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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				PE 0603860F: Joint Precision Approach and Landing Systems - Dem/Val							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	12.452	19.879	57.975	-	57.975	19.578	136.908	64.600	16.373	Continuing	Continuing
644652: Precision Landing Systems	12.452	19.879	57.975	-	57.975	19.578	136.908	64.600	16.373	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

## Note

While the Joint Precision Approach and Landing System (JPALS) is an ACAT ID program, the Air Force Exhibit R-3 does not include "to complete" costs as the JPALS Land-Based Increment 2 (Air Force lead) is pre-Milestone B (FY13) and not Section 2366a certified. The Sea-Based Increment 1a (Navy lead) is post-Milestone B and Section 2366a certified. Reference Navy JPALS R-Doc for data (PNO 238).

Totals include funding for Program Resources Collection Process Program Number (PNO) 238, JPALS (Land-Based Increment 2).

## A. Mission Description and Budget Item Justification

JPALS is an Acquisition Category ID program with joint partners for requirements and acquisition including the USAF, USN/USMC, USA, and the Federal Aviation Administration (under the Next Generation (NextGen) Air Transportation System Program). JPALS development includes an incremental approach employing a family of systems (FoS) to ensure joint, allied, coalition and Federal Aviation Administration/International Civil Aviation Organization interoperability. On 16 March 2007, the Joint Requirements Oversight Council (JROC) approved the Capability Development Document (CDD) for the JPALS FoS and Increment 1 for the Sea-Based System and designated the Navy as the JPALS lead Department of Defense (DoD) Component. On 19 January 2010, the JROC approved Increment 2 for the Land-Based System and designated the Air Force as the lead component for the Land-Based System.

JPALS is the next generation global positioning system (GPS)-based precision approach and landing system for the DoD. It will replace several aging and obsolete aircraft landing systems with a FoS that will function in more operational environments and in a wide range of meteorological conditions.

Because a cornerstone of the JPALS implementation strategy is worldwide and civil interoperability, JPALS must harmonize with US and International Civil Global Navigation Satellite Systems. This is accomplished through participation in the development testing, and implementation of international standards through the North American Treaty Organization (NATO) and the International Civil Aviation Organization.

Interoperability of the JPALS ground systems with all military and civil aircraft is a key aspect of the planned system. Military aircraft must have worldwide access to civil and military airfields/air stations/operating locations in benign and hostile (GPS jamming) environments. The JPALS Land-based Increment 2 system will provide a civil interoperable capability and also a military interoperable encrypted, jam-resistant capability. JPALS will close capability gaps identified in the Precision Approach and Landing Capability Initial Capabilities Document. These gaps include: interoperability for naval aircraft landing at shore-based airfields operated by other services, interoperability for Navy/Marine Corps and Army aircraft landing at civil airports, and for the Civil Reserve Air Fleet landing at DoD airfields.

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BA 4: Advanced Component Development & Prototypes (ACD&P)								
FY13 efforts focus on MS B documentation preparation and source selection to support contract award. A MS B is planned for May 2013 with source selection continuing through Jul 2013. The Engineering, Manufacturing, and Development (EMD) contract will be awarded in Aug 2013.								
This program is in budget activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.								
B. Program Change Summary (\$ in Millions)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total		
Previous President's Budget		13.952	20.112	52.167	-	52.167		
Current President's Budget		12.452	19.879	57.975	-	57.975		
Total Adjustments		-1.500	-0.233	5.808	-	5.808		
• Congressional General Reductions		-	-0.233					
• Congressional Directed Reductions		-	-					
• Congressional Rescissions		-	-					
• Congressional Adds		-	-					
• Congressional Directed Transfers		-	-					
• Reprogrammings		-0.811	-					
• SBIR/STTR Transfer		-0.393	-					
• Other Adjustments		-0.296	-	5.808	-	5.808		
Change Summary Explanation								
FY11 Congressional General Reduction of 0.296M in Other Adjustment row.								
FY12 Congressional General Reduction (FFRDC, Sec. 8023) of 0.233M.								
FY13 funding increase to start the JPALS lead platform effort								
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: JPALS Engineering Support Studies and Analysis				6.121	2.281	1.500	-	1.500
Description: Provides systems engineering, prototyping and testing of component level technologies necessary for risk reduction on JPALS								
FY 2011 Accomplishments:								

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APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603860F: Joint Precision Approach and Landing Systems - Dem/Val				
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Completed advanced threat mitigation work and modeling and simulation activities. Continued avionics risk reduction activities. <b>FY 2012 Plans:</b> Continues component technology development and avionics risk reduction activities. <b>FY 2013 Base Plans:</b> Will complete component technology development and avionics risk reduction activities. <b>FY 2013 OCO Plans:</b> N/A						
<b>Title:</b> JPALS Test and Evaluation <b>Description:</b> Includes planning and execution of the JPALS test and evaluation program <b>FY 2011 Accomplishments:</b> Continued preparation of the draft test and evaluation plan. <b>FY 2012 Plans:</b> Continues preparation of the final test and evaluation plan and supports the preparation for Source Selection and award of the EMD contract. <b>FY 2013 Base Plans:</b> Will support the EMD contract and develop Milestone B documentation to support Milestone B decision. <b>FY 2013 OCO Plans:</b> N/A		0.400	0.611	0.744	-	0.744
<b>Title:</b> JPALS Acquisition and Technical Services Support <b>Description:</b> Provides Acquisition and Technical services for systems engineering and program execution for JPALS <b>FY 2011 Accomplishments:</b> Provided system engineering and program support services for the JPALS Engineering and Support Services and Analysis projects. Provided system engineering and program support services to complete the JPALS RFP package and other required program documentation. <b>FY 2012 Plans:</b>		5.931	8.798	8.262	-	8.262

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C. Accomplishments/Planned Programs (\$ in Millions)						FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	
Provides systems engineering and program support services as advisors to the JPALS Source Selection team and to support execution of the EMD contract. Provides systems engineering support to complete component technology and risk reduction efforts.  <b>FY 2013 Base Plans:</b> Will provide systems engineering and program support services as advisors to the JPALS team and supports the EMD contract. Will also provide systems engineering support to complete component technology.  <b>FY 2013 OCO Plans:</b> N/A											
<b>Title:</b> JPALS Eng & Manf Development  <b>Description:</b> Includes the system design and development of JPALS ground systems leading to a Milestone B decision and award of the EMD contract in FY13.  <b>FY 2011 Accomplishments:</b> N/A  <b>FY 2012 Plans:</b> Supports efforts required for award of EMD contract tasked with developing Land Based JPALS.  <b>FY 2013 Base Plans:</b> Will support the award of EMD contract to allow contractor to design LB JPALS system.  <b>FY 2013 OCO Plans:</b> N/A						-	8.189	47.469	-	47.469	
Accomplishments/Planned Programs Subtotals						12.452	19.879	57.975	-	57.975	
D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cos
• OPAF, PE0305014F,; Joint Precision Approach and Landing System	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.248	Continuing	Continuing

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E. Acquisition Strategy Increment 2 Engineering, and Manufacturing Development (EMD) contract for development of Fixed-Based and Tactical JPALS systems will be competitively awarded.		
F. 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-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2013 Air Force			<b>DATE:</b> February 2012
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603860F: <i>Joint Precision Approach and Landing Systems - Dem/Val</i>	<b>PROJECT</b> 644652: <i>Precision Landing Systems</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Milestone Decision Document(MDD)/RFP Defense Acquisition Board (DAB)	2	2012	2	2012
Risk Reduction	1	2011	4	2012
RFP Release	3	2012	3	2012
Source Selection	3	2012	4	2013
Milestone B	3	2013	3	2013
Contract Award	4	2013	4	2013
Engineering, Manufacturing, Development (EMD)	4	2013	4	2017
Low Rate Initial Production (LRIP)	4	2017	4	2017
Milestone C	3	2017	3	2017
In-plant Testing	3	2015	3	2017