

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)							February 2003				
BUDGET ACTIVITY 5 - System Development and Demonstration				PE NUMBER AND TITLE 0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev							
COST (In Thousands)		FY 2002 Actual	FY 2003 Estimate	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		7611	7654	12094	4223	5275	7210	27903	12235	0	72101
198	TARGET DEFEATING SYSTEM	318	334	343	392	5275	7210	15146	741	0	14319
200	SMOKE/OBSCURANT SYSTEM	7293	7320	11751	3831	0	0	12757	11494	0	57782
<p><b><u>A. Mission Description and Budget Item Justification:</u></b> 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. 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. 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. The program 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 supports the conduct of SDD in smoke and obscurant agents, munitions, and devices to improve the survivability of the combined armed force, complement combined weapons systems, and enhance force effectiveness and combat power.</p> <p>Systems developed in this PE primarily support the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).</p>											

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Dev**

<b><u>B. Program Change Summary</u></b>	<b>FY 2002</b>	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>
Previous President's Budget (FY 2003)	7854	8153	12604	4295
Current Budget (FY 2004/2005 PB)	7611	7654	12094	4223
Total Adjustments	-243	-499	-510	-72
Congressional program reductions		-279	-510	-72
Congressional rescissions		-14		
Congressional increases				
Reprogrammings	-39			
SBIR/STTR Transfer	-204	-206		
Adjustments to Budget Years				

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COST (In Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
200 SMOKE/OBSCURANT SYSTEM	7293	7320	11751	3831	0	0	12757	11494	0	57782
<p><b><u>A. Mission Description and Budget Item Justification:</u></b> 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 arms force, complement combined weapons 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. It can also create decoy signals to confuse these threat systems.</p> <p>This developmental effort supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).</p>										
<b><u>Accomplishments/Planned Program</u></b>						<b><u>FY 2002</u></b>	<b><u>FY 2003</u></b>	<b><u>FY 2004</u></b>	<b><u>FY 2005</u></b>	
MMW - Initiated Government engineering design tests and conducted User Jury.						536	0	0	0	
MMW - Fabricated and installed two MMW systems on two M56 Smoke Systems for conducting government engineering design tests (Estimated value \$150K each MMW prototype).						1300	0	0	0	
MMW - Conduct Government engineering design tests.						0	1119	0	0	
MMW - Continue engineering design program including any necessary redesign following engineering design test, logistics program evaluation, and material evaluation.						2506	2221	0	0	
MMW - Conducted contractor engineering design test on components and system.						1300	0	0	0	
MMW - Fabricate and install MMW systems on six M56s for production qualification and initial operational tests. (Estimated value \$150K each MMW prototype system).						0	2135	0	0	
MMW - Procure necessary MMW material for contractor and Government tests.						1000	1345	0	0	
MMW - Conduct production qualification and initial operational test and evaluation.						0	0	6023	2833	
MMW - Conduct toxicological and environmental studies.						651	500	2000	400	
MMW - Construct and initiate testing on prototype systems for candidate robotic platforms (Quantity and Cost to be determined).						0	0	3728	0	
MMW - Conduct design effort for integration of MMW into candidate robotic systems and Milestone C.						0	0	0	598	
<b>Totals</b>						<b>7293</b>	<b>7320</b>	<b>11751</b>	<b>3831</b>	

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<b><u>B. Other Program Funding Summary</u></b>	<b><u>FY 2002</u></b>	<b><u>FY 2003</u></b>	<b><u>FY 2004</u></b>	<b><u>FY 2005</u></b>	<b><u>FY 2006</u></b>	<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>	<b><u>FY 2009</u></b>	<b><u>To Compl</u></b>	<b><u>Total Cost</u></b>
RDTE, A Budget Activity 2, PE 0602622A, Project 552 Smoke/Novel Munitions	31901	3395	3540	3553	3713	3742	3830	3923	Continuing	Continuing
RDTE,A Budget Activity 4, PE 0603627A, Smoke. Obscurant and Target Defeat	0	2323	10262	12972	6311	8233	15218	8915	Continuing	Continuing
Other Procurement Army, OPA3, M99103, M56 Smoke Generator	23384	22345	22081	47016	8991	27496	46182	1471	0	198966
Other Procurement Army, OPA3,G7100, M6 Discharger	0	2906	13171	3798	2898	964	0	0	0	23737
<p><b><u>C. Acquisition Strategy:</u></b> This project supports Millimeter Wave smoke generation system that began engineer development in FY 2000 with a full and open competitive contract for engineering design, construction, and test of prototype systems mounted on the M56 Smoke System.</p>										

ARMY RDT&E COST ANALYSIS(R-3)									February 2003			
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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	Target Value of Contract
a . MMW - Conducts M56 hardware development	C/CPFF	Titan Industries, Deland, Florida	6749	3617	1Q	2215	1Q	0		0	12581	0
b . MMW - Evaluates and designs M56 and robotic system integration planning	In house	SBCCOM, APG, MD	400	400	1Q	728	1Q	300	1Q	0	1828	0
c . MMW - Robotic system integration	C/CPFF	Titan Industries, Deland, Florida	0	0	1Q	1535	1Q	1435	1Q	0	2970	0
Subtotal:			7149	4017		4478		1735		0	17379	0
II. 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	Cost To Complete	Total Cost	Target Value of Contract
a . MMW - Environmental and Toxicological studies	In house effort	SBCCOM, APG, MD	899	558	1Q	2000	1Q	400	1Q	0	3857	0
b . MMW - Human factors design efforts	In house effort	SBCCOM, APG, MD	60	100	1Q	100	1Q	50	1Q	0	310	0
Subtotal:			959	658		2100		450		0	4167	0

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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	Cost To Complete	Total Cost	Target Value of Contract
a . MMW - Prototype evaluation (PPQT & IOTE)	In house	SBCCOM, APG, MD	233	0		3500	1Q	1048	1Q	0	4781	0
b . MMW - Engineering design testing - Contractor	C/CPFF	Titan Industries, Deland, Florida	1300	1438	1Q	650	1Q	0		0	3388	0
Subtotal:			1533	1438		4150		1048		0	8169	0
IV. Management Services	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	Target Value of Contract
a . MMW - Project Management Personnel	In-house	SBCCOM, Edgewood, MD	1884	907	1Q	723	1Q	348	1Q	0	3862	0
b . MMW - Project Management Personnel	C/CPFF	Titan Industries, Deland, Florida	300	300	1Q	300	1Q	250	1Q	0	1150	0
Subtotal:			2184	1207		1023		598		0	5012	0

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Remarks: 7651													
Project Total Cost:				11825	7320		11751		3831		0	34727	0

Schedule Profile Detail (R-4a Exhibit)							February 2003	
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<u>Schedule Detail</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
MMW - Conduct engineering design testing (Contractor)	3-4Q							
MMW - Conduct engineering design testing (Government/User Jury)	4Q	1-2Q						
MMW - Initiate construction of prototype systems on armored or robotic platforms		1Q						
MMW - Initiate engineering modeling and design efforts on candidate roboatic vehicle platforms		1-3Q						
MMW - Construct prototype systems on robotic platforms		4Q						
MMW - Conduct Pre-Production Qualification Test (PPQT)			1-3Q					
MMW - Conduct Initial Operational Test and Evaluation (IOTE)			2-3Q					
MMW - Conduct Milestone C and system acceptance				3Q				
MMW - Initiate Mod Program				4Q				