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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)							DATE February 2000					
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604609A Smoke, Obscurant and Target Defeating System - Engineering Development				PROJECT 200				
COST (In Thousands)				FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
200 Smoke/Obscurant System				659	913	3461	4621	7922	6888	3052	0	27516
<p>A. <u>Mission Description and Budget Item Justification:</u> U.S. Forces must be able to effectively neutralize and degrade energy weapon systems and threat electro-optical systems/smart weapons that operate in the full range of the electro-magnetic spectrum. This program element supports the conduct of Engineering and Manufacturing Development (EMD) of logistically supportable, high performance smoke and obscurant agents, munitions and devices to improve the survivability of the combined arms 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.</p> <p>This project supports the conduct of Engineering and Manufacturing Development (EMD) 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 (1) Motorized Dual Purpose Mechanical Smoke Generator, M56 mounted on the High Mobility Multi-Purpose Wheeled Vehicle (HMMWV), the Mechanized version (M58A1) mounted on a tracked vehicle to provide large area visual, infrared (IR) and millimeter wavelength (MMW) radar obscuration, and the new Medium Weight Armored Vehicle platform with all required obscurant capability.</p> <p>FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> • 200 VEESS – Integrated M6 Grenade Dischargers and Vehicle Integrated Defense System. • 459 VEESS – Completed data collection and documentation. <p>Total 659</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 201 MMW – Prepare IPR package and conduct milestone I/II program review. • 195 MMW – Prepare complete contract package, issue draft proposal, conduct pre-proposal conference, issue final proposal, evaluate and award contract • 200 MMW – Conduct prototype evaluation of multiple materials against threat radars. • 300 MMW – Award development contract and initiate prototype designs. • 17 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) programs. <p>Total 913</p>												
Project 200				Page 1 of 5 Pages				Exhibit R-2 (PE 0604609A)				

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FY 2001 Planned Program:

- 1600 MMW – Continue engineering design program., including logistics/cost alternatives on candidate designs.
 - 1461 MMW - Initiate assembly of engineering development and test prototype systems onto one M56 and one M58 system.
 - 400 MMW – Conduct analysis of alternative methods for MMW production and storage.
- Total 3461

B. Program Change Summary	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget (FY 2000/2001 PB)	701	918	2480
Appropriated Value	706	918	
Adjustments to Appropriated Value			
a. Congressional General Reductions	-5		
b. SBIR / STTR	-19		
c. Omnibus or Other Above Threshold Reductions		-3	
d. Below Threshold Reprogramming	-19		
e. Rescissions	-4	-2	
Adjustments to Budget Years Since FY 2000/2001 PB			+981
Current Budget Submit (FY 2001 PB)	659	913	3461

Change Summary Explanation: Funding – FY 2001: Increase in support of the acceleration of the MMW Obscurant effort (+981).

C. Other Program Funding Summary	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
RDTE,A Budget Activity 2, PE 0602622A Project A552 Smoke/Novel Effects Munitions	4660	4953	3530	3550	3580	3856	3879	Cont'd	Cont'd
RDTE,A Budget Activity 4, PE 063627A, Smoke, Obscurant and Equipment Defeating Systems					4835	12244	19324	Cont'd	Cont'd
Other Procurement Army, Activity 3, (OPA-3)									
M99103, M56 Smoke Generator	14909	6259	11369	20680	17999	25726	25629	Cont'd	Cont'd
M99107 M58 Smoke Generator	10481	3405	5585	10680	9551	12459	12446	Cont'd	Cont'd
G71300 M6 Discharger	0	3025	0	0	0	1050	1439	Cont'd	Cont'd

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D. Acquisition Strategy: Project D200 – Smoke/Obscurants: Beginning in FY 2000, the Millimeter Wave smoke generation system will be developed with the assistance of a full and open competitive contract for engineering design, construction and test of prototype systems mounted on the M56 and M58 smoke systems.

E. Schedule Profile	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
MMW – Milestone I/II , program Initiation		3Q					
MMW – Initiate RDTE competitive contract		4Q					
MMW – Conduct engineering design tests				3-4Q			
MMW – Initiate Pre-production Qualification test					3Q		
MMW – Complete PPQT						2Q	
MMW – Conduct Initial Operational Test						2Q	
MMW – Milestone III (System acceptance)							1Q

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 2000		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604609A Smoke, Obscurant and Target Defeating System - Engineering Development					PROJECT 200		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. VEES	None	SBCCOM	0	559	1Q						559	
b. MMW –Hardware Dev	CPFF	To Be Determined		0		300	4Q	2680	1Q01	Cont'd	2980	Cont'd
Subtotal Product Development:				559		300		2680			3539	
Remark: The FY 2000 contract effort for MMW will include training development, ILS, and technical data.												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. MMW – Environmental and Toxicological studies	In House	SBCCOM, APG, MD						100	1Q	Cont'd	100	Cont'd
Subtotal Support Costs:								100			100	
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. MMW – Prototype evaluation	In-house	SBCCOM; APG, MD				200	3Q				200	
Subtotal Test and Evaluation:						200					200	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. VEES – Prog Mgt Personnel	In-house	SBCCOM, APG, MD		81	1Q						81	
b. MMW – Prog Mgt Personnel	In-House	SBCCOM; APG, MD				396	1Q	631	1Q		1027	
c. MMW –Program Mgt Support	CPFF	To Be Determined						50	1Q		50	
d. STTR/SBIR				19		17					36	
Subtotal Management Services:				100		413		681			1194	

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	Total PYs Cost	<u>FY1999</u> Cost		<u>FY 2000</u> Cost		<u>FY 2001</u> Cost		Total Cost
Project Total Cost:		659		913		3461		5033

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