

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)								DATE February 1999		
BUDGET ACTIVITY 2 - Applied Research				PE NUMBER AND TITLE 0602622A Chemical, Smoke and Equipment Defeating Technology					PROJECT A552	
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
A552 Smoke/Novel Effects Munitions	3500	5078	3996	4042	4068	4110	4600	4845	Continuing	Continuing
<p>A. <u>Mission Description and Budget Item Justification:</u> This program element provides applied research for technologies to increase survivability with enhanced smoke and obscurant capabilities, and solve critical light force needs to defeat enemy targets (i.e., non-lethal and flame/incendiary devices). Project A552 provides applied research of several capabilities to counter enemy weapon systems and to provide a capability to degrade enemy capability. Improved multispectral smokes/obscurants will be explored to enhance survivability by providing effective, affordable, and efficient screening of deployed forces from threat force surveillance sensors and effective defeat of target acquisition devices, missile guidance, and directed energy weapons, all of which can operate anywhere from the visible through the microwave portion of the electromagnetic spectrum. These systems will be designed to be safe and environmentally acceptable. Flame and incendiary payloads will be developed to defeat a variety of targets ranging from personnel to bunkers and light armored vehicles. Work in this program element is consistent with the Army Science and Technology Master Plan (ASTMP) and the Army Modernization Plan. Efforts under this program element transition and provide risk reduction for demonstration and validation and engineering and manufacturing development programs.</p> <p>FY 1998 Accomplishments:</p> <ul style="list-style-type: none"> • 3500 - Evaluated degradable and environmentally safe millimeter wave (MMW) screening obscurant candidates and conducted field trials; conducted packaging and dissemination studies; continued to investigate affordability issues. - Initiated investigation of propellant based obscurant dissemination for rapid obscuration concepts for combat vehicles. - Initiated millimeter wave module with the M56 smoke generator and its associated carrier; incorporated mission and operational cost reduction measures. <p>Total 3500</p> <p>FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • 2292 - Complete design and adaptation of the MMW module on the M56 and M58 smoke generators; implement cost and maintenance reduction measures. - Investigate vehicle smoke and obscurant acquisition and hit avoidance measures and concepts applicable to an integrated defense system for armored vehicles. - Investigate propellant dissemination obscurant technology for a smoke pot configuration. • 2308 - Develop performance predictive capability for infrared (IR) materials. - Investigate improved dissemination and smoke generation techniques for IR materials. - Conduct smoke antimaterial feasibility assessment. 										
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<ul style="list-style-type: none"> • 368 - Conduct investigations in flame, incendiary, anti-materiel, and riot control smoke technologies. 		
FY 1999 Planned Program: (Continued)		
<ul style="list-style-type: none"> - Conclude thermite (aluminum and iron oxide pyrotectic reaction) scaling study. 		
<ul style="list-style-type: none"> 110 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs. 		
Total 5078		
FY 2000 Planned Program:		
<ul style="list-style-type: none"> • 1626 - Conduct in depth field evaluations of the cloud produced by obscuration reinforcing system and propellant disseminated obscurant technologies. - Apply propellant dissemination technologies for smoke pot configuration. - Support transition of the MMW module to PM Smoke for Pre-Planned Product Improvement. 		
<ul style="list-style-type: none"> • 2370 - Investigate material expulsion methods and delivery mechanisms for multi-spectral smoke munition; complete IR theory. - Assess distant smoke delivery methods. - Investigate novel anti-materiel concepts, investigate novel marking/tagging concepts. 		
Total 3996		
FY 2001 Planned Program:		
<ul style="list-style-type: none"> • 1061 - Incorporate propellant dissemination technology in Vehicle Smoke Protection Model and Cloud Density Visualization Utility. - Support smoke simulation in Combined Arms Tactical Trainer, High Level Architecture and Distributed Integration Simulation. - Evaluate foreign emissive and pyrotechnic IR and multispectral concepts. - Complete smoke pot investigation. 		
<ul style="list-style-type: none"> • 2981 - Formulate new multi-spectral smoke materials based on evaluation. - Evaluate dissemination of new multi-spectral smoke materials. - Down-select target defeat technology based on results of anti-materiel and marking concepts for prototyping/demonstration. 		
Total 4042		

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B. Program Change Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget (FY 1999 PB)	3577	5116	4090	4132
Appropriated Value	3739	5116		
Adjustments to Appropriated Value				
a. Congressional General Reductions	-162	-38		
b. SBIR / STTR	-58			
c. Omnibus or Other Above Threshold Reductions	-19			
d. Below Threshold Reprogramming				
e. Rescissions				
Adjustments to Budget Years Since <u>FY 1999</u> PB			-94	-90
Current Budget Submit (FY 2000 / 2001 PB)	3500	5078	3996	4042

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