

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2005

BUDGET ACTIVITY

5 - System Development and Demonstration

PE NUMBER AND TITLE

060460□A - Smoke, Obscurant and Target Defeating Sys-Eng Dev

COST (In Thousands)	FY 2004 Actual	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
Total Program Element (PE) Cost	11645	3639	0	5216	6603	5559	474	472	0	41032
198 TARGET DEFEATING SYSTEM	330	0	0	5216	6603	5559	474	472	0	18980
200 SMOKE/OBSCURANT SYSTEM	11315	3639	0	0	0	0	0	0	0	22052

A. Mission Description and Budget Item Justification: This program element supports the conduct of System Development and Demonstration (SDD) of logistically supportable, high performance smoke and obscurant agents, munitions, and devices to improve the survivability of the combined armed force and complement combined weapons systems. The program element supports critical management studies and analyses that are conducted on a continuing basis to ensure that engineering and manufacturing development efforts are targeted against the emerging threat. Program element supports the conduct of SDD in smoke and obscurant agents, munitions, and devices to improve the survivability of the combined armed forces, complement combined weapon systems, and enhance force effectiveness and combat power.

U.S. Forces must be able to effectively neutralize and degrade energy weapon systems and electro-optical systems/smart weapons that operate in the full range of the electro-magnetic spectrum. Improvements are sought across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelengths (MMW) radar for incorporation into self-protection large area and projected smoke systems. The smoke obscuration technologies supported by this program element enhance smoke systems as force multipliers.

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<u>B. Program Change Summary</u>	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2005)	3798	0	5156
Current Budget (FY 2006/2007 PB)	3639	0	5216
Total Adjustments	-159	0	60
Net of Program/Database Changes			
Congressional Program Reductions	-55		
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-104		
Adjustments to Budget Years			60

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COST (In Thousands)	FY 2004 Actual	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
198 TARGET DEFEATING SYSTEM	330	0	0	5216	6603	5559	474	472	0	18980

A. Mission Description and Budget Item Justification: This project supports the conduct of System Development and Demonstration (SDD) of smoke and obscurant agents to provide current and next generation obscurant systems operating at extended distances (15-30 km) to disrupt, disable and defeat the threat reconnaissance, surveillance, targeting and acquisition capabilities. Funding supports the development of systems to appropriately deliver distant obscurant to the battlefield. This will provide options to commanders that are effective and efficient throughout the battlespace.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
FY04: Conducted Management Studies to support preparation of requirement documents.	330	0	0	0
FY07: Prepare, conduct and complete Milestone B.	0	0	0	2127
FY07: Award SDD contract.	0	0	0	3089
FY07:	0	0	0	0
Totals	330	0	0	5216

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B. Other Program Funding Summary	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, A, Budget Activity 2, PE 0602622A, Project 552	3424	0	0	3661	3716	3798	0	0	0	14599
Other Procurement Army, OPA 3, MX1000, Family of Tactical Obscuration Devices	0	0	0	10609	29385	42652	33667	28212	Continuing	Continuing

C. Acquisition Strategy: Engineering development will begin in FY07 with a full and open competition contract for engineering design, construction and testing of prototype systems.

ARMY RDT&E COST ANALYSIS(R3)									February 2005				
BUDGET ACTIVITY 5 - System Development and Demonstration					PE NUMBER AND TITLE 060460A - Smoke, Obscurant and Target Defeating Sys-Eng Dev					PROJECT 1			
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	
a . Hardware Development	TBD	TBD	0	0		0		3089	3Q	0	3089	0	
Subtotal:			0	0		0		3089		0	3089	0	
II. Support Cost	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	
a . Engineering support of hardware development.	Inhouse	RDECOM, ECBC, Edgewood, MD	0	0		0		1127	1Q	0	1127	0	
Subtotal:			0	0		0		1127		0	1127	0	

ARMY RDT&E COST ANALYSIS(R3)									February 2005				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT			
5 - System Development and Demonstration					060460A - Smoke, Obscurant and Target Defeating Sys-Eng Dev					1			
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	
			0	0		0		0		0	0	0	
Subtotal:													
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	
a . Conducted Management Studies.	Inhouse	JPMNBCCA, APG,Edgewood, MD	328	0		0		0		0	328	0	
b . Prepare and conduct Milestone B.	Inhouse	JPMNBCCA, APG, Edgewood, MD	0	0		0		1000	1Q	0	1000	0	
Subtotal:			328	0		0		1000		0	1328	0	
Project Total Cost:			328	0		0		5216		0	5544	0	

Schedule Profile (R4 Exhibit)

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PROJECT

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Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12			
	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				
Design and Fabricate Systems for EDT																																
Conduct EDT																																
Redisgn and Fabricate Systems for PQT																																
Conduct LOG Demo																																
Conduct PQT																																
(1) Milestone C																																

Schedule Detail (R4a Exhibit)

February 2005

BUDGET ACTIVITY

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PROJECT

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<u>Schedule Detail</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Design & Fabricate Systems for EDT				1-4Q				
Conduct EDT					1-2Q			
Redesign & Fabricate Systems for PQT					2-4Q			
Conduct LOG Demo					4Q			
Conduct PQT					4Q	1-3Q		
Milestone C						4Q		

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BUDGET ACTIVITY

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Defeating Sys-Eng Dev**

PROJECT

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COST (In Thousands)	FY 2004 Actual	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
200 SMOKE/OBSCURANT SYSTEM	11315	3639	0	0	0	0	0	0	0	22052

A. Mission Description and Budget Item Justification: This project supports the conduct of System Development and Demonstration (SDD) in smoke and obscurant agents, munitions, and devices to improve survivability of the combined armed forces, complement combined weapon systems, and enhance force effectiveness and combat power. Funding supports the development of millimeter wavelength (MMW) radar obscurant for installation on the M56 and any other required vehicle platforms. The MMW obscurant can obscure a target from emerging threat systems which use x-band, Ku-band, Ka-band, and W-band radar sensors.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
FY04: MMW - Conducted engineering design tests.	413	0	0	0
FY04: MMW - Completed engineering design program and logistics program evaluation.	2012	0	0	0
FY04: MMW - Fabricated and installed MMW systems on six M56s for production qualification test. (Estimated value \$150K each MMW prototype).	4490	0	0	0
FY04: MMW - Procured necessary MMW material for contractor and Government tests.	1200	0	0	0
FY04-FY05: MMW - Conduct production qualification test.	2000	1341	0	0
FY04-FY05: MMW - Conduct toxicological and environmental studies.	1200	700	0	0
FY05: MMW - Complete test and evaluation, system engineering and conduct Milestone C.	0	1598	0	0
Totals	11315	3639	0	0

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PROJECT

200

B. Other Program Funding Summary

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, A Budget Activity 2, PE 0602622A, Project 552 Smoke/Novel Munitions	3424	3476	0	0	0	0	0	0	Continuing	Continuing
Modification MMW MA4501	0	0	7797	10072	4946	0	4626	1544	0	28985

C. Acquisition Strategy: Contract initiated in FY 2000 with a full and open competitive contract for engineering design, construction, and testing of prototype systems mounted on the M56 Smoke System.

ARMY RDT&E COST ANALYSIS(R3)									February 2005			
BUDGET ACTIVITY 5 - System Development and Demonstration					PE NUMBER AND TITLE 060460□A - Smoke, Obscurant and Target Defeating Sys-Eng Dev					PROJECT 200		
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
a . MMW - Conducts M56 hardware development	C/CPFF	Titan Industries, Deland, FL	17907	1000		0		0		0	18907	0
b . MMW - Evaluates and designs MMW system integration planning	In house	JPMNBCCA, APG, MD	1578	300	1Q	0		0		0	1878	0
Subtotal:			19485	1300		0		0		0	20785	0
II. Support Cost	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
a . MMW - Environmental and Toxicological studies	In house effort	SBCCOM, APG, MD	2199	700	1Q	0		0		0	2899	0
b . MMW - Human factors design efforts	In house effort	SBCCOM, APG, MD	260	50	1Q	0		0		0	310	0
Subtotal:			2459	750		0		0		0	3209	0

ARMY RDT&E COST ANALYSIS(R3)									February 2005			
BUDGET ACTIVITY 5 - System Development and Demonstration					PE NUMBER AND TITLE 060460 A - Smoke, Obscurant and Target Defeating Sys-Eng Dev					PROJECT 200		
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
a . MMW - Prototype evaluation (PQT)	OGA	DTC, APG, MD	2627	1041	1Q	0		0		0	3668	0
b . MMW - Engineering design testing - Contractor	C/CPFF	Titan Industries, Deland, FL	2100	0		0		0		0	2100	0
Subtotal:			4727	1041		0		0		0	5768	0
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
a . MMW - Project Management Personnel	In house	JPMNBCCA, Edgewood, MD	2826	348	1Q	0		0		0	3174	0
b . MMW - Project Management Personnel	C/CPFF	Titan Industries, Deland, FL	836	200	1Q	0		0		0	1036	0
Subtotal:			3662	548		0		0		0	4210	0
Project Total Cost:			30333	3639		0		0		0	33972	0

Schedule Profile (R4 Exhibit)																				February 2005												
BUDGET ACTIVITY 5 - System Development and Demonstration										PE NUMBER AND TITLE 060460□A - Smoke, Obscurant and Target Defeating Sys-Eng Dev																		PROJECT 200				
Event Name	FY 04				FY 05				FY 06				FY 0□				FY 0□				FY 0□				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	1	2	3	4
Design and construct engineering design test systems																																
Conducted engineering design tests																																
Constructed prototype systems for PQT/IOTE																																
Conduct PQT																																
(1) MS C																																

Schedule Detail (R4a Exhibit)						February 2005		
BUDGET ACTIVITY 5 - System Development and Demonstration				PE NUMBER AND TITLE 060460 A - Smoke, Obscurant and Target Defeating Sys-Eng Dev			PROJECT 200	

<u>Schedule Detail</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Conducted engineering design tests.	1Q							
Constructed prototype systems for PQT.	1-3Q							
Conduct PQT.	4Q	1-4Q						
Conduct Milestone C and system acceptance		4Q						