

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY 7 - Operational system development		PE NUMBER AND TITLE 0102419A - Aerostat Joint Project Office					PROJECT E55		
COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
E55 Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS	237795	478204	356434	335071	318513	181294			1907311

A. Mission Description and Budget Item Justification: (U) The mission of the Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) is to provide elevated, persistent, Over-The-Horizon (OTH) surveillance and fire control quality data on Army and Joint networks enabling protection of the United States, Allied and Coalition forces, as well as critical geo-political assets from Cruise Missiles and Aircraft, Unmanned Aerial Vehicles (UAVs), Tactical Ballistic Missiles (TBMs), Large Caliber Rockets (LCRs), and Surface Moving Targets (SMTs). JLENS is a critical part of the Army's future Integrated Air and Missile Defense (IAMD) architecture and is a Joint Service interest program. A JLENS orbit consists of two systems: a fire control radar system and a wide-area surveillance radar system. Each radar system employs a separate 74-meter tethered aerostat, mobile mooring station, radar and communications payload, processing station, and associated ground equipment. JLENS uses advanced sensor and networking technologies to provide 360-degree, wide-area surveillance and precision tracking of land-attack cruise missiles. This JLENS information is distributed via the Joint Data Network and Joint Composite Tracking Network, contributes to the single integrated air picture. JLENS has the capability of detecting and tracking surface moving targets, detecting Tactical Ballistic Missiles at boost phase and Large Caliber Rockets during the ascent phase. JLENS also performs as a multi-role platform to enable extended range command and control linkages, communications relay, and battlefield situational awareness.

<u>Accomplishments/Planned Program:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Continue System Development and Demonstration phase contract activity.	197162	386874	305704
Continue work on Lightweight X-Band Radar Micro Electro Mechanical (MEMS) Antenna Technology.	1000		
Start work on Navy Integrated Fire Control - Counter Air/JLENS Planning and Analysis		1512	1512
System Test and Evaluation	9939	10583	10348
Other contracts and Other Government Agencies (OGAs).	18809	28901	27925
Project Management	3650	3955	2070
Government Furnished Equipment(GFE)	7235	33064	8875
Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)		13315	
Total	237795	478204	356434

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<u>B. Program Change Summary</u>	FY 2007	FY 2008	FY 2009	
Previous President's Budget (FY 2008/2009)	242781	481251	353983	
Current BES/President's Budget (FY 2009)	237795	478204	356434	
Total Adjustments	-4986	-3047	2451	
Congressional Program Reductions		-3047		
Congressional Rescissions				
Congressional Increases				
Reprogrammings	-4986			
SBIR/STTR Transfer				
Adjustments to Budget Years			2451	

<u>C. Other Program Funding Summary</u>	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
PE 0604869A, Proj M06, Patriot/MEADS Combined Aggregate Program (CAP)	322915	369786	431270	585597	424948	433464	76911	Continuing	Continuing
SSN C50001, Patriot/MEADS CAP			31049	400215	668463	1032860	1305623	Continuing	Continuing
SSN BZ0525, JLENS PRODUCTION					442084	440585	391876	Continuing	Continuing
PE 0604802A, ProjS23, SLAMRAAM	28549	34526	31774					Continuing	Continuing
SSN C81001, SLAMRAAM Production			40468	117094	76073	61307	61307	Continuing	Continuing
PE 0604820A, Proj E10, SENTINEL	2446	7022						Continuing	Continuing
PE 0603327E88, Proj E88, Integrated Fire Control AMD	36342							Continuing	Continuing
327S34, Proj S34, AMD System of System Engineering and Integration	1870	137517	113853	81057	37608	5203		Continuing	Continuing

Comment: This PE is an integral part of the PEO, Missiles and Space Integrated Air and Missile Defense (IAMD) Program including Integrated Fire Control, JLENS, Patriot/MEADS Combined Aggregate Program (CAP), SLAMRAAM, SENTINEL, and on-going initiatives to achieve Single Integrated Air Picture (SIAP).

D. Acquisition Strategy On 28 Jun 05, the DAB approved the JLENS program for entry into System Development and Demonstration (SDD) as recommended by the Army

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Acquisition Executive. The DAB elected to maintain oversight of JLENS as an ACAT 1D program as stated in the Acquisition Decision Memorandum signed on 5 Aug 05.

A JLENS Orbit consists of a Fire Control Radar System and a Surveillance Radar System, each with its own aerostat platform, mobile mooring station, communications payloads, mobile processing station, and associated ground support equipment. Development Test and Evaluation (DT&E) will be conducted in FY11 culminating in an SDD First Unit Equipped by 4QFY11. Initial Operational Test and Evaluation (IOT&E) will be conducted in FY12 culminating with the fielding of the first JLENS Orbit.

The JLENS Operational Requirements Document (ORD) calls for initial fielding to Block 1 requirements (tethered aerostat platforms for Fire Control and Surveillance radars); followed by fielding of Block 2 (untethered platforms for Fire Control and Surveillance radars); and Block 3 (both radars on a single untethered platform). There is currently no funding beyond Block 1. The Army plans to move to Block 2 once technology has matured sufficiently to make development of Block 2 capability attainable.

Negotiations were conducted in November culminating in an agreed to price for the JLENS SDD effort on 1 Dec. 06. The contract change order modification was signed and definitized on 14 Dec 06. This contract modification established a SDD period of performance of 27 Oct 05 through 30 Sep 12.

ARMY RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Technology Development (TD) Phase Contracts and Government	Sole Source/Cost Plus Incentive Fee (SS/CPIF)	Raytheon Systems Co. (MA/CA/FL/TX)	301083								301083	301083
Lightweight X-band Radar Antenna	Not Applicable (N/A)	Multiple	6811	1000	2Q						7811	
Contractor System Development and Demonstration (SDD) Hardware/Software	SS/CPIF	Raytheon Systems Co. (MA/CA/FL/TX)	65861	176583	1Q	361399	1Q	287284	1Q	Cont.	Cont.	Cont.
SDD OGA System Engineering	N/A	Multiple	3170	3867	1Q	6052	1Q	6301	1Q	Cont.	Cont.	
SDD System Engineering Contracts	N/A	Multiple	9274	14181	1-2Q	21916	1-2Q	20654	1-2Q	Cont.	Cont.	
SDD GFE Various	N/A	Multiple		4105	1Q	23043	1Q	1375	1-2Q	Cont.	Cont.	
SDD GFE - Cooperative Engagement Transmission Processing Set (CETPS)	N/A	Multiple	800	3130	1Q	10021	1Q	7500	1Q	Cont.	Cont.	
SDD Navy Integrated Fire Control - Counter Air Demonstration		Multiple				1512	1Q	1512	1Q	Cont.	Cont.	
Subtotal:			386999	202866		423943		324626		Cont.	Cont.	Cont.

Remarks: Technology Development and System Development and Demonstration activities are separately identified.

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
TD Phase Misc Support	N/A	Multiple	2084								2084	
SDD Govt Intergrated Logistics Support	N/A	Multiple	679	761	1Q	933	1Q	970	1Q	Cont.	Cont.	
SDD Organizational Support Equipment	N/A	Multiple								Cont.	Cont.	

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February 2008

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Subtotal:				2763	761		933		970		Cont.	Cont.	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract	
TD Phase Maintain Test Bed	Sole Source/Cost Plus Fixed Fee (SS/CPFF)	CAS-TX, NM	3056								3056		
SDD Contractor System Test & Evaluation	SS/CPIF	Raytheon Systems Co. (MA/CA/FL/TX)	933	2854	1Q	3728	1Q	2754	1Q	Cont.	Cont.	Cont.	
SDD Government System Test & Evaluation	N/A	Multiple	178	9939	1Q	10583	1Q	10348	1Q	Cont.	Cont.		
Subtotal:			4167	12793		14311		13102		Cont.	Cont.	Cont.	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract	
SDD Contractor Program Management	SS/CPIF	Raytheon Systems Co. (MA/CA/FL/TX)	15305	17725	1Q	21747	1Q	15666	1Q	Cont.	Cont.	Cont.	
SDD Government Program Management	N/A	PEO Missiles and Space, HSV, AL	2651	3650	1-4Q	3955	1-4Q	2070	1-4Q	Cont.	Cont.		
SBIR/STTR					1-4Q	13315					13315		
Subtotal:			17956	21375		39017		17736		Cont.	Cont.	Cont.	
Project Total Cost:			411885	237795		478204		356434		Cont.	Cont.	Cont.	

Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY
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Event Name	FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones: (1) Orbit SFR, (2) Orbit PDR, (3) IBR, (4) Orbit CDR, (5) Orbit 1 Delivery to Test, (6) MS C, (7) Orbit 2 Delivery to Test, (8) FUE	SFR ▲ IBR				PDR ▲				CDR ▲				Orbit 1				MS C ▲ Orbit 2 FUE ▲											
Platform Development	Platform Development and Integration																											
Fire Control Radar Development	Fire Control Radar Development and Integration																											
Surveillance Radar Development	Surveillance Radar Development and Integration																											
Communication and Processing Group Development	Communications Processing Group Development and Integration																											
Subsystem/System Level Testing	Ss/Sys Lvl Test																											
Demonstration Testing	DT																											
Limited User Test	LUT																											
Force Development Test	FDT																											
Initial Operational Test	IOT																											

Schedule Detail (R4a Exhibit)

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<u>Schedule Detail</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	
Program Milestones:								
Orbit SRR (4Q FY06)								
Orbit SFR	2Q							
Orbit PDR		2Q						
IBR	2Q							
Orbit CDR			2Q					
Orbit 1 Delivery to Test					1Q			
MS C					2Q			
Orbit 2 Delivery to Test					2Q			
FUE					4Q			
Platform Development	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q			
Fire Control Radar Development	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 2Q			
Surveillance Radar Development	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q			
Communication and Processing Group Development	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q			
Subsystem/System Level Testing				3Q - 4Q	1Q - 2Q			
Demonstration Testing					1Q - 4Q	1Q - 2Q		
Limited User Test					2Q			
Force Development Test						1Q - 2Q		
Initial Operational Test						2Q - 3Q		

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)	February 2008
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Funding in \$000							
Program	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Termination Liability Funding:							

Remarks:
The JLENS Prime Contract Incorporates The "Limitation Of Funds" Clause (DFARS 52.232-22) To Limit The Government's Liability.

For The JLENS Program, The "Limitation Of Funds" Clause Limits The Government's Financial Liability Per The Contract To Those Funds Placed On Contract Plus Any Outstanding Commitments Plus Costs Associated With The Orderly Termination Of Contractual Actions.