PE NUMBER: 0604270F
PE TITLE: EW Development

	Ex	DATE	DATE February 2005								
	T ACTIVITY stem Development and Demons	PE NUMBER AND TITLE 0604270F EW Development					·				
Cost (\$ in Millions) FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Actual Estimate Estimate Estimate Estimate Estimate								FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
	Total Program Element (PE) Cost	87.763	113.089	82.587	62.982	34.559	11.601	0.980	1.286	Continuing	TBD
1011	Joint Service Electronic Combat Systems Tester	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	48.434
3891	Advanced IR Counter Measures (AIRCM)	2.218	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	85.913
3945	TEWS Upgrade	17.520	20.721	8.514	4.082	2.064	2.936	0.980	1.286	Continuing	TBD
4832	Precision Location and Identification (PLAID)	29.346	29.392	5.524	5.915	0.000	0.000	0.000	0.000	0.000	92.463
8462	Airborne Electronic Attack	38.429	62.976	68.549	52.985	32.495	8.665	0.000	0.000	Continuing	TBD

BPAC 653891 (AIRCM) includes Advanced Strategic and Tactical Infrared Expendables (ASTE). Note: Details for B-52 SOJ (AEA) are being reported in new PE 0604429F.

(U) A. Mission Description and Budget Item Justification

This program element (PE) consolidates Air Force funding and management of common Electronic Warfare (EW) systems from engineering development through transition to operational capability. EW is an integral part of offensive and defensive Counterair, Counterland, and Countersea operations. EW systems influence, deceive, disrupt, degrade, deny, and destroy threats to air operations throughout the electro-magnetic spectrum. This PE supports Electronic Support Measures (ESM), Electronic Protection (EP), and Electronic Attack (EA). ESM programs support the collection, analysis and dissemination of information related to the detection, geolocation, characterization, and identification of threats to air operations. EP programs provide self-protection through active and passive measures that deceive threats to air operations. EA programs provide kinetic and non-kinetic means to defeat threats that rely on the electro-magnetic spectrum.

This program is in budget activity 5 - System Development and Demonstration (SDD) because of the common development to meet user requirements that provide electronic warfare combat capability.

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

	<u>FY 2004</u>	FY 2005	FY 2006	FY 2007
(U) Previous President's Budget	92.804	138.393	197.126	229.288
(U) Current PBR/President's Budget	87.763	113.089	82.587	62.982
(U) Total Adjustments	-5.041	-25.304		
(U) Congressional Program Reductions		-37.004		
Congressional Rescissions				
Congressional Increases		11.700		
Reprogrammings	-2.266			
SBIR/STTR Transfer	-2.775			
(II) Significant Program Changes:				

(U) Significant Program Changes:

	UNCLASSIFIED	
Exhibit R-2, RDT&E Budg	get Item Justification	DATE February 2005
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604270F EW Development	•
 In FY04 LEWK program was cancelled. In FY06 there was a total AF adjustment of -\$114.539M, primarily co \$18.4M for B-52 Stand-Off Jammer, \$3.109M in Advanced IR Counter BPAC 658462 AEA to PE 0604429F AEA. In FY07 there was a total AF adjustment of -\$166.306M, primarily co the AT3 ACTD, and a reduction of \$3.149M in Advanced IR Counterm 658462 AEA to PE 0604429F AEA. 	rmeasures to reflect completion of IR flare SDD, and omprised of increases of \$20.0M for MALD/MALD	d the transfer of \$120.985M from PE 0604270F O-J, \$46.9M for B-52 Stand-off Jammer, \$6.0M for

	Exhibit R-2a, RDT&E Project Justification										February 2005		
	T ACTIVITY stem Development and Demons		0604270F EW Development 1011 J				ECT NUMBER AND TITLE Joint Service Electronic Combate ems Tester						
	Cost (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to	Total		
		Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete			
1011	Joint Service Electronic Combat Systems Tester	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	48.434		
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0				

FY2004, Project 651011, JSECST Follow-on Test Program Set (FOTPS) Engineering, Manufacturing and Development extended into FY04 due to late delivery of core test sets which were required to complete FOTPS development. Carry over of \$0.6M of FY03 RDT&E funding and internal reprogramming of \$0.75M FY04 funding to complete JSECST development effort.

(U) A. Mission Description and Budget Item Justification

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 system level performance of installed electronic countermeasures systems. JSECST provides an organizational-level flight line capability for verifying operational status of aircraft-installed electronic combat (EC) systems including Group A antennas and transmission lines. The JSECST system consists of core test sets (CTS), nomenclature 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 TPSs provide aircraft specific hardware interfaces and software packages to employ the CTS. The Follow-on Test Program Set (FOTPS) program will design, develop, assemble, integrate, test, and deliver TPSs for use with the CTS for additional aircraft. The follow-on Air Force platforms include the F-15E, F-16 (Blocks 25/30/32/40/42/50/52), and OA/A-10. 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. Final effort is a study to investigate the technical feasibility and risks associated with the use of the USM-670 as a core tester on B-52 and SOF aircraft.

(U) (U) (U) (U)	B. Accomplishments/Planned F Continue SPO Support JSECST - 464 Study Total Cost	Program (\$ in	Millions)				0.	004 <u>F</u> 150 100 250	0.000	FY 2006 0.000	FY 2007 0.000	
(U)	U) C. Other Program Funding Summary (\$ in Millions)											
		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to	Total Cost	
		<u>Actual</u>	Estimate	Estimate	Estimate	Estimate	<u>Estimate</u>	Estimate	Estimate	Complete ²	otar cost	
(U)	AF RDT&E											
(U)	Other APPN											
	Aircraft Procurement, AF PE											
(U)	27442F (Common ECM	0.000	0.000	0.000	0.000	0.000	0.000			0.000	29.472	
	Equipment), In Service Direct	0.000	0.000	0.000	0.000	0.000	0.000			0.000	29.472	
	Ground Support Equipment											
(U)	Initial Spares	0.000	0.000	0.000	0.000	0.000	0.000			0.000	0.464	
Pro	Project 1011 R-1 Shopping List - Item No. 71-4 of 71-27 Exhibit R-2a (PE 0604270F)											

		Exhibit	R-2a, RDT	&E Project J	ustificati	on			DATE February 2005		
	GET ACTIVITY System Development and Der	monstration (S	SDD)			BER AND TITLE		1011 J	T NUMBER AND TITLE oint Service Electron ns Tester		
	C. Other Program Funding Sur Total Aircraft Procurement	nmary (\$ in Mi 0.000	llions) 0.000	0.000	0.000	0.000	0.000		0.000	29.936	
(U)	D. Acquisition Strategy The acquisition strategy is compound to solve source.							ce, cost plus co			
Pro	ject 1011			R-1 Shopping Lis	st - Item No. 7	1-5 of 71-27			Exhibit R-2a (PE	0604270F)	

		Exhib	it R-3, RD	T&E Proj	ect Co	st Ana	lysis					DATE		uary 200)5
	DGET ACTIVITY System Development and Den	nonstratior	n (SDD)			PE NUMBER AND TITLE 0604270F EW Development					PROJECT NUMBER AND TITLE 1011 Joint Service Electronic Comb Systems Tester				Combat
	Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2004 Cost	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U)	Product Development AAI	CPAF	Hunt Valley MD	26.922										26.922	
	FO TPS AAI	CPIF	Hunt Valley MD	5.583									0.000	5.583	6.400
	JSECST - 464 Study Subtotal Product Development Remarks:	T&M	WR-ALC	0.000 32.505	0.100 0.100	Aug-04	0.000		0.000		0.000		0.000	0.100 32.605	6.400
(U)	Support NAVAIR & Boeing TEWS Lab	MIPR	NAS Lakenhurst NJ & Boeing St Louis	6.861									0.000	6.861	
	Subtotal Support Remarks: Test & Evaluation			6.861	0.000		0.000		0.000		0.000		0.000	6.861	0.000
(0)	53 EWG, 46TW Subtotal Test & Evaluation	PR	Eglin AB FL	1.759 1.759	0.000		0.000		0.000		0.000		0.000 0.000	1.759 1.759	0.000
(U)	Management	-	ning, support dat		•	m testing ac	ctivities.						0.000	7 - 200	
	ASC/AANT Subtotal Management Remarks: Costs include t	Various	WPAFB, OH	5.488 5.488	0.150 0.150	rvices proc	0.000	ement admi	0.000	nd communi	0.000	enses	0.000	5.638 5.638	0.000
(U)	Total Cost	raver, office equ	iipiieit, office se	46.613	0.250	rvices, prog	0.000	oment admi	0.000	ia commun	0.000		0.000	46.863	6.400

Project 1011

Exhibit R-4, RDT&E Schedule P	rofile		February 2005
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT	NUMBER AND TITLE
05 System Development and Demonstration (SDD)	0604270F EW Development	1011 Jo	int Service Electronic Combat
	-	System	s Tester

RDT&E Schedule Profile Milestones

0	29	2004	2005		2006	2007	
ID	Task Name	Qtr 2 Qtr 3 Qtr 4	Qtr 1 Qtr 2 Qtr	3 Qtr 4	Qtr 1 Qtr 2 Qtr 3 Qtr	4 Otr 1 Otr 2	
1	Complete FOTPS Development	1 12 4	합				
2	JSECST – 464 Study	*					
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Project 1011

R-1 Shopping List - Item No. 71-7 of 71-27

BUDGET ACTIVITY 05 System Development and Demonstration (SDD) PENUMBER AND TITLE 0604270F EW Development (U) Schedule Profile (U) Complete FOTPS Development (U) JSECST - 464 Study PY 2004 PY 2005 FY 2006 FY 20
(U) Complete FOTPS Development 2Q

	Exhibit R-2a, RDT&E Project Justification										February 2005		
						0604270F EW Development 3				PROJECT NUMBER AND TITLE 3891 Advanced IR Counter Measures (AIRCM)			
	Cost (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to	Total		
Cost (\$ in Minions)		Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete			
3891	Advanced IR Counter Measures (AIRCM)	2.218	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	85.913		
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0				

^{*}Advanced Infrared Countermeasures (AIRCM) contains the Advanced Strategic and Tactical IR Expendables (ASTE) project. ASTE will transition final products to OO-ALC under PE 28030F WRM Ammunition for procurement/sustainment in FY04/05.

(U) A. Mission Description and Budget Item Justification

The Advanced Infrared Countermeasure (AIRCM) project contains related aircraft self-protection efforts aimed at increasing aircraft survivability against the increasing threat of sophisticated surface-to-air and air-to-air missiles, which may employ such features as next-generation electro-optics or dual IR and radio frequency seekers. ASTE will provide advanced IR expendable countermeasures that will be functionally compatible with existing ALE-40, 45, and 47 dispenser systems and will be employed across multiple USAF weapon systems including the USN F/A-18 E/F. This also explicitly includes any and all flare and decoy development that may be demanded or needed in current operations supporting the war on terrorism regardless of aircraft platform. These activities may also be paid for under platform specific funding.

(U)	B. Accomplishments/Planned	Program (\$ in	Millions)		FY 20	<u>004</u> <u>I</u>	FY 2005	FY 2006	FY 2007				
(U)	Continue ASTE Flare Develop	ment and Transi	ition		2.218		0.000	0.000	0.000				
(U)	Total Cost			2.218		0.000	0.000	0.000					
(U)	(U) C. Other Program Funding Summary (\$ in Millions)												
		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to	Total Cost		
		<u>Actual</u>	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	<u>Complete</u>	Total Cost		
(U)	AF RDT&E												

41.735

95.727

146.227

123.326

131.579

Continuing

TBD

AF, PE 28030F, WSC Flares (U) D. Acquisition Strategy

Procurement of Ammunition,

(U) Other APPN

The planned acquisition strategy for ASTE is competitive cost-plus.

31.606

5.776

36.914

Project 3891 R-1 Shopping List - Item No. 71-9 of 71-27 Exhibit R-2a (PE 0604270F)

	Exhibit R-3, RD	T&E Proj	ect Co	st Ana	lysis					DATE		uary 200)5	
BUDGET ACTIVITY 05 System Development and D	Demonstration (SDD)									Advand	T NUMBER AND TITLE dvanced IR Counter Measures //)			
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Performing Method & Activity & Type Location	Total Prior to FY 2004 Cost	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete		Target Value of Contract	
(U) Product Development ASTE - Development Subtotal Product Development Remarks:	СР	17.962 17.962	0.770 0.770		0.000 0.000		0.000 0.000		0.000 0.000		0.000	18.732 18.732	0.000	
(U) Support ASTE M&S ASTE - Misc	PR Various	1.904 36.727	0.299 0.068		0.000 0.000							2.203 36.795 0.000		
Subtotal Support Remarks: (U) Test & Evaluation		38.631	0.367		0.000		0.000		0.000		0.000	38.998	0.000	
ASTE - 46TW ASTE - Misc 46TW/AFFTC/ Support Subtotal Test & Evaluation	Various Various Various	1.644 0.293 17.092 19.029	0.178 0.011 0.189		0.000 0.000 0.000		0.000		0.000		0.000	1.822 0.304 17.092 19.218	0.000	
Remarks: (U) Management A&AS contractor support Subtotal Management		0.000	0.892 0.892		0.000		0.000		0.000		0.000	0.892 0.892	0.000	
Remarks: (U) Total Cost		75.622	2.218		0.000		0.000		0.000		0.000		0.000	
Project 3891		R-1 Sh	opping Lis	t - Item No	. 71-10 of 7	71-27					Exhibi	it R-3 (PE 06	04270F)	

Exhibit R-4, RDT&E Schedule P	Profile	February 2005
	0604270F EW Development	NUMBER AND TITLE Ivanced IR Counter Measures)

RDT&E Schedule Profile Milestones

.0		2004	-77.	20	05		20	006	2007		
ID	Task Name	Qtr 2 Qtr 3 Qtr 4	Qtr 1	Qtr 2	Qtr 3 Qtr 4	Qtr 1	Qtr 2	Qtr 3 Qtr 4	Qtr 1	Qtr 2	
1	ASTE Milestone C — Transport Aircraft	Gtr 2 Gtr 3 Gtr 4	Qtr 1	Gtr 2 · 查	Gtr3 Gtr4	Gtr 1	Ottr 2	Otr 3 Otr 4	Otr 1	Otr 2	
\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$			***************************************								

Project 3891

R-1 Shopping List - Item No. 71-11 of 71-27

Exhibit R-4a, RDT&E	Schedule Detail		DATE Februar	y 2005
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604270F EW Development	t 38	OJECT NUMBER AND TITLE 91 Advanced IR Coun IRCM)	<u> </u>
(U) Schedule Profile (U) ASTE Milestone C - Transport Aircraft	FY 2004	FY 2005 2Q	FY 2006	FY 2007
Project 3891 R-1 5	Shopping List - Item No. 71-12 of 71-27		Exhibit R-4a	ı (PE 0604270F)

	E	DATE	February 2005									
	T ACTIVITY stem Development and Demons	tration (SDD)							T NUMBER AND TITLE EWS Upgrade		
	Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total	
3945	TEWS Upgrade	17.520	20.721	8.514	4.082		2.936			Continuing	TBD	
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0			

This program develops a Fiber Optic Towed Decoy (FOTD) for the joint Integrated Defensive Electronic Countermeasures (IDECM) Navy-led program. The current AF approved program will provide a FOTD that meets F-15 requirements and will include a Reel-In/Reel-Out (RORI) launcher capability in FY07.

(U) A. Mission Description and Budget Item Justification

- (1) This program develops and integrates an Air Force Fiber Optic Towed Decoy (FOTD) system. The FOTD portion of the budget provides Air Force participation in the Navy-led IDECM program that is jointly developing, integrating, flight testing, effectiveness testing, and conducting live fire testing using a FOTD. The Air Force will provide for its unique development, integration and testing requirements that are not covered by the Navy-led joint development effort. The Air Force also participates in a joint FOTD risk reduction effort with the Navy looking at alternate FOTDs and methods of deployment to develop an alternative launcher system (Reel-Out/Reel-In [RORI]), which reduces Life Cycle Cost.
- (2) The FOTD improves electronic countermeasure performance against Tier 1 threat systems, and improves electronic warfare system performance against future missile threat systems. The Radio Frequency (RF) towed decoy is a countermeasure that increases survivability against monopulse, semi-active, and active RF missile threats during the terminal portion of an engagement. Boeing Study on going to finalize requirements for integration of FOTD on F-15.

(U)	B. Accomplishments/Planned Program (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U)	F-15 (F-15 TEWS & Two Tube FOTD & Flight Test)	13.215	3.277	1.662	0.500
(U)	FOTD Integration, Live Fire Testing, and RORI	2.092	13.696	5.237	0.681
(U)	EW Studies		2.000		2.000
(U)	Mission and Test Support	2.213	1.748	1.615	0.901
(U)	Total Cost	17.520	20.721	8.514	4.082

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

		FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	otal Cost
	Aircraft Procurement, AF PE (U) 027442F, War Consumable (RF decoys)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ı	(U) Aircraft Procurement, AF PE 027442F, Initial Spares	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ı	(U) Aircraft Procurement, AF PE 027442F, Mods (F-15)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

(U) D. Acquisition Strategy

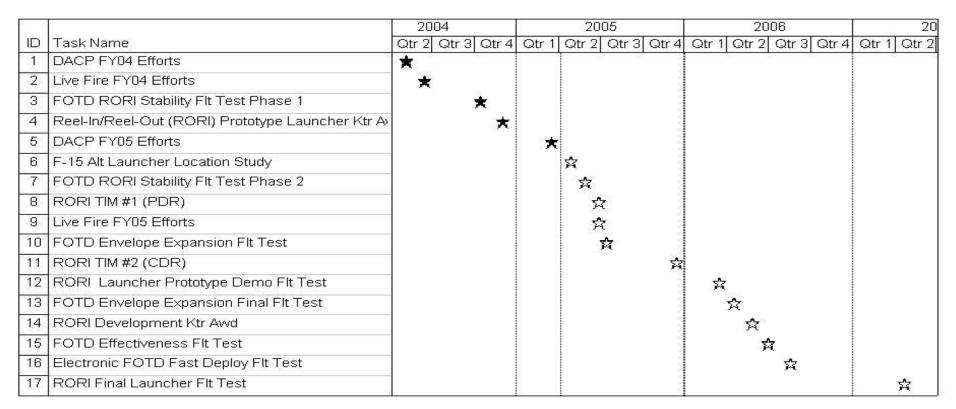
 Project 3945
 R-1 Shopping List - Item No. 71-13 of 71-27
 Exhibit R-2a (PE 0604270F)

Exhibit R-2a, R	RDT&E Project Justification	DATE February 2005
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604270F EW Developme	PROJECT NUMBER AND TITLE
The acquisition strategy for IDECM RDT&E was competed	itive, cost-plus incentive fee / award fee.	•
Project 3945	R-1 Shopping List - Item No. 71-14 of 71-27	Exhibit R-2a (PE 0604270F)

		Exhib	it R-3, RD	T&E Proi	ect Co	st Ana	lvsis					DATE		000	\
BLID	GET ACTIVITY						IUMBER A	ND TITLE			DDO	IECT NILIM	Febru BER AND	uary 200	15
	System Development and Demo	onstration	(SDD)				4270F E						Upgrade		
(I	Cost Categories Tailor to WBS, or System/Item Requirements) \$ in Millions) Product Development	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2004 Cost	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
	JSAF IDECM: Development BAE	CPAF	BAE, Nashua, NH	47.306			0.000						0.000	47.306	
I	Development Raytheon	CPIF	Raytheon, Goleta, CA	17.722			0.000						0.000	17.722	
	F-15 IDECM Integration- Boeing/LMT/Northrop	CPFF	Boeing Company, St Louis, MO	49.293	10.000	Nov-03	0.000						0.000	59.293	
	JSAF IDECM: Development BAE (Navy BOA)	CPFF	BAE, Nashua, NH	2.417	0.606	Apr-04	0.356	Nov-04	0.400	Nov-05			0.000	3.779	
I	Raytheon Development (FO-50 Two Tube)	CPFF	Raytheon, Goleta, CA	2.660	3.215	Apr-04	1.250	Mar-05	1.662	Jan-06			0.000	8.787	
	DECM Misc Development Contracts IMPLC/Alt. Strategy/Flt Test Assets)	Various	Misc	3.191	0.886		1.989		1.422		0.200		0.000	7.688	
I	RORI Launcher Prototype/Development	CPFF	Raytheon, CA & BAE, NH		0.600	Aug-04	4.714	Nov-04	3.815	Nov-05	0.400	Nov-06	0.000	9.529	
S	EW Studies Subtotal Product Development Remarks:	Various	Misc	122.589	15.307		2.000 10.309		7.299		2.000 2.600		0.000	4.000 158.104	0.000
	Support ASC/AA - IDECM Subtotal Support Remarks:	Various	Misc	4.848 4.848	1.363 1.363		1.183 1.183		1.215 1.215		0.901 0.901		0.000 0.000	9.510 9.510	0.000
(U) 1 I I I I S	Fest & Evaluation AFOTEC Tight Test Support (Effectiveness Testing) Eglin Flight Test Support Naval Research Lab (NRL) Live Fire Test Subtotal Test & Evaluation Remarks:	Various Various Various Various	Misc Misc Misc Misc Misc	1.600 0.156 2.939 0.678 1.232 6.605	0.450 0.400 0.850		0.000 1.000 0.315 7.914 9.229		0.000		0.500 0.081 0.581		0.000 0.000 0.000 0.000 0.000 0.000	1.600 0.156 4.889 1.393 9.227 17.265	0.000
` _	Management Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000 0.000	0.000 0.000	0.000
(U) T	Remarks: Fotal Cost			134.042	17.520		20.721		8.514		4.082		0.000	184.879	0.000
Pro	ject 3945			R-1 Sh	oppina Lis	t - Item No	. 71-15 of ī	71-27					Exhibi	t R-3 (PE 06	604270F)

Exhibit R-4, RDT&E Schedule P	rofile	DATE February 2005
	_	 T NUMBER AND TITLE EWS Upgrade

RDT&E Schedule Profile Milestones



Project 3945

R-1 Shopping List - Item No. 71-16 of 71-27

Exhibit R-4a, RDT&E Sc	DATE Februa	ry 2005		
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604270F EW Develop	ment	PROJECT NUMBER AND TIT 3945 TEWS Upgrade	
(U) Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007
(U) Defense Acquisition Challenge Program FY04 Efforts	2-4Q			
(U) Live Fire FY04 Efforts	2-3Q			
(U) FOTD RORI Stability Flight Test Phase I	4Q			
(U) Reel-Out/Reel-In (RORI) Prototype Launcher Contract Award	4Q			
(U) Defense Acquisition Challenge Program FY05 Efforts		1-4Q		
(U) F-15 Alternate Launcher Location Study		2-4Q		
(U) FOTD RORI Stability Flight Test Phase II		2Q		
(U) RORI TIM 1 (PDR)		2Q		
(U) Live Fire FY05 Efforts		2-3Q		
(U) FOTD Envelope Expansion Flight Test		3-4Q		
(U) RORI TIM 2 (CDR)		4Q		
(U) RORI Launcher Prototype Demo Flight Test			1Q	
(U) FOTD Envelope Expansion Final Flight Test			2-3Q	
(U) RORI Development Contract Award			2 3 Q 2 Q	
(U) Electronic FOTD Fast Deploy Flight Test			2-3Q	
(U) FOTD Effectiveness Flight Test			2-3Q 2Q	
(U) RORI Launcher Final Flight Test			20	2Q
O KOKI Launcher i mar i nght rest				2Q
Project 3945 R-1 Shopp	ping List - Item No. 71-17 of 71-27		Evhihit D	4a (PE 0604270F)

		DATE	February 2005								
	ET ACTIVITY stem Development and Demons		0604270F EW Development				PROJECT NUMBER AND TITLE 4832 Precision Location and Identification (PLAID)				
	Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4832	Precision Location and Identification (PLAID)	29.346	29.392	5.524	5.915		0.000	0.000	0.000	<u>'</u>	92.463
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

- (1) Precision Location and Identification (PLAID) will improve aircrew situational awareness by providing accurate ground emitter location and unambiguous identification. Threat systems can disrupt or negate operational missions, even without firing, 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. Knowing threat location will help an aircrew respond 'real-time' to threats by providing accurate information to allow the aircrews to reroute around hostile areas. PLAID will, where feasible, utilize existing aircraft RWR antennas and wiring (Group A hardware). Some platform modifications may be necessary to optimize geolocation performance and minimize electromagnetic interference. PLAID development is currently focused on the ALR-69A RWR, but PLAID technology can also be applied to other RWRs. Multiple platform geolocation capability is being developed under an OSD and CENTCOM sponsored Advanced Tactical Targeting Technology (AT3) Advanced Concept Technology Demonstration (ACTD). A plan to develop this technology for US Armed Forces airborne platforms has been approved. Additional related enhancements such as the capability to identify specific ground emitters (Specific Emitter ID or SEI) are under consideration.
- (2) In FY04 and FY05 Congress added \$3.9M and \$2.3M AF RDT&E funds respectively to the EW Development PE 64270F for "Rapid Replacement of Mission Critical Logistics Electronics Components" (RRMCLEC). In FY05 congress added \$5.4M to the EW Development PE for "AN/ALQ-172 Airborne Electronic Attack (AEA) Upgrade." RRMCLEC and ALQ-172 AEA Upgrade work is being performed at Warner-Robins Air Logistics Center in the same directorate as PLAID (WRALC/LS). The Air Force is therefore using the PLAID program office to track these funds. RRMCLEC will rapidly develop prototypes of replacement electronic components and subassemblies to combat obsolescence and vanishing vendor issues in Electronic Warfare systems. ALQ-172 AEA Upgrade will resolve all hardware and software deficiencies, increase system reliability and maintainability, reduce system weight and power consumption, provide growth capability, and update the receiver to the service life extension program (SLEP) configuration creating a baseline for an AEA receiver.

(U)	B. Accomplishments/Planned Program (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U)	Program Office and Engineering Support	0.460	3.305	0.500	1.100
(U)	CORE SDD/Options/Award Fees	20.752	12.304	3.000	2.700
(U)	SOF C-130 CORE Platform Integration - SOF C130 CORE/AT3 ACTD	3.579	3.544	1.024	1.115
(U)	DT&E/OT&E - SOF C130 CORE/AT3 ACTD	0.655	2.539	1.000	1.000
(U)	Rapid Replacement of Mission Critical Logistics Electronic Components	3.900	2.300		
(U) .	ALQ-172 Airborne Electronic Attack (AEA) Upgrade		5.400		
(U) '	Total Cost	29.346	29.392	5.524	5.915
1					

Project 4832 R-1 Shopping List - Item No. 71-18 of 71-27

	Exnibi	t R-2a, RD	i &E Projec	et Justifica	tion			F	ebruary 20	005
BUDGET ACTIVITY 05 System Development and De	emonstration	(SDD)			UMBER AND TIT 1270F EW De		48	OJECT NUMBER 32 Precision entification (F	d	
(U) C. Other Program Funding Su										
	<u>FY 2004</u> <u>Actual</u>	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete T	otal Cost
(U) DARPA Funding (ACTD/AT3)	1.300								1.300	
(U) OSD Funding (ACTD/AT3)	5.000	5.000	4.000						14.000	
(U) PE27442F Common ECM Equipment PE41115F ALR-69 (RWR) AMC C-130 Airlift	0.000	0.000	11.077	11.454	10.090	10.396	0.000		49.091	TBD
(U) Squadrons. PLAID procurement to commence in FY04	0.394	0.000	15.812	38.935	53.081	41.136	20.716	9.030	169.151	TBD

(U) D. Acquisition Strategy

Acquisition was accomplished through full and open competition. The SDD contract was awarded to Raytheon Corporation in August 2001. Program is based on 'Evolutionary Acquisition Strategy'.

Exhibit P.2a DDT8 E Project Justification

- CORE SDD: SOF-130 DT/OT (addresses 3 of 4 KPPs)
- Option 1: F-16 DT/OT
- Option 2: Risk Reduction, AT3 Bridge Requirements Definition
- Option 3: F-16 Geo-Location (4th KPP)
- Option 4: SOF-130 Geo-Location (4th KPP)
- Options 5-10: Production
- Option 11: Advanced Tactical Targeting Technology (AT3)

Project 4832

R-1 Shopping List - Item No. 71-19 of 71-27

Exhibit R-2a (PE 0604270F)

DATE

	Exhib	it R-3, RD	T&E Proj	ect Co	st Ana	lysis					DATE		ary 200	5
BUDGET ACTIVITY 05 System Development and Demonstration (SDD) PE NUMBER AND TITLE 0604270F EW Development 4832 Precision Location and Identification (PLAID)														
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions) (U) Product Development	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2004 Cost	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Raytheon CORE SDD + Fee	Full & Open Comp CPAF	Raytheon - Goleta CA		12.452	Jan-04	5.000	Feb-05	3.000	Nov-05	2.700		0.000	23.152	23.152
Raytheon Option 3/4 SDD + Fee	Full & Open Comp CPAF	Raytheon - Goleta CA		5.440	Apr-04							0.000	5.440	5.440
Raytheon Option 11 AT3 + Fee	Sole Source - Raytheon	Raytheon - Goleta CA		2.860		7.304						0.000	10.164	8.384
Subtotal Product Development Remarks: (U) <u>Support</u>	,		0.000	20.752		12.304		3.000		2.700		0.000	38.756	36.976
AT3 Program Office Support Program Office	PR	Various		0.460	Aug-04	1.255 0.550	Oct-04 Oct-04			0.600		0.000	1.255 1.610	1.255 1.610
Engineering Subtotal Support Remarks:	Various	Contractors	0.000	0.460		1.500 3.305	Nov-04	0.500 0.500	Nov-05	0.500 1.100		0.000 0.000	2.500 5.365	2.500 5.365
(U) Test & Evaluation AFOTEC Det 1 46 OGS C-130 AT3 ACTD T&E (Western Test Range) Subtotal Test & Evaluation	PO PO		0.000	0.655 0.655	Sep-04	1.800 0.739 2.539	Nov-05 Oct-04	1.000 1.000	Nov-05	1.000 1.000		0.000	4.455 0.739 5.194	4.455 0.739 5.194
Remarks: (U) Platform Integration - C-130, F-16 AT3				3.579	Jul-04	2 5 4 4	Feb-05	1.024	Nov-05	0.720		0.000	8.867	7.027
ACTD Platform Integration Options 3/4 Subtotal Remarks:			0.000	3.579	Jui-04	3.544	160-03	1.024	1404-03	0.395 1.115		0.000	0.395 9.262	0.395 7.422
(U) Rapid Replacement of Mission Critical Logistics Electronic Components				3.900	Mar-04	2.300							6.200	3.900
ALQ-172 AEA Upgrade Subtotal Remarks:			0.000	3.900		5.400 7.700		0.000		0.000		0.000	5.400 11.600	3.900
(U) Total Cost			0.000	29.346		29.392		5.524		5.915		0.000	70.177	58.857
Project 4832			R-1 Sh	opping Lis	t - Item No	. 71-20 of 7	71-27					Exhibi	t R-3 (PE 06	04270F)

Exhibit	R-4.	RDT&	E Sc	hedule	Profile
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DATE

February 2005

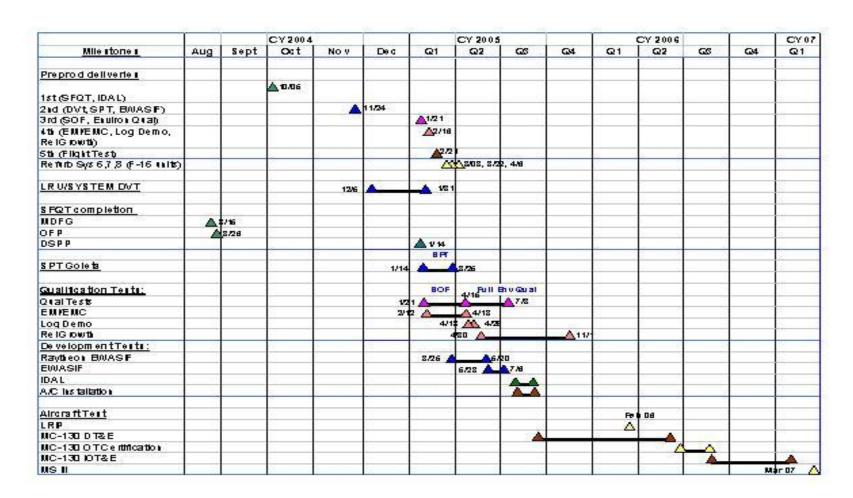
BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604270F EW Development

PROJECT NUMBER AND TITLE
4832 Precision Location and
Identification (PLAID)

ALR-69A CORE Schedule



Project 4832

R-1 Shopping List - Item No. 71-21 of 71-27

Exhibit R-4a	, RDT&E Schedule Detail		DATE Februa i	rv 2005			
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604270F EW Developme	PE NUMBER AND TITLE 0604270F EW Development					
 (U) Schedule Profile (U) Developmental Testing and Evaluation (U) Initial Operational Test and Evaluation (U) LRIP Decision (U) MSIII Decision 	FY 2004	<u>FY 2005</u> 3Q	<u>FY 2006</u> 4Q 2Q	<u>FY 2007</u> 2Q			
Project 4832	R-1 Shopping List - Item No. 71-22 of 71-27		Exhibit R-4	a (PE 0604270F)			

	E	DATE	February 2	2005									
	T ACTIVITY stem Development and Demons	tration (SDD)							PROJECT NUMBER AND TITLE 8462 Airborne Electronic Attack			
	Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total		
8462	Airborne Electronic Attack	38.429	62.976		52.985		8.665	0.000			TBD		
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0				

In FY 2006 Airborne Electronic Attack transfers from Project 658462 (formerly called Airborne Electronic Attack) to PE 0604429F, Airborne Electronic Attack, Project 655192, Network and System-of-Systems Development and Project 655193, B-52 Stand-off Jammer. Project 658462 continues to develop the Miniature Air Launched Decoy (MALD).

(U) A. Mission Description and Budget Item Justification

This project develops the Miniature Air Launched Decoy (MALD) and its jammer variant, Miniature Air Launched Decoy Jammer (MALD-J). MALD is a low-cost decoy to stimulate enemy integrated air defense systems (IADS) for detection, location, and both lethal and non-lethal suppression activities. MALD-J will jam radars within the no escape zone of enemy surface-to-air missiles to degrade or deny the enemy's air defense system ability to detect and track friendly aircraft or munitions. The MALD-J is a critical piece of the joint Airborne Electronic Attack System of Systems.

Both decoy and jammer configurations are key enablers supporting the Air Force Global Strike, Global Response, Space and C4ISR, and the Air and Space Expeditionary Force Concepts of Operations. Planned efforts for this program are System Development and Demonstration (SDD) which began in FY03 with a competitive contract award of the decoy configuration. This will include design, development and seamless verification of the decoy vehicle. A spiral to a MALD-J development will begin in FY06 with a modification to the current MALD contract.

(U)	B. Accomplishments/Planned Program (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U)	MALD and MALD-J SDD Contract	26.694	34.330	53.314	40.103
(U)	MALD Program Office Support (Government)	1.930	2.358	2.615	2.863
(U)	MALD / MALD-J B-52 Aircraft Integration	6.729	3.250	2.808	2.190
(U)	MALD / MALD-J Mission and Test Support	2.876	1.658	9.638	7.149
(U)	MALD / MALD-J F-16 Aircraft Integration	0.200	0.120	0.174	0.680
(U)	AEA Synchronization Office Support		0.850		
(U)	AEA System of systems engineering / architecture development / refine requirements		4.150		
(U)	B-52 SOJ Program Office Support		2.149		
(U)	B-52 SOJ Pre-SDD Preparation		2.200		
(U)	Low Band Phased Array Tech Development		11.911		
(U)	Total Cost	38.429	62.976	68.549	52.985
	Note: FY2005 funding details for B-52 SQI are being reported in the new PE 0604429F.				

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

	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	$\frac{\text{Cost to}}{\text{Complete}} \underline{\text{Tomplete}}$	otal Cost
(U) AF RDT&E										
(U) Other APPN (PE 27442F				34.976	135.672	97.576	85.972	85.588	Continuing	TBD
Project 8462			R-1 Shoppii	ng List - Item No.	71-23 of 71-27				Exhibit R-2a (PE	0604270F)

Exhibit R-2a, RDT&E Pr	oject Justification	DATE February 2005
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604270F EW Development	PROJECT NUMBER AND TITLE 8462 Airborne Electronic Attack
(U) C. Other Program Funding Summary (\$ in Millions)		

MALD procurement)

MALD production funding begins in FY07.

(U) <u>D. Acquisition Strategy</u>

A full and open competition for MALD was held in FY03 resulting in award of a cost plus award fee contract to Raytheon. Spiral to MALD-J is planned for FY06 with anticipated award of a cost plus award fee contract to Raytheon.

Project 8462

R-1 Shopping List - Item No. 71-24 of 71-27

	Exhib	oit R-3, RD	T&E Proj	ect Co	st Ana	lysis					DATE	Febru	uary 200)5
BUDGET ACTIVITY 05 System Development	and Demonstratio	n (SDD)				IUMBER A 4270F E		lopment			ECT NUME PAirborn	BER AND		
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions) (U) Product Development	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2004 Cost	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MALD SDD ACTD	CPFF	Northrop Grumman - Ryan Aeronautical Center	40.074										40.074	
MALD / MALD-J SDD	CPAF	Raytheon Missile Systems, Tucson AZ	7.938	26.584		34.310		53.314		38.024		Continuing	TBD	102.033
MALD/MALD-J B-52 Aircraft MALD/MALD-J F-16 Aircraft	Integration MIPR	B-52 SPO F-16 SPO	0.765 0.069	6.729 0.585	Oct-03 Oct-03	3.250 0.120		2.808 0.174		2.190 0.680		16.402 3.665	32.144 5.293	24.494 5.469
AEA System of Systems Engine	eering MIPR, CPFF	Various				3.350						Continuing	TBD	TBD
B-52 SOJ Pre-SDD Preparation B-52 SOJ SDD Subtotal Product Development Remarks:		TBD TBD	48.846	33.898		2.200 11.911 55.141	Mar-05	56.296		40.894	1	0.000 643.400 Continuing	2.200 655.311 TBD	TBD
(U) Support Contractor Support to AAC/YA AEA Synchronization Office St B-52 SOJ Program Office Supp	apport MIPR	Various Various Various	2.792	1.373		1.571 0.850 2.049		1.863		1.907		4.746 Continuing Continuing	14.252 TBD TBD	7.787 TBD
Subtotal Support Remarks:			2.792	1.373		4.470		1.863		1.907		Continuing	0.000 TBD	TBD
(U) Test & Evaluation MALD Government Test Plann AEA Virtual Test / AFEWICS	Various	Various Various	5.390	2.491		1.575 0.100		9.638		9.229		11.729 Continuing	40.052 TBD TBD	20.056 TBD
B-52 SOJ Mission and Test Sup Subtotal Test & Evaluation	•		5.390	2.491		1.675		9.638		9.229		Continuing Continuing	TBD	TBD
Remarks: Ele (U) Management	ement includes detailed plan	nning, support da	ta reduction and	reports fron	n such testir	ng.								
AAC/YAZM (MALD)	Various	AAC, Eglin AFB FL	5.346	0.667		0.740		0.752		0.955		1.375	9.835	9.319
ASC/LRS (B-52 DSO) ASC/XR (AEA Synch Office) Subtotal Management Ele	ement includes miscellaneo	us administrative	5.346 costs incurred in	0.667 the day-to-	-day operati	0.100 0.850 1.690 ons by the p	program off	0.752 ice. Costs i	nclude trave	0.955		Continuing Continuing Continuing ice supplies,	TBD TBD TBD	9.319
Remarks:	ntract services, program ma			•	• 1	62.976	78	68.549	and and	52.985		Continuing	TBD	TBD
Project 8462			R-1 Sho	opping Lis	t - Item No	. 71-25 of 7	71-27					Exhibi	t R-3 (PE 06	604270F)

Exhibit R-4, RDT&E Schedule Profile

DATE

PROJECT NUMBER AND TITLE

February 2005

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604270F EW Development

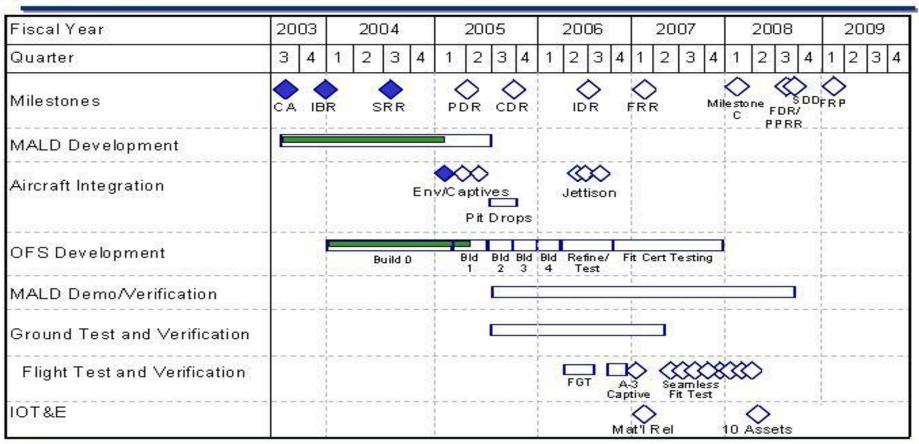
8462 Airborne Electronic Attack



MALD Overview Schedule



U.S. AIR FORCE



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Project 8462 R-1 Shopping List - Item No. 71-26 of 71-27

Exhibit R-4a, R	DATE Februar	February 2005		
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604270F EW Development	PROJECT NUMBER AND TITL 8462 Airborne Electroni	E	
 (U) Schedule Profile (U) MALD Integrated Baseline Review (U) MALD Systems Requirements Review (U) MALD Preliminary Design Review (U) MALD Critical Design Review 	FY 2004 1Q 3Q	FY 2005 2Q 3Q	FY 2006	FY 2007
(U) MALD-J Spiral Start (U) MALD Incremental Design Review (U) MALD Flight Readiness Review			2Q 3Q	1Q
Project 8462	R-1 Shopping List - Item No. 71-27 of 71-27		Evilità D. A.	a (PE 0604270F)