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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	66.321	80.275	89.966	0.000	89.966	25.016	54.748	74.505	89.269	Continuing	Continuing
654832: <i>Precision Location and Identification (PLAID)</i>	5.314	2.458	0.099	0.000	0.099	0.000	0.000	0.000	0.000	Continuing	Continuing
655305: <i>MALD-J</i>	0.000	77.817	89.867	0.000	89.867	25.016	54.748	74.505	89.269	Continuing	Continuing
658462: <i>Miniature Air Launched Decoy</i>	61.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

MALD-J efforts, 655305, were part of 658462, MALD, prior to FY10. No efforts are considered New Starts in FY10/11.

A. Mission Description and Budget Item Justification

This program element (PE) consolidates Air Force funding and management of common electronic warfare (EW) systems from material solutions analysis through engineering and manufacturing development and transition to operational capability. EW is an integral warfighting effect supporting AF Global Strike, Global Persistent Attack and Global Mobility operations as well as Joint-Coalition operations. EW systems influence, deceive, disrupt, degrade, deny, and destroy threats to air operations throughout the electromagnetic spectrum. This PE supports Electronic Support (ES), Electronic Protection (EP), and Electronic Attack (EA). ES programs support the collection, analysis, and dissemination of information related to the detection, geo-location, characterization, and identification of threats to air operations. EP Programs preserve the electromagnetic spectrum for use by friendly forces. EA programs provide self-protection through active and passive measures that deceive threats to air operations using kinetic and non-kinetic means to defeat threats that rely on the electromagnetic spectrum (RF, EO, IR). This program is in budget activity 5 - Engineering and Manufacturing Development of common EW systems to meet user requirements.

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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>
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B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	56.342	97.275	0.000	0.000	0.000
Current President's Budget	66.321	80.275	89.966	0.000	89.966
Total Adjustments	9.979	-17.000	89.966	0.000	89.966
• Congressional General Reductions		-17.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	9.979	0.000	89.966	0.000	89.966

Change Summary Explanation

FY09: \$9.2M added for MALD-J (Project 658462)

FY09: \$2.251M added for ALR-69A (Project 654832)

FY10: \$17M Congressional Reduction for MALD-J (Project 655305)

The FY 2010 President's Budget submittal did not reflect FY 2011 through FY 2015 funding. Therefore, explanation of changes between the two budget positions cannot be made in a relevant manner.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>				PROJECT 654832: <i>Precision Location and Identification (PLAID)</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
654832: <i>Precision Location and Identification (PLAID)</i>	5.314	2.458	0.099	0.000	0.099	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The AN/ALR-69A radar warning receiver (RWR) is an evolutionary development program consisting of a core digital receiver/processor with growth increments. The core ALR-69A program objectives are to improve identification of threat type, detect threat signals while outside of the threat envelop, and operate in a dense signal environment. Evolutionary growth spirals include single and multi-ship precision geolocation (PG) as well as specific emitter identification (SEI). The underlying technologies and algorithms enabling PG and SEI are often collectively referred to as precision location and identification (PLAID).

ALR-69A development is currently focused on a replacement RWR for AFSOC and AMC C-130 aircraft. The ALR-69A is also under consideration by AFSOC, AMC and ACC for integration and installation in other mission design series aircraft.

In FY09 Congress added \$1.5M AF RDT&E funds to the EW Development PE 064270F for "rapid replacement of mission critical logistics electronics components" (RRMCLEC). Warner Robins Air Logistics Center (ALC) is performing RRMCLEC work and tracking those funds. RRMCLEC will rapidly develop prototypes of replacement electronic components and subassemblies to combat obsolescence and vanishing vendor issues in electronic warfare systems.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: Develop a common digital radar warning receiver for USAF platforms <i>FY 2009 Accomplishments:</i> In FY 2009: Conducted hardware-in-the-loop testing of new software and developmental flight testing against threat simulators	5.314	2.458	0.099	0.000	0.099

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force						DATE: February 2010					
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>			PROJECT 654832: <i>Precision Location and Identification (PLAID)</i>					
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
<p><i>FY 2010 Plans:</i> In FY2010: Continue to conduct hardware-in-the-loop testing of upgraded software; continue developmental flight testing; complete operational testing certification requirements; start initial operational test and evaluation of hardware and software.</p> <p><i>FY 2011 Base Plans:</i> FY 2011: Complete initial operational test and evaluation; complete requirements for the full rate production milestone decision. Commence follow-on test and evaluation of production hardware and software for AFSOC AC-130 aircraft</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable.</p>											
Accomplishments/Planned Programs Subtotals						5.314	2.458	0.099	0.000	0.099	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PE 0207442F: <i>Common ECM Equipment</i>	10.502	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
• PE 0401115F: <i>ALR-69 (RWR) AMC C-130 Airlift Squadrons. PLAID procurement commenced in FY07</i>	23.711	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
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'.											
- CORE SDD: SOF-130 DT/OT											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 654832: <i>Precision Location and Identification (PLAID)</i>
<ul style="list-style-type: none">- Option 1: F-16 DT/OT- Option 2: Risk Reduction, AT3 Bridge Requirements Definition- Option 3: F-16 Geo-Location- Option 4: SOF-130 Geo-Location- Options 5-10: Production- Option 11: Advanced Tactical Targeting Technology (AT3)		
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force										DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>				PROJECT 654832: <i>Precision Location and Identification (PLAID)</i>					

Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Raytheon CORE SDD + Fee	C/CPAF	Raytheon Goleta CA	95.525	1.290	Oct 2009	0.000		0.000		0.000	0.000	96.815	0.000
Subtotal			95.525	1.290		0.000		0.000		0.000	0.000	96.815	0.000

Remarks

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Office	WR	Various Various	9.794	1.000	Dec 2009	0.099	Dec 2010	0.000		0.099	0.000	10.893	0.000
Engineering	Various/ Various	Various Various	2.443	0.168	Nov 2009	0.000		0.000		0.000	0.000	2.611	0.000
Subtotal			12.237	1.168		0.099		0.000		0.099	0.000	13.504	0.000

Remarks

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 654832: <i>Precision Location and Identification (PLAID)</i>
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Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No text provided	TBD/TBD	No text provided No text provided	15.687	0.000		0.000		0.000		0.000	0.000	15.687	0.000
Group A Support	C/CPFF	Boeing TBD	17.318	0.000		0.000		0.000		0.000	0.000	17.318	0.000
Rapid Replacement of Mission Critical Logistics Electronic Components	TM	Scientific Research Corp Atlanta GA	11.696	0.000		0.000		0.000		0.000	0.000	11.696	0.000
Subtotal			44.701	0.000		0.000		0.000		0.000	0.000	44.701	0.000

Remarks

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	152.463	2.458	0.099	0.000	0.099	0.000	155.020	0.000

Remarks
Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

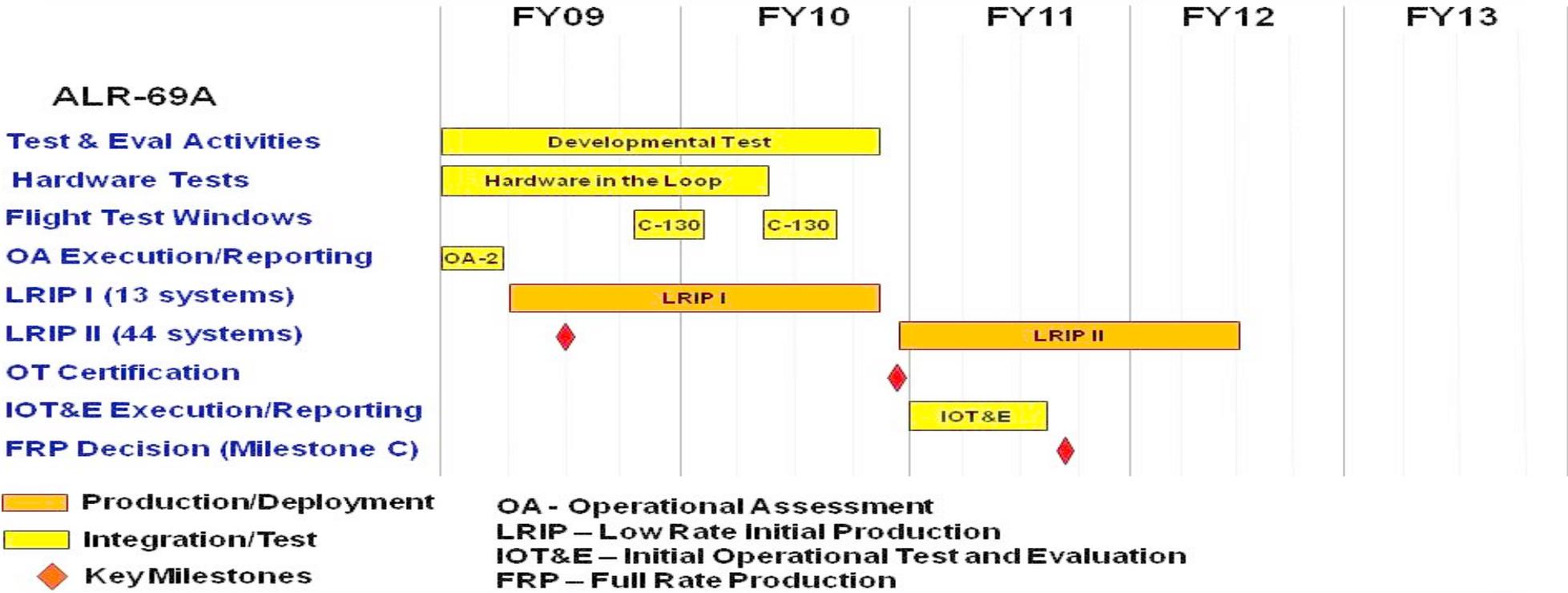
PE 0604270F: *EW Development*

PROJECT

654832: *Precision Location and Identification (PLAID)*



ALR-69A Program Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force		DATE: February 2010
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Developmental Testing and Evaluation	1	2009	4	2010
LRIP II Decision	2	2009	2	2009
Initial Operational Test and Evaluation	1	2011	3	2011
Milestone C Decision	3	2011	3	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force									DATE: February 2010		
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
655305: <i>MALD-J</i>	0.000	77.817	89.867	0.000	89.867	25.016	54.748	74.505	89.269	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note MALD-J efforts were included in Project 658462, Miniature Air Launched Decoy, for FY 2009.											
A. Mission Description and Budget Item Justification This project develops the Miniature Air Launched Decoy Jammer (MALD-J). The jammer is a variant of the MALD decoy and will be able to operate in both decoy and jammer modes. The 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. MALD-J will provide stand-in jamming capability for the Airborne Electronic Attack Systems of Systems. It will be launched against a preplanned target and jam specific radars in a stand-in role to degrade or deny the IADS detection of friendly aircraft or munitions. Planned efforts for this program are risk reduction (to include prototyping) and Engineering Manufacturing and Development (EMD) of the jammer configuration and any other direct variant. This will include design, development, test, aircraft integration, and seamless verification.											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
MAJOR THRUST: MALD-J Risk Reduction will focus on integrating jammer module and payload into the MALD vehicle, requirements & activities, and initial system level hardware and software. <i>FY 2009 Accomplishments:</i> In FY 2009: N/A <i>FY 2010 Plans:</i> In FY 2010: Continue to manufacture and deliver production representative MALD-J payloads with selectivity enhancements incorporated in support of the EMD phase. Implement design, build, and/						0.000	22.000	0.000	0.000	0.000	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 655305: <i>MALD-J</i>
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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>MAJOR THRUST: Future MALD-J concept refinement to characterize the technological feasibility and capability of a future variant utilizing Gallium Nitride (GaN) technology.</p> <p><i>FY 2009 Accomplishments:</i> In FY 2009: N/A</p> <p><i>FY 2010 Plans:</i> In FY 2010: Gallium Nitride (GaN) technology used to increase the technical maturity of a power amplifier. Continue payload development and modeling and simulation support. Conduct payload performance and interoperability testing and technical interchange meetings.</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: Continue payload development and modeling and simulation support. Conduct payload performance and interoperability testing and technical interchange meetings.</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable.</p>	0.000	4.000	35.000	0.000	35.000
Accomplishments/Planned Programs Subtotals	0.000	77.817	89.867	0.000	89.867

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE Not Provided (8775): <i>PE0207442F, MALD/MALD-J procurement</i>	56.285	109.202	87.628	0.000	87.628	85.396	90.122	91.951	93.974	0.000	0.000

D. Acquisition Strategy

A full and open competition for MALD was held in FY03 resulting in award of a cost plus award fee contract to Raytheon.

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<p>MALD-J risk reduction is based on a pair of decision points to evaluate progress towards meeting required effectiveness for the jammer payload. The Phase 1 effort is geared toward completing the subsystem design and characterizing effectiveness measures for that design. Phase 2 risk reduction will take the full system through PDR and establish an Integrated Baseline for the following MALD-J EMD program.</p> <p>E. Performance Metrics</p> <p>Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 655305: <i>MALD-J</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Risk Reduction and EMD	C/CPAF	Raytheon Missile Systems Tucson, AZ	0.000	60.317	Mar 2010	44.033	Nov 2010	0.000		44.033	0.000	104.350	Continuing
Improvement Risk Reduction	C/CPAF	Raytheon Missile Systems Tucson, AZ	0.000	4.000	Mar 2010	33.000	Mar 2011	0.000		33.000	0.000	37.000	0.000
B-52 Aircraft Integration	MIPR	B-52 SPO Various	0.000	1.500	Nov 2009	1.500	Nov 2010	0.000		1.500	0.000	3.000	0.000
F-16 Aircraft Integration	MIPR	F-16 SPO Various	0.000	0.300	Aug 2010	0.500	Aug 2011	0.000		0.500	0.000	0.800	0.000
Subtotal			0.000	66.117		79.033		0.000		79.033	0.000	145.150	

Remarks

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Support to AAC/308 ARSW/692 ARSS	Various/ Various	Various Various	0.000	1.718	Dec 2009	0.748	Dec 2010	0.000		0.748	0.000	2.466	0.000
Subtotal			0.000	1.718		0.748		0.000		0.748	0.000	2.466	0.000

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Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks

Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Test Planning	Various/ Various	Various Various	0.000	9.577		9.681		0.000		9.681	0.000	19.258	0.000
Subtotal			0.000	9.577		9.681		0.000		9.681	0.000	19.258	0.000

Remarks
Element includes detailed planning, support data reduction and reports from such testing.

Management Services (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Office Support for AAC/308 ARSW/692 ARSS	Various/ Various	Various Various	0.000	0.405		0.405		0.000		0.405	0.000	0.810	0.000

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Management Services (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.405		0.405		0.000		0.405	0.000	0.810	0.000

Remarks
Element includes miscellaneous administrative costs incurred in the day-to-day operations by the program office. Costs include travel, office equipment, office supplies, printing, contract services, program management administration and information technology expenses.

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	77.817	89.867	0.000	89.867	0.000	167.684	

Remarks
Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY
 3600: Research, Development, Test & Evaluation, Air Force
 BA 5: Development & Demonstration (SDD)

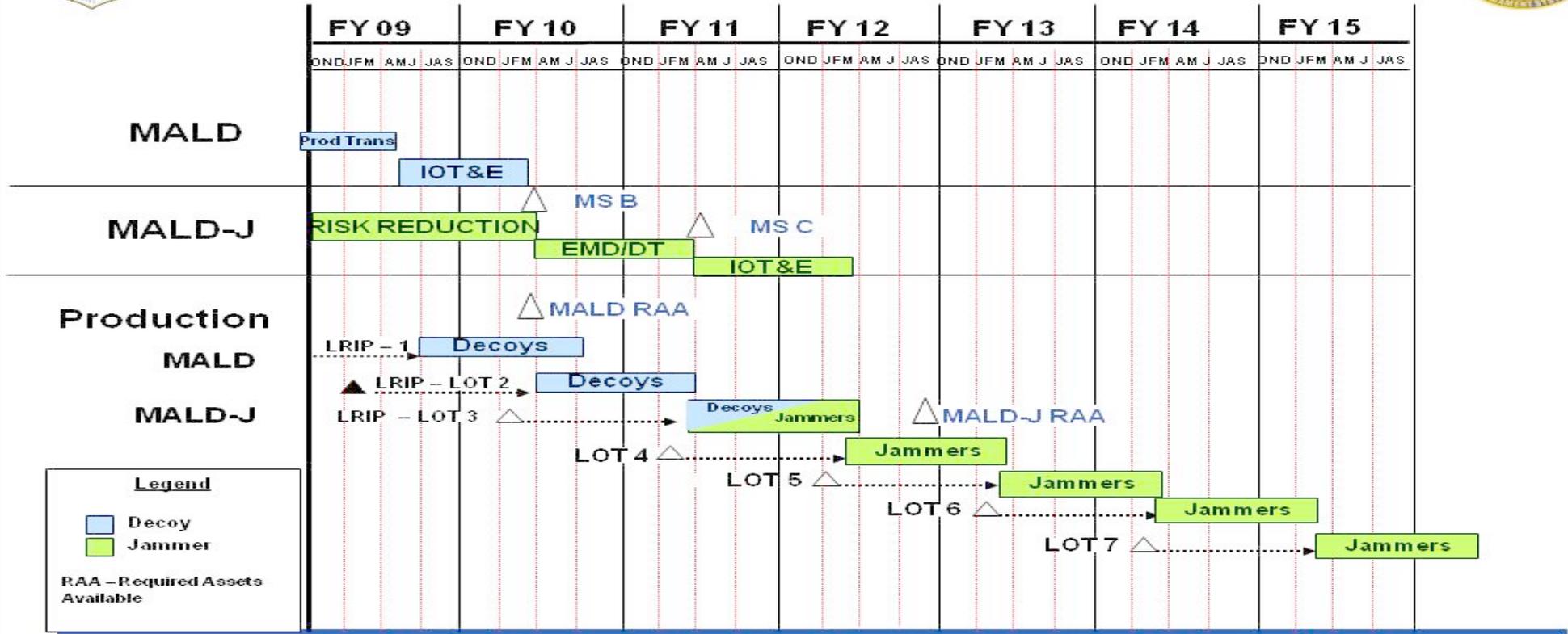
R-1 ITEM NOMENCLATURE
 PE 0604270F: EW Development

PROJECT
 655305: MALD-J



For Official Use Only

MALD/MALD-J Integrated Schedule



Legend

- Decoy
- Jammer

RAA - Required Assets Available

Integrity - Service - Excellence

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604270F: *EW Development*

PROJECT

655305: *MALD-J*

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
MALD-J Milestone B	2	2010	2	2010
MALD-J IOT&E	3	2011	4	2011
MALD-J Milestone C	3	2011	3	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>				PROJECT 658462: <i>Miniature Air Launched Decoy</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
658462: <i>Miniature Air Launched Decoy</i>	61.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note FY 2009 includes MALD-J efforts. In FY 2010, MALD-J is broken out in Project 655305, MALD-J.											
A. Mission Description and Budget Item Justification This project develops the Miniature Air Launched Decoy (MALD) and MALD Jammer (MALD-J). The 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. MALD is a low cost, powered, expendable decoy designed to represent the kinematics and radar signature characteristics of various combat aircraft. The MALD will be employed from various aircraft platforms to stimulate, saturate, and deceive an enemy Integrated Air Defense System (IADS) thus increasing the survivability of coalition strike aircraft. MALD-J will provide stand-in jamming capability for the Airborne Electronic Attack Systems of Systems. MALD-J will be launched against a preplanned target and will jam specific radars in a stand-in role to degrade or deny the IADS detection of friendly aircraft or munitions. MALD-J will be able to operate in both decoy and jammer modes. Planned efforts for this program are risk reduction (to include prototyping) and Engineering Manufacturing and Development (EMD) of the jammer configuration and any other direct variant. This will include design, development, test, aircraft integration, and seamless verification.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: MALD-J Risk Reduction will focus on Integrating the Jammer Module and Jammer Payload into the MALD vehicle, system-level requirements							47.767	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>		PROJECT 658462: <i>Miniature Air Launched Decoy</i>				
B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> In FY 2009: Insure a mature, low risk program is defined for Engineering and Manufacturing Development (EMD) Milestone B Decision. Performed B-52 and unpowered F-16 aircraft integration actions necessary to prepare for follow on MALD-J EMD program. Designed and developed a MALD/ MALD-J system/payload that satisfied the minimum desired requirements in System Specification. Supported development of a Joint Mission Planning System based mission planning tool for MALD/ MALD-J. Completed and implemented an Integrated Master Plan (IMP) and linked Integrated Master Schedule (IMS). Developed and delivered a MALD/MALD-J Demilitarization Plan. Developed air vehicle developmental software tools to support flight testing.</p> <p><i>FY 2010 Plans:</i> In FY 2010: N/A (Covered under project 655305)</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: N/A (Covered under project 655305)</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable.</p>								
<p>MAJOR THRUST: MALD Initial Operational Test and Evaluation (IOT&E)</p> <p><i>FY 2009 Accomplishments:</i> In FY 2009: Supported IOT&E testing in preparation for Beyond LRIP Report.</p> <p><i>FY 2010 Plans:</i> In FY 2010: N/A</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: N/A</p>				2.615	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 658462: <i>Miniature Air Launched Decoy</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable.						
MAJOR THRUST: Future MALD-J Variant concept refinement to characterize the feasibility and capability of a future variant utilizing Gallium Nitride (GaN) technology. <i>FY 2009 Accomplishments:</i> In FY 2009: Studied the feasibility of integrating GaN power amplifiers and data links into the baseline MALD-J vehicle. Built three payloads for testing. Increasing the technical maturity of a power amplifier based on GaN technology. <i>FY 2010 Plans:</i> In FY 2010: N/A (Covered under project 655305) <i>FY 2011 Base Plans:</i> In FY 2011: N/A (Covered under project 655305) <i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable.		10.625	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		61.007	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 658462: <i>Miniature Air Launched Decoy</i>

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0207442F: <i>MALD/MALD-J procurement</i>	56.285	109.202	87.628	0.000	87.628	85.396	90.122	91.951	93.974	0.000	0.000

D. Acquisition Strategy

A full and open competition for MALD was held in FY03 resulting in award of a cost plus award fee contract to Raytheon.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 658462: <i>Miniature Air Launched Decoy</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MALD / MALD-J RR and EMD	C/CPAF	Raytheon Missile Systems Tucson AZ	267.481	0.000		0.000		0.000		0.000	0.000	267.481	267.481
MALD / MALD-J B-52 Aircraft Integration	MIPR	B-52 SPO Various	14.556	0.000		0.000		0.000		0.000	0.000	14.556	14.556
MALD / MALD-J F-16 Aircraft Integration	MIPR	F-16 SPO Various	1.404	0.000		0.000		0.000		0.000	0.000	1.404	1.404
Improvement Risk Reduction	TBD/TBD	TBD TBD	10.625	0.000		0.000		0.000		0.000	0.000	10.625	10.625
Subtotal			294.066	0.000		0.000		0.000		0.000	0.000	294.066	294.066

Remarks

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Support to AAC/308 ARSW/692 ARSS	Various/ Various	Various Various	12.022	0.000		0.000		0.000		0.000	0.000	12.022	12.022
Subtotal			12.022	0.000		0.000		0.000		0.000	0.000	12.022	12.022

Remarks

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 658462: <i>Miniature Air Launched Decoy</i>
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Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Test Planning	Various/ Various	Various Various	36.645	0.000		0.000		0.000		0.000	0.000	36.645	36.645
Subtotal			36.645	0.000		0.000		0.000		0.000	0.000	36.645	36.645

Remarks
Element includes detailed planning, support data reduction and reports from such testing.

Management Services (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AAC/308 ARSW/692 ARSS	Various/ Various	AAC Eglin AFB FL	4.176	0.000		0.000		0.000		0.000	0.000	4.176	4.176
Subtotal			4.176	0.000		0.000		0.000		0.000	0.000	4.176	4.176

Remarks
Element includes miscellaneous administrative costs incurred in the day-to-day operations by the program office. Costs include travel, office equipment, office supplies, printing, contract services, program management administration and information technology expenses.

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		346.909	0.000	0.000	0.000	0.000	346.909	346.909

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 658462: <i>Miniature Air Launched Decoy</i>
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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks
Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604270F: EW Development

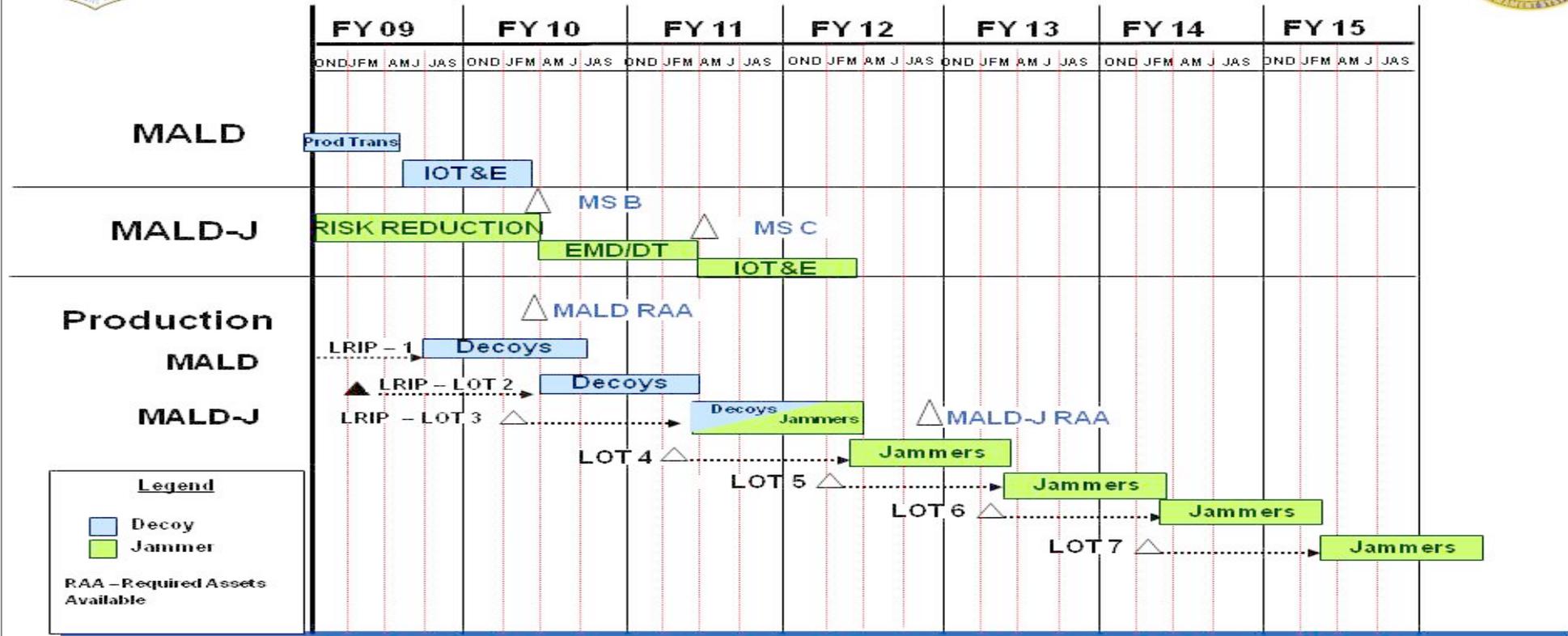
PROJECT

658462: Miniature Air Launched Decoy



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MALD/MALD-J Integrated Schedule



Integrity - Service - Excellence

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604270F: *EW Development*

PROJECT

658462: *Miniature Air Launched Decoy*

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
MALD IOT&E	3	2009	2	2010
MALD RAA	2	2010	2	2010

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