

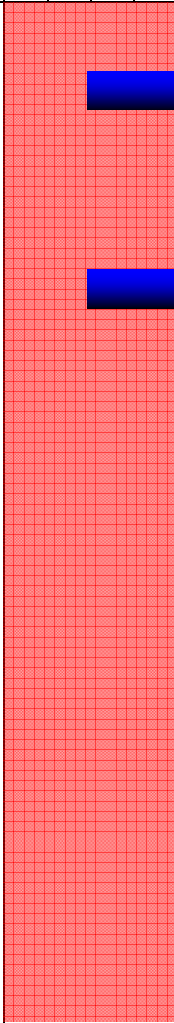




ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)							February 2006		
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604820A - RADAR DEVELOPMENT					PROJECT E10	
COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
E10 SENTINEL	5848	5008	2527	2622	0	0	0	0	16005
<p><u>A. Mission Description and Budget Item Justification:</u> The Short Range Air Defense (SHORAD) Project Office merged with the Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) Project Office on January 11, 2005 to become the Cruise Missile Defense System (CMDS) Project Office. On January 13, 2005, the Program Executive Office (PEO) for Air, Space and Missile Defense (PEO ASMD) which CMDS is assigned to merged with the PEO for Tactical Missiles (PEO TM) to become the PEO for Missiles and Space (PEO MS).</p> <p>The Sentinel Modernization Program is part of the Missiles and Space System of Systems (SoS). This enables the Cruise Missile Defense Systems (CMDS) weapons to engage these targets at maximum effective range. Sentinel supports Missiles and Space (MS) SoS through efforts which are initiated in FY05. These are Surface Launched Advance Medium Range Air-to-Air Missile (SLAMRAAM) Integration (SI), Mode V (MV), Joint ID (JID) and Composite Sensor Net (CSN).</p> <p>SLAMRAAM Integration modifies Sentinel to interface with the SLAMRAAM MS Common Software communications network and adds specific SLAMRAAM engagement support capabilities. Current budgeted funds for the Sentinel Program will accomplish initial Sentinel modification. The integration development effort is partially funded.</p> <p>Mode 5 is a replacement for Mode 4. Mode 5 provides improvements over Mode 4 in Crypto sensitivity, range performance, probability of identification, Friend from Friend identification, lethal interrogation capability and reduced interference with Civil Air Traffic Control Systems.</p> <p>Joint Identification leverages off of fielded Air Force and Navy Electronic Support Measures (ESM) Technology, to optimize the affordability and effectiveness to address Cruise and Unmanned Aerial Vehicles (UAV) threats. Cutting edge specific emitter identification technology and cruise missile emitter detection will be integrated with Sentinel to provide passive and semi-active target acquisition along with jointly accepted identification capability. Signal processing will be tailored to reduce ESM processing cost by 40 - 50% versus airborne ESM systems by multiplexing processing across emitter bands. This capability improves survivability, effectiveness against air breathing Weapons of Mass Destruction (WMD) delivery systems, and fully supports multi-service SoS sensor and joint identification capability.</p> <p>Composite Sensor Netting is a software and communications link that allows target data to be shared among sensors and the Command, Control, Communications, Computers and Intelligence (C4I) structure to support both hostile identification and sensor resource management. This software and communication link allows a Sentinel radar communication net to effectively exchange target acquisition, tracking and classification information with other Sentinel radars on the battlefield. It improves the ability to cue weapon systems to destroy fixed wing, rotary wing, unmanned aerial vehicles and cruise missiles. When integrated with SLAMARRAM system it improves the accuracy of the missile by providing 3 times the update rate of commands to the missile versus the current system.</p>									
<u>Accomplishments/Planned Program</u>					<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>		
Initiate ASMD SoS Integration Development (SLAMRAAM/Sentinel SW Integration, Joint ID, Composite Sensor Netting, Mode 5)					5848	5008	2527		
Total					5848	5008	2527		

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B. Program Change Summary		FY 2005	FY 2006	FY 2007						
Previous President's Budget (FY 2006)		5851	5080	2547						
Current BES/President's Budget (FY 2007)		5848	5008	2527						
Total Adjustments		-3	-72	-20						
Congressional Program Reductions			-22							
Congressional Rescissions			-50							
Congressional Increases										
Reprogrammings		-3								
SBIR/STTR Transfer										
Adjustments to Budget Years				-20						
C. Other Program Funding Summary		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 0603869A, MEADS		251298	0	0	0	0	0	0	0	251298
PE 0604869A, Patriot/MEADS CAP		0	284695	329583	459684	517049	592013	422005	0	2605029
PE 273801, PATRIOT PIP		32067	15957	10770	11051	11297	12227	12734	0	106103
PE 06504865,A PAC-3		60408	0	0	0	0	0	0	0	60408
SSN C49100, PATRIOT System		496990	483260	489067	472907	478795	0	0	0	2421019
SSN C50001, PATRIOT/MEADS CAP		0	0	0	89735	65296	429735	674386	0	1259152
PE 172419A, JLENS		79279	105888	264491	465214	353856	335490	301143	0	1905361
SSN BZ0525, JLENS PRODUCTION		0	0	0	0	0	30471	476728	0	507199
PE 0604802A, SLAMRAAM		63084	35587	26961	10132	0	0	0	0	135764
SSN C81001, SLAMRAAM		2438	19061	22039	59314	82656	82143	60979	0	328630
SSN WK 5057, Sentinel MODS		10566	8289	15125	20914	33394	33239	25314	0	146841
PE 643327, Integrated Fire Control AMD		19984	24480	41746	47995	50096	0	0	0	184301
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, JTAGS, SENTINEL, and on-going initiatives to achieve Single Integrated Air Picture (SIAP).										

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<p><u>D. Acquisition Strategy</u> In FY 2005, a Engineering Services Memorandum (ESM) was issued under the current Sentinel Engineering Services contract for the Sentinel integration into SLAMRAAM. Sentinel funded the FY05 integration effort. The additional funding for FY 06 and 07 is provided by the Integrated Air and Missile Defense (IAMD) Program under the current SLAMRAAM System Design and Development Contract. The System Design, Development and Production of Mode 5, Joint Identification and Composite Sensor Netting hardware and will be funded from several contract and government sources.</p> <p>Several Sole Source FFP procurement contracts are planned for award to TRS in FY 05 through FY 13 to procure and install Enhanced Target Range and Classification (ETRAC) System Kits (integration of an upgraded Transmitter Mod Kit and an ETRAC Mod Kit into a single Mod kit) into the remaining Sentinel fleet.</p>		

ARMY RDT&E COST ANALYSIS (R3)										February 2006		
BUDGET ACTIVITY				PE NUMBER AND TITLE						PROJECT		
5 - System Development and Demonstration				0604820A - RADAR DEVELOPMENT						E10		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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
ETRAC System Development	SS/CFPP	Raytheon, CA, Sentinel PM/AMCOM, AL	102729	0		0		0		0	102729	79192
Initiate MS SoS Integration Development (SI, JID, MV, CSN)	SS/CPFF	Raytheon, CA Sentinel PM/AMCOM, AL	0	5848	3-4Q	4621	1-4Q	1537	1-4Q	629	12635	11624
Subtotal:			102729	5848		4621		1537		629	115364	90816
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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
ETRAC Product Support Services	MIPR/1095	AMCOM, Redstone Arsenal, AL	16930	0		0		0		0	16930	0
Initiate MS SoS (SI, JID,M5, CSN)	1095	CMDS PM, AL;Redstone Arsenal, AL	0	0		176	1Q	0		0	176	0
Subtotal:			16930	0		176		0		0	17106	0
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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
ETRAC IOT&E, KPP Demonstration & other T&E Activities	MIPR/1095	OPTEC, VA; Redstone Technical Test Ctr, redstone Arsenal AL	34599	0		0		0		0	34599	0
Initiate MS SoS (SI, JID,M5, CSN)	SS/CPFF, MIPR/1095	Technical Test Center, CMDS PM,Thales Raytheon, CA;Redstone Arsenal, AL	0	0		29	1Q	990	1-2Q	1657	2676	2462
Subtotal:			34599	0		29		990		1657	37275	2462

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BUDGET ACTIVITY 5 - System Development and Demonstration				PE NUMBER AND TITLE 0604820A - RADAR DEVELOPMENT							PROJECT E10	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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
ETRAC Product Manager support	CPFF; MIPR/1095	Raytheon, MA; PM Sentinel/AMCOM, AL ; Vista Tech, AL; O2K Contractor, AL	11398	0		0		0		0	11398	10258
Initiate MS SoS Integration Development (SI, JID, MV, CSN)	MIPR/1095	Sentinel PM, AMCOM, AL; Various SETA Contractors, AL	0	0		182	1Q	0		336	518	0
Subtotal:			11398	0		182		0		336	11916	10258
Project Total Cost:			165656	5848		5008		2527		2622	181661	103536

Schedule Profile (R4 Exhibit)																		February 2006																			
BUDGET ACTIVITY										PE NUMBER AND TITLE																		PROJECT									
5 - System Development and Demonstration										0604820A - RADAR DEVELOPMENT																		E10									
Event Name										FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
										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
Sentinel SoS Integration:																																					
SLAMRAAM Integration																																					
Mode V Development/Production																																					
Joint ID Development/Production																																					
Composite Sensor Netting Development																																					

Schedule Detail (R4a Exhibit)					February 2006			
BUDGET ACTIVITY 5 - System Development and Demonstration		PE NUMBER AND TITLE 0604820A - RADAR DEVELOPMENT					PROJECT E10	
<u>Schedule Detail</u>		<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
SLAMRAAM Integration		3-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
Mode V Development/Production			2-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Joint ID Development/Production			2-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Composite Sensor Netting Development		3-4Q	1-4Q	1-4Q	1-4Q	1-4Q		