

**RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)**

DATE  
**February 2000**

BUDGET ACTIVITY		PE NUMBER AND TITLE							
<b>05 - Engineering and Manufacturing Development</b>		<b>0604270F EW Development</b>							
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	89,862	87,187	58,198	53,655	50,876	52,662	50,498	Continuing	TBD
651011 Joint Service Electronic Combat Systems Tester	9,063	2,920	2,964	0	0	0	0	0	45,239
652462 Compass Call (CC)	1,262	744	820	2,554	2,581	2,633	2,685	Continuing	TBD
653891 Advanced IR Counter Measures (AIRCM)	36,293	54,595	24,207	15,809	14,265	14,492	14,733	Continuing	TBD
653945 RF Towed Decoy Systems	39,074	17,428	26,208	35,292	34,030	35,537	33,080	Continuing	TBD
654832 Precision Location and Identification (PLAID)	4,170	11,500	0	0	0	0	0	0	15,670
658462 MALD	0	0	3,999	0	0	0	0	0	3,999
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

AIRCM includes four subprojects: Common Missile Warning System (CMWS), Advanced Strategic and Tactical Infrared Expendables (ASTE), Large Aircraft IRCM (LAIRCM), and software upgrade to AAR-47.

**(U) A. Mission Description**

This program element (PE) consolidates engineering development efforts related to Air Force Electronic Warfare (EW) requirements. It centralizes USAF funding and management of common EW systems development. These funds transition EW technologies to an installed operational capability. This PE executes projects to provide capabilities to deter, detect, deceive and counter enemy acquisition and tracking of DoD operational platforms plus enemy Radio Frequency (RF) information operations worldwide. These projects include Infrared (IR), RF and laser situational awareness and self protection systems, command and control warfare (C2W) electronic attack systems, and the test equipment needed to support them.

**(U) B. Budget Activity Justification**

A key criterion for the included projects in this program element is the need for engineering and manufacturing developmental activities, therefore these programs are in Budget Activity 5 - Engineering and Manufacturing Development (EMD).

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)			DATE February 2000	
BUDGET ACTIVITY		PE NUMBER AND TITLE		
<b>05 - Engineering and Manufacturing Development</b>		<b>0604270F EW Development</b>		
(U)	<b><u>C. Program Change Summary (\$ in Thousands)</u></b>			
		<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
				<u>Total Cost</u>
(U)	Previous President's Budget (FY 2000 PBR)	97,990	90,347	55,314
(U)	Appropriated Value	111,126	86,847	
(U)	Adjustments to Appropriated Value			
	a. Congressional/General Reductions	-462	-28	
	b. Small Business Innovative Research	-5,002		
	c. Omnibus or Other Above Threshold Reprogram	-11,959	-591	
	d. Below Threshold Reprogram	-3,023		
	e. Rescissions	-818	-541	
	f. Other			TBD
(U)	Adjustments to Budget Years Since FY 2000 PBR		1,500	2,884
(U)	Current Budget Submit/FY 2001 PBR	89,862	87,187	58,198
	\$1100 of FY99 Below Threshold Reprogramming was used for Canceled Bills.			
(U)	<b><u>Significant Program Changes:</u></b>			
	\$4.5M was added in FY99 appropriation to transition Precision Location and Identification (PLAID) to EMD.			
	\$0.523M of FY99 Below Threshold Reprogramming (BTR) to PE 63270f to support Large Aircraft Infrared countermeasures (LAIRCM) efforts at Air Force Research Laboratory.			
	\$11.959M FY99 Above Threshold Reprogramming to support the Compass Call program.			
	\$1.5M was added in FY00 to Integrated Defensive Countermeasures (IDECM) to payback funds needed during Kosovo operations.			
	\$11.5M was added in FY00 appropriation for PLAID EMD.			
	\$15M was reduced in the FY00 appropriation due to IDECM development delay.			
	\$3.999M was added in FY01 for Miniature Air Launched Decoy (MALD) transition.			
	\$5.0M was transferred in FY01 from IDECM production to IDECM development.			
	\$1.0M was transferred in FY01 from various platform PEs to this PE for AAR-47 software development and upgrade. (PBD 732)			
	\$6.6M was removed from FY01 due to IDECM program delays and resultant F-15 integration delays.			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2000		
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604270F EW Development</b>				PROJECT <b>651011</b>		
COST (\$ in Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
651011	Joint Service Electronic Combat Systems Tester	9,063	2,920	2,964	0	0	0	0	0	45,142
<p>(U) <b><u>A. Mission Description</u></b>                      The Joint Service Electronic Combat Systems Tester (JSECST) fills a combined Air Force and Navy operational requirement for a small, adaptable, and highly mobile tester capable of verifying the system level performance of installed electronic countermeasures systems. The JSECST provides an Organizational-level (O-level) flight line capability for verifying operational status of aircraft-installed electronic combat (EC) systems including Group A antennas and transmission lines. The JSECST will fill a void in current Air Force end-to-end testing capability. The JSECST system consists of core test sets (CTS), AN/USM-670, test program sets (TPS), and software development stations (SDS). The CTS provides the stimulus, measurement, operator-interface, analysis and control functions common across all applications. The SDS provides the necessary computer resources for developing and maintaining the CTS software and TPS software. The TPSs provide aircraft specific hardware interfaces and software packages to employ the CTS. Program content also includes the use of government testing. The objective of the Follow-on Test Program Set (FOTPS) program is to design, develop, assemble, integrate, test, and deliver TPSs for use with the AN/USM-670 for additional aircraft. These TPSs will provide end-to-end (ETE) functional testing to determine the status of Electronic Combat (EC) systems installed on Air Force and Navy operational aircraft. The follow-on Air Force platforms include the F-15 C/E, F-16 (Blocks 25/30/32/40/42/50/52), OA/A-10, C-130 E/H. Navy platforms include the AV-8B, F/A-18 A/B and the F-14 B/D. (Navy platforms will be funded by the Navy.) JSECST is intended to meet the organizational level support equipment requirements of electronic combat systems for service through a 20-year life cycle.</p>										
<p>(U) <b><u>FY 1999 (\$ in Thousands)</u></b></p> <p>(U) \$6,716                      Continued Core Test Set (CTS) Development</p> <p>(U) \$337                         Continued SPO Support</p> <p>(U) \$1,294                      Continued Test Program Set (TPS) Lab Support</p> <p>(U) \$716                         Continued Government Test</p> <p>(U) \$9,063                      Total</p>										
<p>(U) <b><u>FY 2000 (\$ in Thousands)</u></b></p> <p>(U) \$1,253                      Initiate TPS Engineering Manufacturing Development (EMD) Contract</p> <p>(U) \$874                         Continue CTS Development</p> <p>(U) \$604                         Continue SPO Support</p> <p>(U) \$150                         Continue Government Test</p> <p>(U) \$39                          Continue TPS Lab Support</p>										
Project 651011				Page 3 of 32 Pages				Exhibit R-2A (PE 0604270F)		



<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>	PE NUMBER AND TITLE <b>0604270F EW Development</b>	PROJECT <b>651011</b>
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(U) **E. Schedule Profile Continued**

	<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Test Readiness Review	*											
(U) Developmental Test & Evaluation						X						
(U) Functional Configuration Audit						X						
(U) Initial Operational T&E								X				
(U) Functional Configuration Audit									X			
(U) Milestone III (Apr-01)												X
(U) Production Lots award (Apr-01)												X
* - Denotes a completed event												
X - Denotes a planned event												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>					PE NUMBER AND TITLE <b>0604270F EW Development</b>			PROJECT <b>651011</b>		
<b>(U) A. Project Cost Breakdown (\$ in Thousands)</b>										
						<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>
(U)	EMD Contract					6,716		2,127		2,324
(U)	SPO Support					337		604		377
(U)	Government Test					716		150		185
(U)	TPS Lab Support					1,294		39		78
(U)	Total					9,063		2,920		2,964
<b>(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)</b>										
<b>(U) Performing Organizations:</b>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
AAI	CPAF	Mar 96	28,340	28,340	20,390	6,716	874	102	0	28,082
Follow on TPS Contractor	TBD	Apr 01		3,684	0	0	1,253	2,222	0	3,475
<u>Support and Management Organizations</u>										
ASC/SMNT, NAVAIR, Wright Labs		Various			9,433	1,631	643	455	0	12,162
<u>Test and Evaluation Organizations</u>										
AFDTC, Eglin AFB FL					372	716	150	185	0	1,423
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>										
Subtotal Product Development					20,390	6,716	2,127	2,324	0	31,557
Subtotal Support and Management					9,433	1,631	643	455	0	12,162
Subtotal Test and Evaluation					372	716	150	185	0	1,423
Total Project					30,195	9,063	2,920	2,964	0	45,142

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2000		
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604270F EW Development</b>				PROJECT <b>652462</b>		
COST (\$ in Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
652462	Compass Call (CC)	1,262	744	820	2,554	2,581	2,633	2,685	Continuing	TBD
<p>(U) <b><u>A. Mission Description</u></b>            COMPASS CALL is the USAF's only non-lethal Suppression of Enemy Air Defense (SEAD) platform. It denies, disrupts, degrades and deceives adversary voice and data communications, disrupting his ability to effectively command and control his forces in the field. It is also DOD's airborne wide area coverage offensive counter information system. The Tactical Radio Acquisition and Countermeasures Subsystem (TRACS) replaces the aging compressive receiver suite responsible for acquiring target systems with a digital, reprogrammable receiver system that will enable COMPASS CALL to remain viable in countering the next generation of deployed threats. Additionally, new target (class 6) countermeasures capability is under development. This effort funds the non-recurring efforts associated with TRACS development for COMPASS CALL. Production funding for TRACS is in PE 27253.</p> <p>(U) <b><u>FY 1999 (\$ in Thousands)</u></b>            (U) \$250 Conducted TRACS-Basic prototype flight testing            (U) \$912 Continued new target class countermeasures development            (U) \$100 Conducted new target class countermeasures initial flight assessment (including range costs)            (U) \$1,262 Total</p> <p>(U) <b><u>FY 2000 (\$ in Thousands)</u></b>            (U) \$444 Continue New target class countermeasures development            (U) \$150 Initiate Block 30 threat signal update            (U) \$150 Initiate Block 30 waveform update            (U) \$744 Total</p> <p>(U) <b><u>FY 2001 (\$ in Thousands)</u></b>            (U) \$320 Continue New target class countermeasures development            (U) \$250 Continue New target class countermeasures operational flight test            (U) \$125 Continue Block 30 threat signal update            (U) \$125 Continue Block 30 waveform update            (U) \$820 Total</p>										
Project 652462			Page 7 of 32 Pages				Exhibit R-2A (PE 0604270F)			

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**RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)**

DATE  
**February 2000**

<b>BUDGET ACTIVITY</b> <b>05 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604270F EW Development</b>	<b>PROJECT</b> <b>652462</b>
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(U) **B. Project Change Summary**

Congress added \$12.5M in FY99 for the Compass Call TRACS program. This increase has been applied to AF PE 27253F.

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

	<u>FY 1999</u> <u>Actual</u>	<u>FY 2000</u> <u>Estimate</u>	<u>FY 2001</u> <u>Estimate</u>	<u>FY 2002</u> <u>Estimate</u>	<u>FY 2003</u> <u>Estimate</u>	<u>FY 2004</u> <u>Estimate</u>	<u>FY 2005</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) AF RDT&E									
(U) Other APPN									
(U) Compass Call (RDT&E), AF PE 27253F	11,892	12,837	5,834	3,886	3,879	3,870	0	Continuing	Continuing

(U) **D. Acquisition Strategy**

CPIF/AF contracting will be employed for all activities.

(U) **E. Schedule Profile**

	<u>FY 1999</u>			<u>FY 2000</u>			<u>FY 2001</u>					
	1	2	3	4	1	2	3	4	1	2	3	4
(U) TRACS Flight Test				*								
(U) TRACS PDR					*							
(U) New Countermeasures#			*		*	X	X	X	X	X	X	X
(U) New CM Flt Test					*	X	X	X	X	X	X	X
(U) Block 30 Signals Update#						X	X	X	X	X	X	X
(U) Block 30 Waveform Update#						X	X	X	X	X	X	X

# - New countermeasures development and Block 30 signals/waveform updates are a continuing effort to improve the existing system's ability to effectively counter emerging threats. Due to the dynamic nature of this platform's mission, this effort is a continuous activity.

Due to Kosovo operations, Block 30 updates have been delayed one quarter.

\* - Denotes a completed event

X - Denotes a planned event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000			
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604270F EW Development			PROJECT 652462			
(U) <b><u>A. Project Cost Breakdown (\$ in Thousands)</u></b>											
						<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>	
(U)	TRACS-Basic					250		0		0	
(U)	New Threat (class 6) CM Development					1,012		444		570	
(U)	Block 30 Signals Update Development					0		150		125	
(U)	Block 30 Waveform Update Development					0		150		125	
(U)	Total					1,262		744		820	
(U) <b><u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>											
(U) <b><u>Performing Organizations:</u></b>											
	<u>Contractor or</u>	<u>Contract</u>									
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	
										<u>Total</u>	
										<u>Program</u>	
	<u>Product Development Organizations</u>										
	Sanders	SS/CPIF	1QFY99		TBD	27,099	912	519	570	Continuing	TBD
	Raytheon Ft Wayne	SS/CPIF	N/A		23,543	23,535	0	0	0	0	23,535
	GTE	SS/CPIF	N/A		8,875	8,875	0	0	0	0	8,875
	<u>Support and Management Organizations</u>										
	Misc (SPO, Labs)	Various	N/A			3,172	0	25	25	Continuing	TBD
	<u>Test and Evaluation Organizations</u>										
	EPG, Ft. Huachuca NM	MIPR	2QFY99			500	250	125	125	Continuing	TBD
	WTR	616	2QFY99			500	100	75	100	Continuing	TBD
(U) <b><u>Government Furnished Property:</u></b>											
		<u>Contract</u>									
		<u>Method/Type</u>	<u>Award or</u>								
	<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	
	<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	
										<u>Total</u>	
										<u>Program</u>	
	<u>Product Development Property</u>										
	Misc					1,594				Continuing	TBD

UNCLASSIFIED

<b>RDT&amp;E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)</b>	DATE <b>February 2000</b>
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BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>	PE NUMBER AND TITLE <b>0604270F EW Development</b>	PROJECT <b>652462</b>
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(U) Government Furnished Property Continued:

Support and Management Property  
Test and Evaluation Property

	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development	61,103	912	519	570	TBD	TBD
Subtotal Support and Management	3,172	0	25	25	TBD	TBD
Subtotal Test and Evaluation	1,000	350	200	225	TBD	TBD
Total Project	65,275	1,262	744	820	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2000	
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604270F EW Development</b>				PROJECT <b>653891</b>	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
653891    Advanced IR Counter Measures (AIRCМ)	36,293	54,595	24,207	15,809	14,265	14,492	14,733	Continuing	TBD
<p>AIRCМ includes four subprojects: Common Missile Warning System (CMWS), Advanced Strategic and Tactical Infrared Expendables (ASTE), Large Aircraft IRCМ (LAIRCМ), and software upgrade to AAR-47.</p> <p>(U) <b><u>A. Mission Description</u></b>                      The Advanced IR Countermeasure (AIRCМ) project contains related aircraft self-protection efforts aimed at increasing aircraft survivability against the increasing threat of sophisticated surface to air (SAM) and air to air missiles (AAM), which may employ such features as next-generation electro-optics or dual infrared and radio frequency seekers. AIRCМ consists of four efforts, the tri-service Common Missile Warning System (CMWS), USAF/USN Advanced Strategic and Tactical Infrared Expendable (ASTE), USAF Large Aircraft IRCМ (LAIRCМ), and USAF/USN AAR-47 software upgrade. CMWS will provide timely warning of a threat missile attack and cue expendable countermeasures. ASTE will provide advanced IR expendable countermeasures. LAIRCМ will demonstrate an advanced directed laser countermeasures suite for large signature aircraft as EMD risk reduction. The LAIRCМ effort and funding was transferred to PE 63270f in FY99 to support ongoing study at Wright Lab. The software upgrade to the AAR-47 is aimed at decreasing its false alarm rate. The CMWS program was formed in FY96 by combining the FY95 USA Advanced Threat Infrared Countermeasures (ATIRCМ) program with the USAF/USN Advanced Missile Warning program. USAF CMWS installation is planned for the A-10 aircraft. ASTE flares will be functionally compatible with existing ALE-40, 45, and 47 dispenser systems and will be employed across multiple USAF and USN weapon systems. This project, managed as a consolidated AIRCМ effort, is an integral part of a Joint Service IRCМ program that will maximize commonality across Air Force, Navy, and Army aircraft.</p> <p>(U) <b><u>FY 1999 (\$ in Thousands)</u></b></p> <p>(U) \$15,771            CMWS Joint Program Costs</p> <p>(U) \$9,221            CMWS Continued F-16 aircraft (Group A) EMD integration</p> <p>(U) \$1,742            CMWS Continued A-10 aircraft (Group A) EMD integration</p> <p>(U) \$3,184            CMWS Continued Test and Evaluation (AF only)</p> <p>(U) \$360              CMWS Continued Military Worth Study (formerly called AOA)</p> <p>(U) \$323              CMWS Continued Mission Support</p> <p>(U) \$1,500            ASTE Continued C-17 Development</p> <p>(U) \$1,200            ASTE Continued Test and Evaluation</p> <p>(U) \$300              ASTE Continued Verification and Validation</p> <p>(U) \$750              ASTE Continued Modeling and Analysis</p>									
Project 653891			Page 11 of 32 Pages				Exhibit R-2A (PE 0604270F)		

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
<b>05 - Engineering and Manufacturing Development</b>	<b>0604270F EW Development</b>	<b>February 2000</b> <b>653891</b>
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 1999 (\$ in Thousands) Continued</u>		
(U) \$1,112	ASTE Continued Mission Support	
(U) \$198	LAIRCM Initiated Mission Support	
(U) \$191	AAR-47 Initiated Data Collection (V21.2)	
(U) \$441	AAR-47 Initiated Modeling and Analysis Study (V21.2)	
(U) \$36,293	Total	
(U) <u>FY 2000 (\$ in Thousands)</u>		
(U) \$35,700	CMWS ( Common Missile Warning System) Joint Program Costs	
(U) \$6,000	CMWS Continue F-16 aircraft (Group A) EMD integration	
(U) \$3,000	CMWS Continue A-10 aircraft (Group A) EMD integration	
(U) \$3,499	CMWS Continue Test and Evaluation (AF only)	
(U) \$0	CMWS Continue and complete Military Worth Study (formerly called AOA)	
(U) \$400	CMWS Continue Mission Support	
(U) \$767	ASTE Continue C-17 Development	
(U) \$920	ASTE Continue Test and Evaluation	
(U) \$130	ASTE Continue Verification and Validation	
(U) \$0	ASTE Continue Modeling and Analysis	
(U) \$470	ASTE Continue Mission Support	
(U) \$400	LAIRCM Complete Flight Testbed Design	
(U) \$100	LAIRCM Initiate Affordability Study	
(U) \$1,720	LAIRCM Initiate and Complete Testbed Fabrication	
(U) \$200	LAIRCM Continue Modeling & Simulation	
(U) \$137	LAIRCM Continue Mission Support	
(U) \$400	LAIRCM Initiate Flight Test Support	
(U) \$200	AAR-47 Complete Modeling & Analysis	
(U) \$280	AAR-47 Conduct and complete Algorithm Development	
(U) \$272	AAR-47 Conduct and complete Verification & Validation	
(U) \$54,595	Total	
Project 653891	Page 12 of 32 Pages	Exhibit R-2A (PE 0604270F)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
<b>05 - Engineering and Manufacturing Development</b>	<b>0604270F EW Development</b>	<b>February 2000</b> <b>653891</b>
<p>(U) <b><u>A. Mission Description Continued</u></b></p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$3,500 CMWS Common Missile Warning System Joint Program Costs</p> <p>(U) \$2,000 CMWS Continue F-16 aircraft (Group A) EMD integration</p> <p>(U) \$7,541 CMWS Continue A-10 aircraft (Group A) EMD integration</p> <p>(U) \$6,339 CMWS Continue Test and Evaluation (AF only)</p> <p>(U) \$504 CMWS Continue Mission Support</p> <p>(U) \$501 ASTE Continue C-17 Flare Development</p> <p>(U) \$850 ASTE Continue Test &amp; Evaluation</p> <p>(U) \$100 ASTE Continue Verification and Validation</p> <p>(U) \$200 ASTE Continue Modeling &amp; Simulation</p> <p>(U) \$680 ASTE Continue Mission Support</p> <p>(U) \$250 LAIRCM Initiate Testbed Integration</p> <p>(U) \$100 LAIRCM Conduct Acceptance Tests</p> <p>(U) \$410 LAIRCM Continue Flight Test Support</p> <p>(U) \$50 LAIRCM Continue Modeling and Simulation</p> <p>(U) \$100 LAIRCM Conduct reporting activities</p> <p>(U) \$91 LAIRCM Continue Mission Support</p> <p>(U) \$567 AAR-47 Initiate Data Collection for upgraded hardware and software (V22)</p> <p>(U) \$424 AAR-47 Initiate Modeling and Analysis for upgraded hardware and software (V22)</p> <p>(U) \$24,207 Total</p> <p>(U) <b><u>B. Project Change Summary</u></b></p> <p>\$523 (FY99 appropriation) transferred to PE63270f to support LAIRCM efforts. Estimated Joint program obligations are funded.</p>		
Project 653891	Page 13 of 32 Pages	Exhibit R-2A (PE 0604270F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2000	
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604270F EW Development</b>				PROJECT <b>653891</b>	
<b>(U) C. Other Program Funding Summary (\$ in Thousands)</b>									
	<u>FY 1999</u>	<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>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) AF RDT&E									
(U) Other APPN									
(U) Procurement of Ammunition, AF, PE 28030F, ASTE flares, BA-1, Appn 3011	4,847	4,835	4,828	4,815	4,806	4,767	4,873	Continuing	Continuing
(U) RDT&E, AF, PE 63270F, EO/IR Warning & Countermeasures, BA-3, BPAC 691X, Funds multiple EO/IR Science and Technology projects	10,664	10,497	10,419	10,467	10,683	11,057	11,337	Continuing	Continuing
(U) Aircraft Procurement, AF PE 27442F, Mods (Other Aircraft A-10), BP-11	0	0	0	40,017	41,023	37,123	40,946	Continuing	Continuing
<b>(U) D. Acquisition Strategy</b>									
The planned acquisition strategy is competitive cost-plus award fee.									
LAIRCM will use existing Laser Infrared Flyout Experiment (LIFE) contract option which is cost-plus fixed fee.									
<b>(U) E. Schedule Profile</b>									
			<u>FY 1999</u>			<u>FY 2000</u>		<u>FY 2001</u>	
			1	2	3	4	1	2	3
(U) CMWS Contr Qual Test Start (3Q98)									4
(U) CMWS Platform Integration			*						
(U) CMWS DT&E							X		
(U) CMWS IOT&E(May 03)									
(U) CMWS MSIII (Jul 03)									
(U) ASTE DT&E - Fighter								X	
(U) ASTE DT&E - Covert (4Q98)									
Project 653891	Page 14 of 32 Pages							Exhibit R-2A (PE 0604270F)	

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>	PE NUMBER AND TITLE <b>0604270F EW Development</b>	PROJECT <b>653891</b>
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(U) **E. Schedule Profile Continued**

	<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) ASTE OT&E - Fighter										X		
(U) ASTE OT&E - Covert					*							
(U) ASTE MS III - Fighter												X
(U) ASTE MS III - Covert						X						
(U) ASTE PDR - Transport			*									
(U) ASTE CDR - Transport									X			
(U) ASTE DT&E-Transport												X
(U) ASTE OT&E -Transport (1Q02)												
(U) LAIRCM Dev Acq Strategy								X				
(U) LAIRCM MS II Documentation									X			
(U) LAIRCM RFP										X		
(U) AAR-47 SW Upgrade Contract (V21.2)		*										
(U) AAR-47 Collect/Validate Data (V21.2)		*										
(U) AAR-47 Analyze Data (V21.2)					*							
(U) AAR-47 SW Upgrade Contract (V22)									X			
(U) AAR-47 Collect/Validate Data (V22)											X	

\* - Denotes a completed event X - Denotes a planned event

NOTE: CMWS Program recently rebaselined. Schedule milestones shown are previous projections for the Joint Program. ASTE Fighter flare development has been delayed 18 months due to performance issues relating to the development of the kinematic flare. Issues identified resolution anticipated in FY00.

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE February 2000	
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT	
<b>05 - Engineering and Manufacturing Development</b>	<b>0604270F EW Development</b>	<b>653891</b>	
<b>(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u></b>			
		<u>FY 1999</u>	<u>FY 2000</u>
			<u>FY 2001</u>
(U) CMWS Program			
(U) CMWS Joint Program Costs	15,771	35,700	3,500
(U) CMWS F-16 aircraft (Group A) EMD integration	9,221	6,000	2,000
(U) CMWS A-10 aircraft (Group A) EMD integration	1,742	3,000	7,541
(U) CMWS Test and Evaluation (AF only)	3,184	3,499	6,339
(U) CMWS Military Worth Study (formerly called AOA)	360	0	0
(U) CMWS Mission Support	323	400	504
(U) ASTE Prime Contract Costs	1,500	767	501
(U) ASTE Government Test & Evaluation	1,200	920	850
(U) ASTE Verification & Validation	300	130	100
(U) ASTE Modeling and Analysis	750	0	200
(U) ASTE Mission Support	1,112	470	680
(U) LAIRCM Modeling and Simulation	0	200	50
(U) LAIRCM Mission Support	198	137	91
(U) LAIRCM Flight Testbed Design	0	400	0
(U) LAIRCM Affordability Analysis	0	100	0
(U) LAIRCM Testbed Fabrication	0	1,720	0
(U) LAIRCM Flight Test Support	0	400	410
(U) LAIRCM Testbed Integration	0	0	250
(U) LAIRCM Acceptance Tests	0	0	100
(U) LAIRCM Reporting	0	0	100
(U) AAR-47 Data Collection	191	0	567
(U) AAR-47 Modeling & Analysis	441	200	424
(U) AAR-47 Algorithm Development	0	280	0
(U) AAR-47 Verification & Validation	0	272	0
(U) Total	36,293	54,595	24,207
<b>(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>			
<b>(U) <u>Performing Organizations:</u></b>			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000		
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604270F EW Development			PROJECT 653891		
<b>(U) Performing Organizations Continued:</b>										
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 1999</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
CMWS Sanders	CAAF/CPFF	Sep 95	60,099	60,099	34,699	11,780	14,700	0	0	61,179
CMWS Integration	CPAF	Various	52,259	52,259	24,497	10,963	9,000	9,541	0	54,001
ASTE - BAE	CPAF	Nov 95	8,324	8,324	16,640	1,500	767	501	Continuing	TBD
LAIRCM - Lockheed Martin Akron OH	CPFF	TBD	3,400	0	0	0	2,420	500	0	2,920
AAR-47 - GTRI (V21.2)	TBD	2Q99	0	0	0	632	752	0	Continuing	TBD
AAR-47 - GTRI (V22)	TBD	1Q01	0	0	0	0	0	991	Continuing	TBD
<u>Support and Management Organizations</u>										
CMWS - CAS INC	CPFF	Sept 95		28,619	19,028	3,991	3,600	3,500	0	30,119
CMWS - MWS	T&M	Jun 97		13,144	9,524	360	2,906	0	0	12,790
CMWS - Mod & Sim	Various			4,116	2,596	0	1,520	0	0	4,116
CMWS -Misc	Various			38,330	8,199	323	13,374	504	Continuing	TBD
ASTE M&A - SAIC	PR	Various		2,554	1,454	750	0	200	0	2,404
ASTE V&V - Mac B	PR	Various		789	359	300	130	100	0	889
ASTE - Misc	Various	Various		Continuing	36,304	1,112	470	680	Continuing	TBD
LAIRCM Flight A/C Support - contractor TBD	TBD	June 99		1,416	0	0	537	501	Continuing	TBD
LAIRCM - Misc					0	198	0	0	0	198
<u>Test and Evaluation Organizations</u>										
ASTE - 46TW	Various	Various		2,897	897	1,200	920	850	Continuing	TBD
ASTE - Misc	Various	Various		Continuing	282	0	0	0	Continuing	TBD
46TW/AFFTC/ Sanders Support	Various	Various		30,114	17,092	3,184	3,499	6,339	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2000	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
<b>05 - Engineering and Manufacturing Development</b>		<b>0604270F EW Development</b>			<b>653891</b>	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Total</u>
		<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Program</u>
<u>Subtotals</u>					<u>Budget to</u>	
					<u>Complete</u>	
Subtotal Product Development		75,836	24,875	27,639	11,533	TBD
Subtotal Support and Management		77,464	7,034	22,537	5,485	TBD
Subtotal Test and Evaluation		18,271	4,384	4,419	7,189	TBD
Total Project		171,571	36,293	54,595	24,207	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2000		
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604270F EW Development</b>				PROJECT <b>653945</b>		
COST (\$ in Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
653945	RF Towed Decoy Systems	39,074	17,428	26,208	35,292	34,030	35,537	33,080	Continuing	TBD
<p>Note: RDT&amp;E funds are used for integration, lab, and test assets. Hardware is purchased by component, not as a complete upgrade kit, therefore aircraft funding does not completely portray the ALE-50/IDECM Programs.</p> <p>(U) <b><u>A. Mission Description</u></b>            This project develops, integrates and tests radio frequency (RF) towed decoy systems. RF towed decoys are low cost RF countermeasures that provide increased survivability against monopulse, semi-active, and active RF missile threats during the terminal portion of an engagement. The Air Force is participating in the Navy-led Integrated Defense Electronic Countermeasures (IDECM) program to jointly develop a common techniques generator (TG) and a Fiber Optic Towed Decoy (FOTD). Air Force funding pays for unique Air Force development costs under IDECM as well as integration and test on the F-15 and alternative FOTDs, as well as IDECM RFCM test support on the host platforms. The Defensive Systems Upgrade Program (DSUP) program will fund integration and test of IDECM hardware on the B-1B.</p> <p>(U) <b><u>FY 1999 (\$ in Thousands)</u></b>            (U) \$20,086 IDECM Common Hardware            (U) \$17,657 Continued IDECM F-15            (U) \$1,331 Continued Mission and Test Support            (U) \$39,074 Total</p> <p>(U) <b><u>FY 2000 (\$ in Thousands)</u></b>            (U) \$9,989 IDECM Common            (U) \$3,500 Continue IDECM F-15            (U) \$3,939 Continue Mission and Test Support            (U) \$17,428 Total</p> <p>(U) <b><u>FY 2001 (\$ in Thousands)</u></b>            (U) \$6,356 Integrated Defensive Electronic Countermeasures (IDECM) Common            (U) \$14,150 Continue IDECM F-15            (U) \$5,702 Continue Mission and Test Support            (U) \$26,208 Total</p>										
Project 653945			Page 19 of 32 Pages				Exhibit R-2A (PE 0604270F)			

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2000	
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604270F EW Development</b>				PROJECT <b>653945</b>	
(U) <b><u>B. Project Change Summary</u></b>									
The IDECM program was restructured in June 98 and July 99 due to significant contract cost overruns. Impact to the USAF is a \$31M increase in contract cost share. This increase was sourced from F-15 integration. As a result, the F-15 program has been rephased in FY00 - FY04 to comply with budget constraints. Due to F-15 delays, \$6.6M was removed from FY01 RDT&E funding. An October 1999 IDECM Congressional budget cut of \$15M (FY00) was also sourced from the F-15 integration. As a result, the F-15 program is now in the process of rephasing in FY00-FY05 to comply with the additional budget constraints.									
(U) <b><u>C. Other Program Funding Summary (\$ in Thousands)</u></b>									
	<u>FY 1999</u>	<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>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) AF RDT&E									
(U) Other APPN									
(U) Aircraft Procurement, AF PE 27442F, War Consumable (decoys), BP-17	65,564	103,900	32,264	32,876	71,817	95,014	97,119	Continuing	Continuing
(U) Aircraft Procurement, AF PE 27442F, Mods (B-1B), BP-11	0	0	0	2,107	0	4,884	7,707	Continuing	Continuing
(U) Aircraft Procurement, AF PE 27442F, Mods (F-15), BP-11	0	0	0	32	21,069	21,713	22,193	Continuing	Continuing
(U) <b><u>D. Acquisition Strategy</u></b>									
The acquisition strategy for IDECM RDT&E was competitive, cost-plus. The production contract will be sole source for first two lots with full and open competition in lots three and beyond.									
(U) <b><u>E. Schedule Profile</u></b>									
				<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>	
			1	2	3	4	1	2	3
(U) 1x 4 Dual Compatible Launcher Production Decision						*			
(U) Integrated Multi Platform Launch Controller Joint Program Review				*					
(U) F-15/Fiber Optic Towed Decoy (FOTD) Integration Decision MSII(1Q98)									
(U) F-15/FOTD Integration Contract Award				*					
(U) USN Operational Assessment Developmental Test & Evaluation							X		
Project 653945	Page 20 of 32 Pages						Exhibit R-2A (PE 0604270F)		

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>	PE NUMBER AND TITLE <b>0604270F EW Development</b>	PROJECT <b>653945</b>
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	<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) <u>E. Schedule Profile Continued</u>												
(T&E) Start												
(U) USN IDECM DT&E Assist Start						X						
(U) First USAF Subsystem Delivery (IDECM)			*									
(U) F-15/FOTD Preliminary Design Review (PDR) (Group A Hardware)				*								
(U) B-1B Defensive Systems Upgrade Program (DSUP) Flight Test Read Review										X		
(U) F-15 FOTD Critical Design Review (CDR) (Group A Hardware)					*							
(U) F-15 FOTD PDR (Software)										X		
(U) F-15 FOTD CDR (Software)												X
(U) F-15/FOTD TRR (2Q04)												
(U) B-1B DSUP Developmental/Operational T&E										X		
(U) F-15/FOTD DT/OT&E (2Q04)												
(U) USN IDECM Operations Evaluation (DT&E)												X
(U) USN IDECM Low Rate Initial Production									X			
(U) USN IDECM Milestone III (2Q02)												
Note: See Change Summary												
* - Denotes a completed event												
X - Denotes a planned event												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000			
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604270F EW Development			PROJECT 653945			
<b>(U) A. Project Cost Breakdown (\$ in Thousands)</b>											
						<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>	
(U)	Integrated Defensive Electronic Countermeasures (IDECM) Common					20,086		9,989		6,356	
(U)	IDECM F-15					17,657		3,500		14,150	
(U)	Mission and Test Support					1,331		3,939		5,702	
(U)	Total					39,074		17,428		26,208	
<b>(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)</b>											
<b>(U) Performing Organizations:</b>											
<u>Contractor or</u>	<u>Contract</u>										
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>							
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Organizations</u>											
USAF IDECM: Development		CPAF	Nov 95	45,298	45,298	25,467	10,225	4,000	5,606	0	45,298
Sanders											
Development E-Systems,		CPIF	Jan 96	14,422	14,422	5,926	6,428	3,489	0	0	15,843
Goleta (ESGD)											
F-15 IDECM Integration-		CPFF	Aug 97	120,112	120,112	5,081	17,657	3,500	14,150	Continuing	TBD
McAir/Northrop/Lockheed											
Martin											
IDECM Misc Development		Misc		8,855	8,855	800	3,433	2,606	1,023	Continuing	TBD
Contracts											
<u>Support and Management Organizations</u>											
ASC/SM/YF - IDECM		Misc	As required	N/A		2,342	1,331	2,583	4,679	Continuing	TBD
<u>Test and Evaluation Organizations</u>											
AFOTEC				N/A		1,600	0	0	0	0	1,600
Edwards				N/A		156	0	500	750	0	1,406
Eglin				N/A		0	0	750	0	0	750
* The funding prior to FY98 includes only FY97. The funding prior to FY97 was transferred from a classified PE. The total program and EACs include funding from FY97 and out because of the classified PE in FY96 and prior.											
Project 653945					Page 22 of 32 Pages			Exhibit R-3 (PE 0604270F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2000		
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
<b>05 - Engineering and Manufacturing Development</b>		<b>0604270F EW Development</b>			<b>653945</b>	
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development	37,274	37,743	13,595	20,779	TBD	TBD
Subtotal Support and Management	2,342	1,331	2,583	4,679	TBD	TBD
Subtotal Test and Evaluation	1,756	0	1,250	750	0	3,756
Total Project	41,372	39,074	17,428	26,208	TBD	TBD

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>								DATE <b>February 2000</b>	
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604270F EW Development</b>				PROJECT <b>654832</b>	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
654832 Precision Location and Identification (PLAID)	4,170	11,500	0	0	0	0	0	0	15,670
<p>(U) <b><u>A. Mission Description</u></b>                      Precision Location and Identification (PLAID) will enhance aircrew situational awareness by providing accurate ground emitter location and identification. Even without firing, threat systems can disrupt or negate operational missions by requiring aircrew reactions that affect mission objectives. Improved threat information from a modernized Radar Warning Receiver (RWR) will assist the aircrews in determining precise threat range/directions and provide option responses short of mission abort or violent aircraft maneuvering. Threat location refinements will help an enroute aircrew respond 'real-time' to previously unknown threats by providing sufficiently accurate information to allow the aircrews to reroute around hostile areas. PLAID will use existing aircraft RWR antennas and wiring (Group A hardware). PLAID development is currently focused on the ALR-69 RWR but PLAID technology can also be applied to other RWRs. PLAID has been identified as a critical technology for Joint Strike Fighter, Unmanned Combat Air Vehicles, and advanced Suppression of Enemy Air Defense platforms.</p>									
<p>(U) <b><u>FY 1999 (\$ in Thousands)</u></b></p>									
(U) \$281	Establish Program Office								
(U) \$2,689	Continued Lab Risk Reduction Efforts (Refine PLAID hardware and software risk reduction activities, develop system specification)								
(U) \$700	Military Worth Study (formerly called Analysis of Alternatives)								
(U) \$500	Performance Specification Development								
(U) \$4,170	Total								
<p>(U) <b><u>FY 2000 (\$ in Thousands)</u></b></p>									
(U) \$235	Program Office Support								
(U) \$200	System Engineering Support								
(U) \$11,065	Engineering and Manufacturing Development, Hardware/Software design/development/test								
(U) \$11,500	Total								
<p>(U) <b><u>FY 2001 (\$ in Thousands)</u></b></p>									
(U) \$0	No Activity								
(U) \$0	Total								
Project 654832			Page 24 of 32 Pages				Exhibit R-2A (PE 0604270F)		

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>05 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604270F EW Development</b>	<b>PROJECT</b> <b>654832</b>
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**(U) B. Project Change Summary**

Funding: In response to a Congressionally directed increase, \$4.5M was added to this program element to transition the program from an Advanced Technology Demonstrator (ATD) into a Engineering and Manufacturing Development (EMD) program.

Schedule: This program transitioned from Advanced Development to EMD in FY99. The first Doppler ranging flight demonstration was conducted in May 1995. An F-15 Precision Location and Identification (PLAID) hardware, identification and ranging demonstration was successfully completed in April 1998. The final PLAID demonstration of the real-time location algorithms was completed in Mar 99. A Milestone II Acquisition Decision Memorandum was approved by the Designated Acquisition Commander (WR-ALC/CC) on 24 Nov 1999. A detailed schedule and Acquisition Strategy is being developed to accomplish EMD.

Technical: Perform risk reduction activities to transition the PLAID system from a 6.3 advanced development to the EMD.

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

	<u>FY 1999</u>	<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>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) AF RDT&E			1,110	300					
(U) Other Procurement(3010)				1,887	12,480	11,486	11,549	Continuing	TBD
(U) Other APPN									

The above funding (PE 0404011F) is for AFSOC AN/ALR-69 RWR installation only.

**(U) D. Acquisition Strategy**

An acquisition to design/develop, test, and integrate hardware/software to provide earth coordinate location and detailed identification of lethal threat radars. Acquisition will be accomplished through full and open competitive procedures using source selection processes for award of contract. Contract award is projected for Nov 00.

**(U) E. Schedule Profile**

	<u>FY 1999</u>			<u>FY 2000</u>			<u>FY 2001</u>					
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Precision Location and Identification Demonstration		*										
(U) Program Management Directive Approval						X						
(U) Establish Program Office		*										
(U) Begin Management Transition			*									
(U) Milestone II decision					*							
(U) Acquisition Strategy Approved						X						

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>	PE NUMBER AND TITLE <b>0604270F EW Development</b>	PROJECT <b>654832</b>
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(U) **E. Schedule Profile Continued**

	<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Request for Proposal release							X					
(U) Source Selection Process									X			
(U) Contract award										X		
(U)												

\* - Denotes a completed event  
X - Denotes a planned event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604270F EW Development</b>			PROJECT <b>654832</b>			
<b>(U) A. Project Cost Breakdown (\$ in Thousands)</b>										
						<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>
(U)	Program Office Support							235		
(U)	Establish Program Office					281		0		0
(U)	Continue Lab Risk Reduction Efforts (Refine Precision Location and Identification hardware and software risk reduction activities, develop system specification)					2,689		0		0
(U)	Military Worth Study (formerly called Analysis of Alternatives)					700		0		0
(U)	Systems Analysis					500		0		0
(U)	System Engineering Support							200		
(U)	Engineering and Manufacturing Development, Hardware/Software design/development/test							11,065		
(U)	Total					4,170		11,500		0
<b>(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)</b>										
<b>(U) Performing Organizations:</b>										
<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 1999</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Warner Robins-Air Logistics Center/LNRC	TBD	Nov 00	TBD	TBD	0	281	11,500			11,781
<u>Support and Management Organizations</u>										
Air Force Research Laboratory					0	2,689				2,689
McCauley Brown					0	1,200				1,200
<u>Test and Evaluation Organizations</u>										
Not Applicable										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000		
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604270F EW Development			PROJECT 654832		
(U) <b>Government Furnished Property:</b>									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
TBD									
<u>Support and Management Property</u>									
NONE									
<u>Test and Evaluation Property</u>									
TBD									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				0	281	11,500			11,781
Subtotal Support and Management				0	3,889				3,889
Subtotal Test and Evaluation									
Total Project				0	4,170	11,500			15,670

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2000		
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604270F EW Development				PROJECT 658462		
COST (\$ in Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
658462	MALD	0	0	3,999	0	0	0	0	0	3,999
<p>(U) <b><u>A. Mission Description</u></b>            Miniature Air Launched Decoy (MALD) is a low cost decoy intended to stimulate enemy integrated air defenses for lethal and non-lethal suppression of enemy air defenses. MALD will simulate friendly ingressing aircraft. This allows the Joint Forces Commander to locate enemy air defense for the purposes of avoidance or targeting. Currently, manned aircraft are used to stimulate the enemy air defenses. The DARPA/Air Force MALD Advanced Concept Technology Demonstration (ACTD) ended in December 1999. This project partially funds MALD transition from ACTD to EMD. MALD has many potential for uses beyond SEAD.</p> <p>(U) <b><u>FY 1999 (\$ in Thousands)</u></b>            (U) \$0 All activity is part of ACTD            (U) \$0 Total</p> <p>(U) <b><u>FY 2000 (\$ in Thousands)</u></b>            (U) \$0 No activity currently planned            (U) \$0 Total</p> <p>(U) <b><u>FY 2001 (\$ in Thousands)</u></b>            (U) \$1,350 Retrofit ACTD vehicles            (U) \$1,350 Production enhancements            (U) \$700 Upgrade ACTD engine systems            (U) \$500 Support Air Force Mission Support System (AFMSS) upgrade            (U) \$99 SPO support            (U) \$3,999 Total</p> <p>(U) <b><u>B. Project Change Summary</u></b>            \$3.999M was added for MALD for minimal transition activities from ACTD to EMD and production.</p>										
Project 658462			Page 29 of 32 Pages				Exhibit R-2A (PE 0604270F)			

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>	PE NUMBER AND TITLE <b>0604270F EW Development</b>	PROJECT <b>658462</b>
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	<u>FY 1999</u>	<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>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) <b><u>C. Other Program Funding Summary (\$ in Thousands)</u></b>									
(U) AF RDT&E									
(U) Other APPN									
No other funding programmed for MALD EMD or production.									
(U) <b><u>D. Acquisition Strategy</u></b>									
Acquisition strategy will be determined during transition.									
(U) <b><u>E. Schedule Profile</u></b>									
		<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>			
		1	2	3	4	1	2	3	4
(U) MALD ORD Signed					*				
(U) Contract Signed								X	
(U) Complete Systems Requirements Review									X

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 2000	
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>					PE NUMBER AND TITLE <b>0604270F EW Development</b>					PROJECT <b>658462</b>	
<b>(U) A. Project Cost Breakdown (\$ in Thousands)</b>											
						<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>	
(U)	Retrofit ACTD vehicles					0		0		1,350	
(U)	Production enhancements					0		0		1,350	
(U)	Upgrade ACTD engine systems					0		0		700	
(U)	Support AFMSS upgrade					0		0		500	
(U)	SPO support					0		0		99	
(U)	Total					0		0		3,999	
<b>(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)</b>											
<b>(U) Performing Organizations:</b>											
	<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 1999</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Northrop Grumman - RAC	TBD	TBD	TBD	TBD	0	0	0	1,350	0	1,350
	Northrop Grumman - RM	TBD	TBD	TBD	TBD	0	0	0	1,350	0	1,350
	Sundstrand	TBD	TBD	TBD	TBD	0	0	0	700	0	700
	Marconi	TBD	TBD	TBD	TBD	0	0	0	500	0	500
<u>Support and Management Organizations</u>											
	AAC/WMS					0	0	0	99		99
<u>Test and Evaluation Organizations</u>											
	TBD					0	0	0	0	0	0
<b>(U) Government Furnished Property:</b>											
	<u>Item Description</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Delivery Date</u>		<u>Total Prior to FY 1999</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Property</u>											

<b>RDT&amp;E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)</b>	DATE <b>February 2000</b>
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BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>	PE NUMBER AND TITLE <b>0604270F EW Development</b>	PROJECT <b>658462</b>
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(U) Government Furnished Property Continued:

Support and Management Property  
Test and Evaluation Property

	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development	0	0	0	3,900	0	3,900
Subtotal Support and Management	0	0	0	99		99
Subtotal Test and Evaluation	0	0	0	0	0	0
Total Project	0	0	0	3,999	0	3,999