> <td>(U) \$2,292</td> <td></td> <td>Survey applicable commercial and government applications and technologies to evaluate capabilities to enhance AOC functionality.</td> </tr> <tr> <td>(U) \$19,514</td> <td></td> <td>Total</td> </tr> </table> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This program is a budget activity 7 - Operational System Development because it provides funding for the modernization of a currently existing and operating system.</p>			(U) \$0		No Activity	(U) \$0		Total	(U) \$0		No Activity	(U) \$0		Total	(U) \$17,222		Develop and integrate software capability meeting threshold requirements of the Operational Requirements Document, TCT Functionality, ACAT III, AC2ISRC. Core Increment functionality will include target development, sensor integration, threat launch and impact prediction, weapon-to-target pairing, intelligence preparation of the battlespace, and terrain and mobility analyses. Support evolving air ops C2 concepts, exercises and user evaluations (e.g. CAOC-X)	(U) \$2,292		Survey applicable commercial and government applications and technologies to evaluate capabilities to enhance AOC functionality.	(U) \$19,514		Total
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Project 4372	Page 2 of 6 Pages	Exhibit R-2 (PE 0207410F)																					

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BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207410F AEROSPACE OPERATION CENTER (AOC)			PROJECT 4372				
(U) C. Program Change Summary (\$ in Thousands)											
		<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>						
(U)	Previous President's Budget (FY 2001 PBR)	0	0	19,514	TBD						
(U)	Appropriated Value	0	0								
(U)	Adjustments to Appropriated Value										
	a. Congressional/General Reductions	0	0								
	b. Small Business Innovative Research	0	0								
	c. Omnibus or Other Above Threshold Reprogram	0	0								
	d. Below Threshold Reprogram	0	0								
	e. Rescissions	0	0								
(U)	Adjustments to Budget Years Since FY 2001 PBR	0	0								
(U)	Current Budget Submit/FY 2002 PBR	0	0	19,514	TBD						
(U) Significant Program Changes:											
Concept Exploration/Concept Definition efforts were financed in FY00 and FY01 in PE 028060F. FY02 Time Critical Targeting Functionality is being funded in PE 0270410F. Time Critical Targeting Functionality is transitioning to PE 0207410F.											
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</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>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E	0	0	0	0						TBD
(U)	Other APPN	0	0	0	0						TBD
(U) E. Acquisition Strategy											
Electronic Systems Center (ESC) provides program management for the Time Critical Targeting (TCT) Functionality Program. The acquisition strategy builds on Theater Missile Defense (TMD) concept exploration and prototyping concluding at the end of FY 01. The TCT Functionality is an outgrowth of the Air Force's limited ability to respond to TCTs in the desert and the Balkans. The following documents provide the requirements and guidance: Combat Air Force (CAF) Concept of Operations for Command and Control Against Time Critical Targets, July 1997; AF Mission Need Statement (MNS) for Theater Missile Defense, October 1991; JROCM 065-99, MNS for Theater Air and Missile Defense (TAMD), July 1999; Mission Need Statement for Joint TAMD, May 1999; Program Management Directive (PMD) 2440/Program Element (PE)# 27410 for AOC; Operational Requirements Document Aerospace Command and control and Intelligence, Reconnaissance, Surveillance Center AC2ISRC Time Critical Targeting Functionality, ACAT III, Draft, August 2000. In support of the timely prosecution of TCTs, the AC2ISRC, ESC, AFRL, SWC, and others have been involved in the development of several TCT decision support tools. As a means to evaluate and integrate the above applications AC2ISRC/C2N											
Project 4372				Page 3 of 6 Pages				Exhibit R-2 (PE 0207410F)			

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(U) **E. Acquisition Strategy Continued**
 and ESC/ACP established a Software Interoperability Facility for TCT (SWIFT). This effort will serve as the initial baseline for the development of a TCT capability that will be fielded at designated TACS locations. An 8(a) set aside contract was awarded to design, develop, test, integrate, install, train and support TCT Functionality software. Separate contractors will be used to procure communication and computer hardware. The TCT Functionality will be updated using evolutionary acquisition guidelines. The plan is to field a rapidly deployable, small footprint construct to match Air Force AEF concept. The basic TCT Functionality configuration will augment the basic communications links and utilities services already in place at the individual AOC locations. Evolutionary acquisition IAW DoDI 5000.1, AFI 63-123 provides the opportunity to introduce additional capabilities during the course of development. Other products that may extend the capabilities as a whole will be investigated. There will be a continuing review of emerging technologies and products to enhance the TCT capabilities. The system will be supported using existing AOC maintenance support structure (a combination of contract and organic resource). Systems Engineering and Technical Analysis (SETA) contracts will be used to support the effort.

(U) **F. Schedule Profile**

	<u>FY 2000</u>				<u>FY 2001</u>				<u>FY 2002</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Design									X			
(U) Pre-Core Delivery to Field (One Site)										X		
(U) Core Drop to CAOC-X												X

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE June 2001				
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207410F AEROSPACE OPERATION CENTER (AOC)				PROJECT 4372		
(U) A. Project Cost Breakdown (\$ in Thousands)											
					<u>FY 2000</u>		<u>FY 2001</u>			<u>FY 2002</u>	
(U)	TCT Software Development and Integration				0		0			17,222	
(U)	Evaluation of Other Development Efforts for Future Interface/Integration				0		0			2,053	
(U)	Test and Evaluation				0		0			239	
(U)	Total				0		0			19,514	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2000</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Zel Technologies	CPAF	Nov 02			0	0	0	13,811	Continuing	TBD
	TBD (comm& comp equip)	Multiple	Nov 02			0	0	0	2,814	Continuing	TBD
<u>Support and Management Organizations</u>											
	FFRDC	FPAF	Nov 02			0	0	0	1,600	Continuing	TBD
<u>Test and Evaluation Organizations</u>											
	Non-FFRDC		Nov 02			0	0	0	1,050	Continuing	TBD
	46TS	AF Form 616	Nov 02			0	0	0	239	Continuing	TBD
(U) Government Furnished Property:											
	<u>Item</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery</u>		<u>Total Prior to FY 2000</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>							
<u>Product Development Property</u>											
<u>Support and Management Property</u>											
<u>Test and Evaluation Property</u>											

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	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development	0	0	0	16,625	TBD	TBD
Subtotal Support and Management	0	0	0	1,600	TBD	TBD
Subtotal Test and Evaluation	0	0	0	1,289	TBD	TBD
Total Project	0	0	0	19,514	TBD	TBD