	ARMY RDT&E BUDGET ITEM JU	ISTIFIC	ATION	(R2 E	xhibit)	l	F	ebruary 2	2004	
	TACTIVITY vanced Component Development and types		PE NUMBER <b>0603305</b>			Defense	Systems	s Integra	tion	
	COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	3679		53509		67428		115267	Ŷ	505493
TR3	MOBILE TACTICAL HIGH ENERGY LASER (MTHEL)	3220	55492	38609	24030	52182	69822	100343	0	343698
TR4	MISSILE DEFENSE INTEGRATION	1856	38318	1845	1891	1959	2114	1477	0	66166
TR5	MISSILE DEFENSE BATTLELAB	1208	12290	13055	13171	13287	13393	13447	0	90728
TR6	ARMY AIR AND MISSILE DEFENSE	292	1978	0	0	0	0	0	0	4901

A. Mission Description and Budget Item Justification: This Program Element funds missile defense systems integration efforts for both the Army Space and Missile Defense Command (SMDC) and the Program Executive Office for Air, Space, and Missile Defense (PEO-ASMD).

SMDC: HQDA General Order No. 5, 1 March 1998, designated the US Army Space and Missile Defense Command (SMDC) as the Army specified proponent for space and Ground-Based Midcourse Ballistic Missile Defense and the operational integrator for Theater Missile Defense. This mission has evolved to include becoming the Army proponent for space and ground-based midcourse defense as well as the operational integrator for Global Missile Defense. SMDC has also become the Army Service Component Command (ASCC) for US Strategic Command (USSTRATCOM) and is the Army single point of contact for research, development and acquisition in support of Army Title 10 and USSTRATCOM missions. These missions include: Space, Global Missile Defense, Command, Control, Computers, Communications, Intelligence, Surveillance and Reconnaissance (C4ISR), Information Operations, and Global Strike.

PEO-AMD: The mission of the United States Army Program Executive Office for Air, Space, and Missile Defense (PEO ASMD) is to develop, acquire, and field Theater Air and Missile Defense (TAMD) systems. These systems provide the capabilities needed to defend friendly forces and assets against attack by enemy aircraft, cruise missiles, and theater ballistic missiles (TBMs). The Army is developing and procuring individual TAMD weapon systems that must be integrated to form a Family of Systems (FoS). It is the PEO's responsibility to ensure the Army TAMD FoS is developed as an integrated capability. The PEO must integrate Army and Joint requirements in order to satisfy both needs. The PEO must support interoperability systems engineering, simulation, analysis, and evaluation in order to integrate the Family of Systems. Funding will allow the PEO to sufficiently address both Army and Joint interoperability requirements, ensuring an effective Army TAMD FoS.

Project: TR3 (Mobile Tactical High Energy Laser): This project funds a chemical laser weapon system assessment and hardware development effort for the Army Transformation.

Project TR4 funded the Force Development Integration Center (FDIC) to execute SMDC's specified proponency role for developing solutions to Doctrine, Organizations, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) issues.

## **ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)**

February 2004

**BUDGET ACTIVITY** 

## 4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE

0603305A - Army Missile Defense Systems Integration

This project also funded the production of requirements for hardware and software solutions, the interfaces with technology development, and the development of operational and system architectures.

Project TR5 funds the Space and Missile Defense Battle Lab (SMDBL) to develop warfighting concepts, focus military science and technology research, and conduct warfighting experiments associated with SMDC's ASCC mission. Additionally, this project funds the delivery of innovations to the warfighter through prototyping, operational analysis, and experimentation in support of Current and Future Forces.

Project TR6 funds Integrated Composite Missile Structure.

These programs support the Current to Future transition path of the Tranformation Campaign Plan (TCP).

B. Program Change Summary	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2004)	37233	51547	51802
Current Budget (FY 2005 PB)	36790	108078	53509
Total Adjustments	-443	56531	1707
Congressional program reductions		-1028	
Congressional rescissions			
Congressional increases		57750	
Reprogrammings	-443	-191	
SBIR/STTR Transfer			
Adjustments to Budget Years			1707

FY04 increase due to a \$57.750 million Congressional add to support various Missile Defense research and development efforts.

	,	ARMY RDT&E BUDGET ITEM JUS	STIFIC	CATION	(R-2A	Exhib	it)	F	ebruary 2	2004	
4		ACTIVITY anced Component Development and pes		PE NUMBER 0603305A Integration	A - Army		Defense	Systems	6	PROJECT TR3	
	COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
	TR3 MOBILE TACTICAL HIGH ENERGY LASER (MTHEL)		322	0 55492	38609	24030	52182	69822	100343	0	343698

A. Mission Description and Budget Item Justification: This project funds weapon system prototype development/integration effort for Army Transformation applications. The Mobile Tactical High Energy Laser (MTHEL) development and integration effort is a follow-on to the combined US/Israel Tactical High Energy Laser Advanced Concept Technology Demonstration (THEL ACTD) program. The THEL ACTD was initiated in Jul 96 to evaluate the effectiveness of high energy lasers to negate the threat posed to population areas by short range Katyusha rockets, and was successfully completed in Oct 00. The THEL demonstrator is a complete fixed site weapon system which includes a HEL beam generator, based on deuterium fluoride chemical laser (DFCL) technologies; an acquisition, pointing, and tracking system; and a battle management system, including an organic fire control radar. The THEL device is currently being used as a MTHEL risk reduction testbed at the High Energy Laser Systems Test Facility (HELSTF). The demonstrated effectiveness of the fixed site THEL demonstrator of a system engineering trade study in FY01 to evaluate mobile THEL variants that meet both Israeli and US Army mission needs. The mission of the MTHEL is based on a Common Operational Requirement developed by the US Army Air Defense School and the Israeli Air Force. The work in this program element is consistent with the Army Directed Energy Master Plan and the Army Modernization Plan. Work in this program element is related to and fully coordinated with efforts in PE 0603308A (Army Missile Defense Systems Integration (DEM/VAL), PE 0605605 (DOD High Energy Laser Systems Test Facility) and PE 0602307A (Advanced Weapons Technology, Project 042 - High Energy Technology) in accordance with the ongoing Reliance joint planning process and contains no unwarranted duplication of effort among the military departments. Work is performed by the Program Executive Office, Air, Space, and Missile Defense, Short Range Air Defense (SHORAD) Project Office in Huntsville, AL. Thi

ARMY RDT&E BUDGET ITEM JUS	TIFICATION (R-2A Exhibit)	Februa	ry 2004	
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes	PE NUMBER AND TITLE  0603305A - Army Missile Defens Integration	e Systems	PROJ <b>TR3</b>	
Accomplishments/Planned Program  o Assess MTHEL Common Operational Requirements Document and Leth o Modify THEL component and subsystem designs for pressure recovery, of cycle operation, gain generation, vibration damping and beam control for M o Conduct lethality and propagation testing to validate codes related to sys o Integrate mature chemical HEL component technologies into weapon pro o Conduct risk reduction and design verification testing (FY03 - FY04) o Conduct static and dynamic lethality tests against extended threat set (FY03 - Select components and complete prototype preliminary design and evalue o Complete prototype final design and conduct long lead item acquisition a o Small Business Innovative Research/Small Business Technology Transfer	exhaust management, thermal management closed ITHEL application tem engineering and performance specifications ototype design (FY03 - FY05)  Y03 - FY04) tation (FY04) nd begin fabrication (FY05)	FY 2003 3220	FY 2004 55492	FY 2005 38609
Totals		3220	55492	38609

## B. Other Program Funding Summary: Not applicable for this item.

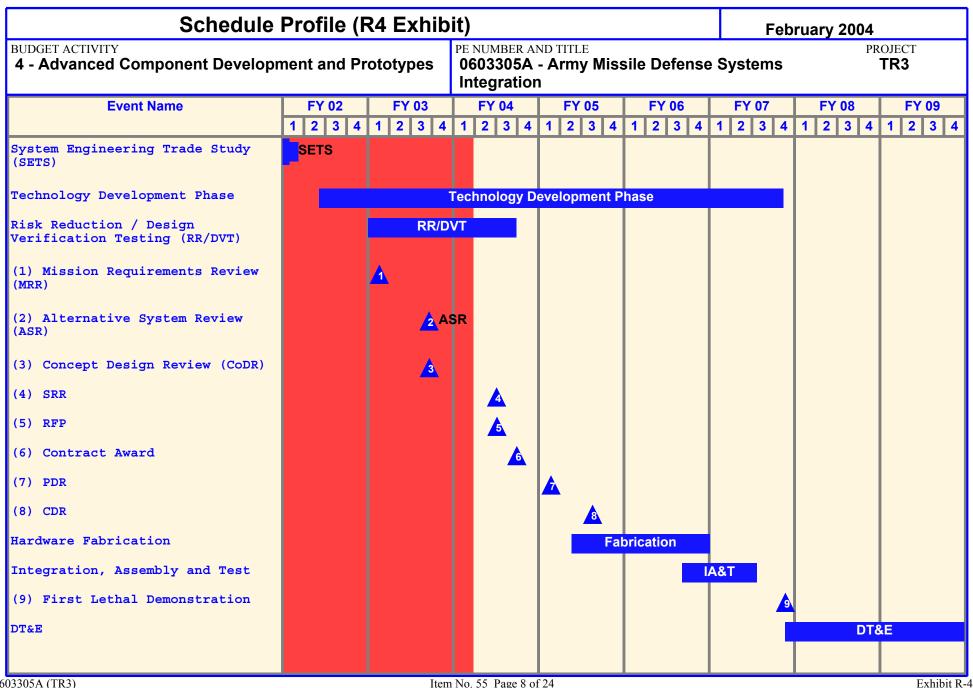
Israel provided \$19.4M under a Foreign Military Sales Case in FY 03 to support this effort. Under the terms of an amendment to the THEL ACTD Memorandum of Agreement, Israel is expected to match the Army's MTHEL funding on a 50/50 basis. If matching funding from Israel changes from this assumption, actions will be taken to reduce the current scope of work. In FY03, Congress added \$15M for the MTHEL effort in PE 0603308A adding to the \$3.220M provided by the Army, which initiated risk reduction/design verification testing and static dynamic lethality tests against an extended threat set using the existing MTHEL Testbed at HELSTF. In FY04, the MTHEL effort will complete risk reduction/design verification tests and continue static/dynamic lethality tests against an extended threat set using the existing MTHEL Testbed at HELSTF. In FY04, Congress added \$17.0 million for the MTHEL effort.

C. Acquisition Strategy: The MTHEL acquisition strategy is to develop and integrate an operational weapon prototype using demonstrated chemical laser, advanced beam control and supporting technologies into both the Israeli and US Army existing architectures. Based on the detailed System Engineering Trade Studies, and static and dynamic lethality testing, the MTHEL product office in consultation with Israel Ministry of Defense Product Office has selected those demonstrated technologies that will be integrated into a mobile tactical high energy laser system to accomplish a common set of missions. The fabrication, integration, and functional testing of the MTHEL is expected to take approximately 3 years, followed

ARMY RDT&E BUDGET ITEM JUSTIFI	CATION (R-2A Exhibit)	February 2004
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes	PE NUMBER AND TITLE  0603305A - Army Missile Defense S Integration	PROJECT TR3
by two years of demonstration/validation testing to enable the Army and Israel to and the doctrine, training, leader development, organizations, materiel, personnel systems.	o identify key concepts of operation (CONOPS); tag	

BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes  I. Product Development Contract Method & Type 1 - AU  A - Advanced Component Contract Method & Type 1 - AU  A - Au	A - Advanced Component Development and Prototypes  PENUMBER AND TITLE  0603305A - Army Missile Defense Systems Integration  PROJECT TR3  PROJECT TR3  PROJECT TR3  PROJECT TR3  PROJECT TR3  Product Development Contract Method & Location Type  A - MTHEL Development/Design Verification Tests  PERFORMING Activity & Total Pys Cost Cost Cost Cost Cost Cost Cost Cost		ARM	Y RDT&E CO	ST AN	<b>ALYS</b>	IS(R3)				Feb	ruary 20	04	
Method & Type	Method & Type		iponent De	evelopment and P	rototype	es 06	03305A -		ssile De	fense Sy		•	PROJEC	
Development/Design	Development/Design Verification Tests    Development/Design   Contract   Performing Activity &   Total   Pys Cost   Cost   Award   Cost   Award   Date   Cost   Date   Cost   Date   Cost   Cos	. Product Development	Method &				Award		Award		Award			Targe Value o Contrac
Subtotal:    Contract   Performing Activity &   Total   FY 2003   FY 2004   FY 2004   FY 2005   FY 2005   Cost To   Total   Tark   Cost   Type   Cost   Cost   Date   Date   Date   Cost   Date   Date	Subtotal:    Contract   Performing Activity &   Total   FY 2003   FY 2004   FY 2004   FY 2005   Cost   Award   Cost   Award   Date   Date   Contract   Date   Cost   Cost	Development/Design	CPFF	NGST	7200	2783	1Q	32784	1-3Q	30000	2Q	Continue	72767	(
II. Support Cost Contract Method & Location Pris Cost Pris Cost Date Date Cost Date Cost Date Cost Date Cost Date Cost Date Cost Date Date Cost Date Cost Date Cost Date Cost Date Cost Date Cost Date Date Cost Date Cost Date Cost Date Cost Date Cost Date Date Cost Date Cost Date Cost Date Date Date Date Date Date Date Dat	I. Support Cost Contract Method & Location Pys Cost Pys Cost Cost Date Date Cost Date				7200	2783		32784		30000		Continue	72767	(
		Сирроп Соос	Method &				Award		Award		Award			Value o Contrac
				Location	PYs Cost	Cost		Cost		Cost		Complete	Cost	
Subtotal:		Subtotal:			0	0		0		0		0	0	(

BUDGET ACTIVITY  4 - Advanced Com	oonent De	velopment and P	rototype	es 060	umber an 03305A - egration	D TITLE <b>Army M</b> i	ssile De	fense Sy	/stems		PROJEC <b>TR3</b>	
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Complete	Total Cost	Targe Value o Contrac
a . Development Test	CPFF	NGST	0	0		8000	1-3Q	0		Continue	8000	(
b . Government Furnished Fuel / Range Costs			0	0		5400		0		Continue	5400	(
0.1			0	0		13400		0		Continue	13400	(
Subtotal:  IV. Management Services	Contract	Performina Activity &	Total	FY 2003	FY 2003	FY 2004	FY 2004	FY 2005	FY 2005	Cost To	Total	Targe
Subtotal:  IV. Management Services	Contract	Performing Activity &	Total DVs Cost	FY 2003	FY 2003	FY 2004	FY 2004	FY 2005	FY 2005		Total	Targe
	Method & Type PEOASMD/	Performing Activity & Location  Various	Total PYs Cost	FY 2003 Cost 245	FY 2003 Award Date	FY 2004 Cost 5325	FY 2004 Award Date	FY 2005 Cost 4746		Complete	Total Cost 10316	Value o Contrac
IV. Management Services	Method & Type	Location	PYs Cost	Cost	Award	Cost	Award	Cost	Award Date	Complete	Cost	Value o Contrac
IV. Management Services	Method & Type PEOASMD/	Location	PYs Cost	Cost	Award	Cost	Award	Cost	Award Date	Complete Continue	Cost	Targe Value o Contrac
IV. Management Services a . Program Management	Method & Type PEOASMD/ Hsv, AL	Location Various	PYs Cost	Cost 245	Award Date	Cost 5325	Award Date	Cost 4746	Award Date 1Q	Complete	Cost 10316	Value o Contrac
IV. Management Services  a . Program Management  b . SETA (Multiple)	Method & Type PEOASMD/ Hsv, AL	Location Various	PYs Cost  0	245 192	Award Date	5325 3983	Award Date	Cost 4746 3863	Award Date 1Q	Continue  Continue	Cost 10316 8038	Value of Contract



Schedule Detail (R4a Exhi	bit)					Februa	ary 2004	
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes			<sup>TLE</sup> ny Missi	le Defen	ise Syst	ems		OJEC <b>TR3</b>
Schedule Detail_	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Technology Development Phase	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q			
Risk Reduction/Design Verification Testing (RR/DVT)	1-4Q	1-3Q						
Mission Requirements Review (MRR)	1Q							
Alternative System Review (ASR)	3Q							
Concept Design Review (CoDR)	3Q							
System Requirement Review (SRR)		2Q						
Request For Proposal (RFP)		2Q						
Contract Award		3Q						
Preliminary Design Review (PDR)			1Q					
Critical Design Review (CDR)			3Q					
Hardware Fabrication			2-4Q	1-4Q				
Integration, Assembly and Test (IA&T)				3-4Q	1-3Q			
First Lethal Demonstration					4Q			
Developmental Test and Evaluation (DT&E)					4Q	1-4Q	1-4Q	

ARMY RDT&E BUDGET ITEM JUS	STIFIC	ATION	(R-2A	Exhib	it)	Fe	ebruary 2	2004	
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes		PE NUMBER 0603305 <i>A</i> Integratio	A - Army		Defense	Systems	<b>S</b>	PROJECT <b>TR4</b>	
COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
TR4 MISSILE DEFENSE INTEGRATION	1856	2 38318	1845	1891	1959	2114	1477	0	66166

A. Mission Description and Budget Item Justification: HQDA General Order No. 5, 1 March 1998, designated the US Army Space and Missile Defense Command (SMDC), the Army specified proponent for Ground-Based Midcourse Ballistic Missile Defense, and the Army operational integrator for Theater Missile Defense (TMD). As such, SMDC is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Training, Materiel, Leader Development, Personnel and Facilities (DOTMLPF) solutions to realize those capabilities. Prior to FY 2003, and in FY 2004, these requirements are reflected in Program Element 0603308A, Project 990.

SMDC'S Battle Lab will continue the development of an Advanced Tactical Operations Center (ATOC) that incorporates technology required to provide essential space based Command and Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) capabilities to maneuver forces and lower echelon commands. New and emerging C4ISR technology will significantly improve operational capability, incorporate wireless, and hybrid electric technology, reduce hardware cost, and identify and quantify potential threats to permit the War fighter to improve his decision-making processes. This technology will present an integrated picture to the Warfighter based upon real time intelligence data integrated into a common database for display and dissemination and will enable the Warfighter to make informed decisions in response to threats. This command post will be tested with Brigade level forces n various maneuver scenarios. This system supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

Accomplishments/Planned Program Continue efforts to integrate concepts and DOTMLPF solutions for Army missile defense capabilities, across the four domains of missile defense (passive defense, active defense, attack operations and battle management). Represent Army positions and defend Army equities in Joint/DoD and inter-Service activities.	FY 2003 5093		FY 2005 1845
Includes FY04 Congressional Adds for Kodiak Range Upgrades), Aero-Acoustics Test Facility, Dielectric Enhanced Sensor System, Extended Range Interceptor Program, Advanced Battery Technology, Next Generation Passive Surveillance Systems, Radar Power Technology, Next Generation Hardware-in-the-loop, Vertical Integration for Missile Defense Surveillance Data, Joint Wavelet Transform-Based Hyperspectral Data Process, Ballute Technology Dev, Nanoscience Initiative, Analysis Environment, Component Interated Modeling and Simulation Test, Global Infrasound Monitoring of Atmosphere.	13469	32887	0

ARMY RDT&E BUDGET ITEM JUST	ΓΙ <mark>ΓΙ</mark> ΕΑΤΙΟΝ (R-2A Exhibit)		Februa	ry 2004	
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes	PE NUMBER AND TITLE 0603305A - Army Missile De Integration	fense Syst	ems	PROJ <b>TR4</b>	ECT
Accomplishments/Planned Program (continued) Includes FY04 Congressional Add for Advanced Tactical Operations Center display, wireless communication networks, and power distribution and handli hybrid vehicle base Test Bed. Quality assurance of Test Bed. Component a experimentation with Air and Missile Defense Battle Lab. Data reduction, and	ing systems into the hybrid vehicle. Fabrication and subsystem testing. Field testing and	of	FY 2003 0	FY 2004 4432	FY 2005 0
Small Business Innovative Research/Small Business Technology Transfer (S	SBIR/STTR)		0	999	0
Totals			18562	38318	1845

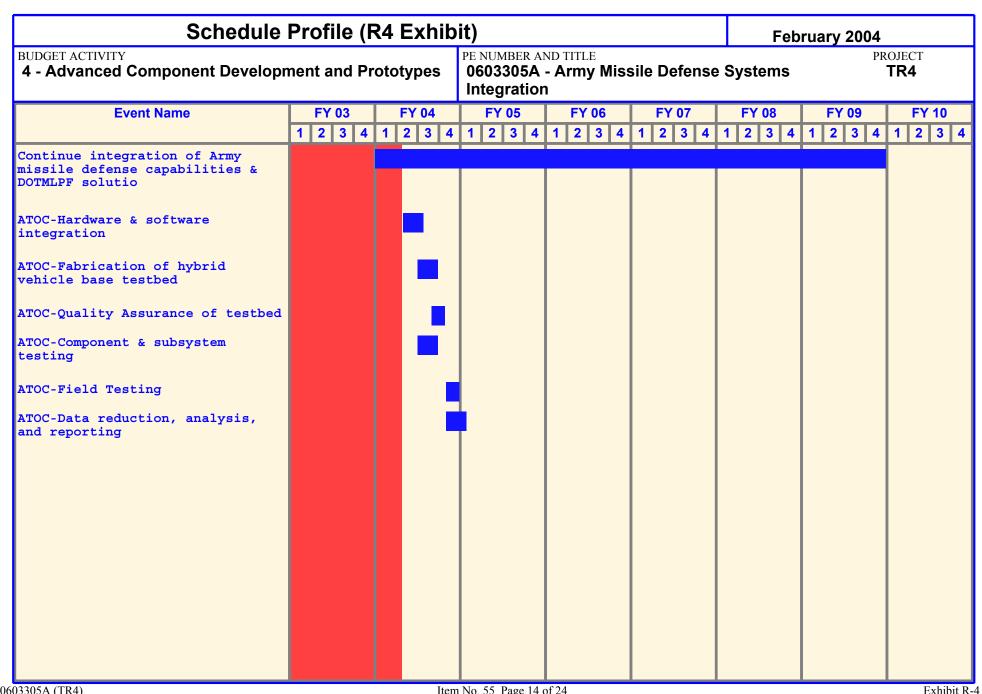
**B. Other Program Funding Summary:** Not applicable for this item.

C. Acquisition Strategy: Program is continuous. Various performers will conduct planned accomplishments.

ATOC - Utilize existing cost plus fixed fee contract competitively awarded via a Broad Area Announcement to Small Business Contractor (Brown International).

	ARM	Y RDT&E CO	ST AN	<b>ALYS</b>	IS(R3)				Feb	ruary 20	04	
BUDGET ACTIVITY 4 - Advanced Comp	oonent De	evelopment and P	rototype	es 060	umber an 03305A - egration	D TITLE <b>Army Mi</b>	ssile De	fense Sy	/stems	_	PROJEC <b>TR</b> 4	
. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date		Total Cost	Targe Value o Contrac
a . Various		Various	0	13469	2-4Q	33886	2-4Q	0		0	47355	
b . Integration and testing of Wireless ATOC on a Hybrid Electric Vehicle	CPFF	Brown International, AL	0	0		4432	3-4Q	0		0	4432	
Subtotal:			0	13469		38318		0		0	51787	
I. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date		Total Cost	Targ Value Contra
a . Govt support & support contracts	Various	Various	0	5093	1-4Q	0		1845	1-4Q	0	6938	
			0	5093		0		1845		0	6938	

BUDGET ACTIVITY 4 - Advanced Compon		I KDIGE 00	ST AN	<b>ALYS</b>	IS(R3)				February 2004				
	nent De	velopment and P	rototype	es 060	umber an 03305A - egration	D TITLE <b>Army Mi</b>	ssile De	fense Sy	/stems		PROJEC <b>TR4</b>		
	entract ethod & pe	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Complete	Total Cost	Targe Value d Contra	
Subtotal:			0	0		0		0		0	0		
	intract ethod & pe	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Complete	Total Cost	Targ Value Contra	
Subtotal:			0	0		0		0		0	0		
Custotai.			•										
Project Total Cost:			0	18562		38318		1845		0	58725		



0603305A (TR4) MISSILE DEFENSE INTEGRATION Item No. 55 Page 14 of 24

Schedule Detail (R4a Exhi	bit)					February 2004			
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes	PE NUMBER AND TITLE  0603305A - Army Missile Defense Systems Integration							PROJECT <b>TR4</b>	
Schedule Detail	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
Continue integration of Army missile defense capabilities and DOTMLPF solutions for Future Force	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
eapOC - Hardware & software Integration		2-3Q							
ATOC - Fabrication of hybrid vehicle base testbed		3Q							
ATOC - Quality assurance of testbed		3Q							
ATOC - Component and subsystem testing		3Q							
ATOC - Field testing		4Q							
ATOC - Data reduction, analysis, and reporting		4Q	1Q						

ARMY RDT&E BUDGET ITEM JUS	STIFIC	CATION (R-2A Exhibit)					February 2004			
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes		PE NUMBER AND TITLE  0603305A - Army Missile Defense Systems Integration					<b>S</b>	PROJECT <b>TR5</b>		
COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost	
TR5 MISSILE DEFENSE BATTLELAB	1208	5 12290	13055	13171	13287	13393	13447	0	90728	

A. Mission Description and Budget Item Justification: This project funds the delivery of innovations to the warfighter in the Space and Missile Defense Command mission areas of Missile Defense, Space, Information Operations (IO), Global Strike (GS), Command, Control, Communications, Intelligence, Surveillance and Reconnaissance (C4ISR). The innovations are provided through prototyping, operational analysis and experimentation to support the Current and Future Forces. These efforts were funded in PE 0603308A prior to FY03. The project supports the Army Service Component Command responsibilities for integration of Army capabilities into U.S. Strategic Command. This system supports Current to Future transition path of the Transformation Campaign Plan (TCP).

Accomplishments/Planned Program  Experiments/Advanced Prototype components into Command and Control (C2) Systems - Experiments assessed/exploited Doctrine, Organizations, Training, Material, Leadership and Education, Personnel and Facilities (DOTMFLPF) issues. Participated in major Army and Joint Experiments integrating space, missile defense, IO, GS and C4ISR organizational/operational concepts into the Army's TCP. Assessed space, missile defense, IO, GS and C4ISR impacts on doctrine and materiel. Fourteen experiments were completed in FY03 or scheduled for FY04. These include Pinnacle Impact, Total Defender; Unified Quest; Unified Course, Unit of Action-Concept Experimentation Program; Northern Edge; Army Transformation Experiment; Joint Experimentation Exercise and Joint Project Optic Windmill. The Future Operation Capability (FOC) test bed integrates commercial state-of-the-art technologies into C4ISR experiments. Prototype versions of the FOC supported operations Iraq Freedom and Homeland Defense.	FY 2003	FY 2004	FY 2005
	7594	7319	8041
Operational Analysis/Tools, Modeling and Simulation (M&S)- Studies and Analysis included operational assessments of concepts, doctrine, organizations, technologies and tactics. Also examined Future Combat system/Transformation issues for space and missile defense including Space Control, Army Equities in Space - Intelligence Surveillance and Reconnaissance (AEIS-ISR, Joint Ground Tracking, ISR Integration and targeting. Tools and M&S accomplishments included federation of M&S for experimentation and operational assessments, space and missile defense systems doctrine and capabilities placed into functional description of the battlespace and the maintenance of M&S tools.	4491	4745	5014

ARMY RDT&E BUDGET ITEM JUS	STIFICATION (R-2A Exhibit)	February 2004
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes	PE NUMBER AND TITLE  0603305A - Army Missile Defense Integration	PROJECT
Accomplishments/Planned Program (continued) Small Business Innovative Research/Small Business Technology Transfer	r (SBIR/STTR)	FY 2003 FY 2004 FY 2005 0 226 0
Totals		12085 12290 13055
B. Other Program Funding Summary: Not applicable for this iter	m.	
C. Acquisition Strategy: Not applicable for this item.		

	ARM'	Y RDT&E CO	ST AN	<b>ALYS</b>	IS(R3)				Feb	ruary 20	2004		
BUDGET ACTIVITY  4 - Advanced Com	ponent De	velopment and P	rototype	es 06	iumber an 03305A - egration		ssile De	fense Sy	/stems	stems TR5			
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Targe Value o Contrac	
Subtotal:			0	0		0		0		0	0		
II. Support Cost	Contract	Performing Activity &	Total	FY 2003		FY 2004	FY 2004	FY 2005	FY 2005		Total		
II. Support Cost	Method & Type	Location	PYs Cost	Cost		Cost	FY 2004 Award Date	Cost	FY 2005 Award Date	Complete	Cost	Targe Value o Contrac	
a . Experiments, Exercises, Enhancements, Maintenance analysis	Method &				Award		Award		Award			Value	
a . Experiments, Exercises, Enhancements,	Method & Type CPAFF/CP	Location	PYs Cost	Cost	Award	Cost	Award	Cost	Award	Complete	Cost	Value	

05 Cost To Total Targe rd Complete Cost Value o	5 FY 2005		ssile De	ARMY RDT&E COST ANALYSIS(R3)  GET ACTIVITY  PE NUMBER AND TITLE										
rd Complete Cost Value o				Army Mi		es 060	'rototype	evelopment and P	ponent Do	BUDGET ACTIVITY 4 - Advanced Com				
	Date	FY 2005 Cost	FY 2004 Award Date	FY 2004 Cost	FY 2003 Award Date	FY 2003 Cost	Total PYs Cost	Performing Activity & Location	Contract Method & Type	II. Test and Evaluation				
0 0 0	)	0		0		0	0			Subtotal:				
rd Complete Cost Value o		FY 2005 Cost	FY 2004 Award Date	FY 2004 Cost	FY 2003 Award Date	FY 2003 Cost	Total PYs Cost	Performing Activity & Location	Contract Method & Type	V. Management Services				
0 0	0	0		0		0	0			Subtotal:				
Continue 37430 (	5	13055		12290		12085	0			Project Total Cost:				
	0	13055	Date	12290	Date	12085	0		Туре	Subtotal: Project Total Cost:				

Schedule	Profile (F	R4 Exhib	it)			Feb	ruary 2004	
BUDGET ACTIVITY 4 - Advanced Component Developr	nent and Pr	ototypes	PE NUMBER AI 0603305A Integratior	- Army Miss	sile Defense		PR	oject <b>TR5</b>
Event Name	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
	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	1 2 3 4
Conduct experiments, operational analysis, & maintain M&S tools for space,								

Schedule Detail (R4a Exhib	oit)				February 2004			
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes	PE NUMBE 060330 Integra	5A - Arn		ise Syst	Systems			
Schedule Detail	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Conduct experiments, conduct operational analysis and maintain M&S tools for space & missile defense	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	

ARMY RDT&E BUDGET ITEM JUS	STIFIC	CATION (R-2A Exhibit)					February 2004			
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes		PE NUMBER 0603305 <i>I</i> Integration	A - Army		Defense	Systems	6	PROJECT TR6		
COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost	
TR6 ARMY AIR AND MISSILE DEFENSE	292	3 1978	0	0	0	0	0	0	4901	

A. Mission Description and Budget Item Justification: FY03: The Joint Distributed Engineering Plant (JDEP) is a Navy concept expanding their land-based Distributed Plant which assesses integration and interoperability problems (air and missile defense) of the fleet. This program will be used to evaluate interoperability of joint forces, test and evaluate interoperability of new acquisition systems, and engineering hardware and software to correct deficiencies and develop new capabilities. The initial focus of this program is directed toward integrated air defense. The program consists of individual combat systems distributed throughout the US connected with ATM/T1 telecommunication network(s) and distributed interactive simulation (DIS) protocols. The JDEP management structure consists of service execution cells. This funding provides for the Army involvement in the overall JDEP program. This effort supports the legacy to objective transition path of the Transformation Campaign Plan (TCP).

FY04: This project funds effort to produce a high performance and cost efficient kill vehicle mid-body frame utilizing state of the art co-processed composites technology that will achieve flight qualification to support THAAD near-term technology insertion objectives.

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
Funding for FY02 contained in PE 0603308A, Proj 99A	0	0	0
JDEP test Event Participation	1596	0	0
Communications Equipment	730	0	0
Operational Center Support: Provides support during JDEP testing and pre-event simulations	597	0	0
Includes FY04 Congressional Add for Integrated Composite Missile Structure	0	1978	0
Totals	2923	1978	0

**B. Other Program Funding Summary:** Not applicable for this item.

**C. Acquisition Strategy:** Not applicable for this item.

	AKW	Y RDT&E CO	9 I AN	AL Y 5	19(K3)				Feb	ruary 20	04		
BUDGET ACTIVITY 4 - Advanced Con	iponent De	velopment and P	rototype	es 060	PE NUMBER AND TITLE  0603305A - Army Missile Defense Systems Integration						PROJECT <b>TR6</b>		
. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Targe Value o Contrac	
a . Various	Various	Various	0	0		1978	2-3Q	0		0	1978		
Subtotal:			0	0		1978		0		0	1978		
Remarks: Fy02 costs are	reflected in PE	0603308A, Proj 99A											
I. Support Cost	Contract	Performing Activity &	Total	FY 2003	FY 2003	FY 2004	FY 2004	FY 2005			Total		
	Method & Type	Location	PYs Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Complete	Cost	Value	
a . Govt support, contractor support and communications support		Various	0	1836				Cost 0		0	1836	Targe Value d Contra	

	ARMY RDT&E COST ANALYSIS(R3)									February 2004			
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes					PE NUMBER AND TITLE 0603305A - Army Missile Defense S Integration				PROJECT Systems TR6				
N	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Complete	Total Cost	Targe Value o Contrac	
a . Government support and equipment costs	1095, MIPR	Various Government Agencies	0	1087	1-4Q	0		0		0	1087	(	
Subtotal:			0	1087		0		0		0	1087	(	
N	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Complete	Total Cost	Targe Value o Contrac	
Subtotal:			0	0		0		0		0	0	(	
Project Total Cost:			0	2923		1978		0		0	4901	(	