

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification

DATE:

February 2006

APPROPRIATION/BUDGET ACTIVITY

RDT&E, N /BA-4 Demonstration and Validation

PROGRAM ELEMENT (PE) NAME AND NO.

0603851M Non-Lethal Warfare Demonstration and Validation

COST (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	42.536	46.902	44.815	45.613	46.261	47.264	48.261
C2319 Non-Lethal Weapons	42.536	43.302	44.815	45.613	46.261	47.264	48.261
C9999 FY06 Congressional Adds	0.0	3.600	0.0	0.0	0.0	0.0	0.0
Quantity of RDT&E Articles							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program develops non-lethal weapon (NLW) systems that by their design, provide a new non-lethal capability to minimize fatal or permanent injuries and undesired damage to property and the environment. Instead, these systems are designed to stun, incapacitate, or hinder movement of individuals, crowds, or equipment. The availability of NLWs allows commanders less than lethal options, particularly in urban warfare and military operations other than war, i.e., peacekeeping, humanitarian assistance and disaster relief, as well as special operations.

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PROGRAM ELEMENT (PE) NAME AND NO.

0603851M Non-Lethal Warfare Demonstration and Validation

B. PROGRAM CHANGE SUMMARY**(U) FY 2006 President's Budget:**

FY2005	FY2006	FY2007
45.414	43.981	44.613

(U) Adjustments from the President's Budget:

(U) Congressional/OSD Program Reductions

(U) Congressional Rescissions

(U) Congressional Increases

3.600

(U) POM 06 Core Adjustment

(U) Reprogrammings

-2.055

(U) SBIR/STTR Transfer

-0.788

(U) Minor Affordability Adjustment

-0.035

-0.679

0.202

(U) FY 2007 President's Budget:

42.536	46.902	44.815
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CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2006					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-4 Adv Comp Dev & Prototypes			PROGRAM ELEMENT NUMBER AND NAME 0603851M Non-Lethal Warfare DEM/VAL		PROJECT NUMBER AND NAME C2319 Non-Lethal Weapons Program				
COST (\$ in Millions)			FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost			42.536	43.302	44.815	45.613	46.261	47.264	48.261
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
This project develops non-lethal weapon (NLW) systems that by their design, provide a new non-lethal capability to minimize fatal or permanent injuries and undesired damage to property and the environment. Instead, these systems are designed to stun, incapacitate, or hinder movement of individuals, crowds, or equipment. The availability of NLWs allows commanders less than lethal options, particularly in urban warfare and military operations other than war, i.e., peacekeeping, humanitarian assistance and disaster relief, as well as special operations.									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)			FY 2005		FY 2006		FY 2007		
Accomplishment/Effort Subtotal Cost			1.550		2.250		2.500		
RDT&E Articles Qty									
Execution oversight, administration and support of the Joint NLW Program and technologies database.									
COST (\$ in Millions)			FY 2005		FY 2006		FY 2007		
Accomplishment/Effort Subtotal Cost			0.645		0.645		0.695		
RDT&E Articles Qty									
Evaluation of NLWs by Service warfighting laboratories and Joint Forces Command (JFCOM) for direct user feedback of various non-lethal (NL) technologies and munitions.									
COST (\$ in Millions)			FY 2005		FY 2006		FY 2007		
Accomplishment/Effort Subtotal Cost			1.180		1.388		1.438		
RDT&E Articles Qty									
Modeling and simulation (M&S) of NLWs in warfighter training/wargaming models and performance effects data collection/population to demonstrate/analyze NL effects and optimize training.									
COST (\$ in Millions)			FY 2005		FY 2006		FY 2007		
Accomplishment/Effort Subtotal Cost			1.840		2.100		2.268		
RDT&E Articles Qty									
Pursuit of new technology through open competition of industry, academia and government laboratory sources for NL capabilities.									
COST (\$ in Millions)			FY 2005		FY 2006		FY 2007		
Accomplishment/Effort Subtotal Cost			1.505		2.160		1.944		
RDT&E Articles Qty									
Airburst Non-Lethal Munition (formerly known as Objective Individual Combat Weapons (OICW)) – Continue development of NL munitions for the “next generation” 25mm combat weapon to exploit air-burst munitions with NL payloads at longer ranges with existing systems.									

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-4 Adv Comp Dev & Prototypes		0603851M Non-Lethal Warfare DEM/VAL	C2319 Non-Lethal Weapons Program
COST (\$ in Millions)		FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost		1.149	1.731
RDT&E Articles Qty			
Program support for each service's coordination and participation in the Joint NLW Program.			
COST (\$ in Millions)		FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost		1.600	1.296
RDT&E Articles Qty			
Mk19 NL Munition - Development of a NL munition for the 40mm Mk19 Grenade Machine Gun.			
COST (\$ in Millions)		FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost		4.857	4.945
RDT&E Articles Qty			
Active Denial System (ADS) Advanced Concept Technology Demonstration (ACTD) - Jointly sponsored effort that continues the development of a demo asset for evaluation, testing and target assessment of a High Mobility Multipurpose Wheeled Vehicle (HMMWV) mounted directed energy system.			
COST (\$ in Millions)		FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost		0.538	0.540
RDT&E Articles Qty			
Advanced Tactical Laser (ATL) Advanced Concept Technology Demonstration (ACTD) - Jointly sponsored effort to demonstrate technology concepts to satisfy the critical mission needs for an ultra-precision strike capability.			
COST (\$ in Millions)		FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost		2.465	0.000
RDT&E Articles Qty			
Non-Lethal Technology Research, Marine Corps Research University - This Congressional plus-up is intended to assist in the cross-comparison of technology, human effects and long term programatics of several new initiatives and the independent technical assessment of Joint NLWs.			
COST (\$ in Millions)		FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost		1.400	0.918
RDT&E Articles Qty			
Mobility Denial System (MDS) - Joint evaluation, analysis and testing of anti-traction material and delivery methods/volumes.			
COST (\$ in Millions)		FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost		5.117	5.003
RDT&E Articles Qty			
Studies and Analysis – Medical and NL casualty data research and collection; human effects assessments; acceptability analysis; and technical studies/analysis of emerging technologies for possible NL application.			

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-4 Adv Comp Dev & Prototypes		PROGRAM ELEMENT NUMBER AND NAME 0603851M Non-Lethal Warfare DEM/VAL	PROJECT NUMBER AND NAME C2319 Non-Lethal Weapons Program
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	4.847	6.427	7.833
RDT&E Articles Qty			
The advanced development of emerging technologies into the acquisition process to satisfy critical joint mission tasks.			
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	6.803	7.178	8.075
RDT&E Articles Qty			
System development and design of technology development downselected items to proceed into the acquisition cycle to provide NL technology solutions to critical joint mission tasks.			
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.300	1.458	1.458
RDT&E Articles Qty			
Develop/expand the NATO Measures of Effectiveness (MOE) efforts, chaired by the U.S. to provide input for Defense Capabilities Initiative (DCI) and NATO assessment of NLW in the Defense planning process. Expanded interaction with component commander (COCOM) staffs to identify emerging NLW capabilities and their utility in theater operations and Homeland Security missions.			
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	3.225	3.240	3.240
RDT&E Articles Qty			
Pulsed Energy Projectile (PEP) – Explore the development of laser hardware and extensive human effects characterization research and to continue refinement of bio-effects characterization and optimization of lasers as a NL capability.			
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.195	0.813	0.000
RDT&E Articles Qty			
Tactical Unmanned Ground Vehicle (TUGV) NL Mission Payload Module - Development of NL mission payload modules for integration into the TUGV. This will allow various NL payload modules to be developed and tested for integration on multiple UGVs and allow the user to remotely fire NL payloads.			
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.890	0.562	0.000
RDT&E Articles Qty			
Vehicle Lightweight Arresting Device (VLAD) - Accelerated development and acquisition of a man-portable, pre-emplaced spiked net vehicle stopper.			

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EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2006	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N /BA-4 Adv Comp Dev & Prototypes		0603851M Non-Lethal Warfare DEM/VAL	C2319 Non-Lethal Weapons Program	
COST (\$ in Millions)			FY 2005	FY 2006
Accomplishment/Effort Subtotal Cost			0.430	0.648
RDT&E Articles Qty				FY 2007
				0.776
Joint Integration Program (JIP) - Select and test newly developed commercial products that may meet the Joint Services' requirements for specific NL capability set common items.				
(U) Total \$			42.536	43.302
(U) PROJECT CHANGE SUMMARY:				
			<u>FY2005</u>	<u>FY2006</u>
(U) FY 2006 President's Budget:			45.414	43.981
(U) Adjustments from the President's Budget:				<u>FY2007</u>
(U) Congressional/OSD Program Reductions				44.613
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings			-2.055	
(U) SBIR/STTR Transfer			-0.788	
(U) Minor Affordability Adjustment			-0.035	-0.679
(U) FY 2007 President's Budget:			42.536	43.302
CHANGE SUMMARY EXPLANATION:				44.815
(U) Funding: See Above.				
(U) Schedule: Not Applicable.				
(U) Technical: Not Applicable.				

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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2006					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-4 Adv Comp Dev & Prototypes		PROGRAM ELEMENT NUMBER AND NAME 0603851M Non-Lethal Warfare DEM/VAL			PROJECT NUMBER AND NAME C2319 Non-Lethal Weapons Program					
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) PAN,MC BLI 162800, Non-Lethal Munitions		1.140	1.112	4.030						
(U) PMC BLI 220800, Weapons Enhancement Prog		0.000	5.072	17.051						
(U) PMC BLI 237100, Operations Other Than War		27.453	0.000	0.000						
(U) Related RDT&E: Not Applicable.										
(U) D. ACQUISITION STRATEGY: The JNLW Program strategy is to continue to pursue the fielding of NLW systems through modifying Commercial-Off-The-Shelf (COTS) products for near term capabilities and the development of new technology NLW systems in various stages of acquisition. These balanced with efforts in modeling and simulation, experimentation, and state-of-the-art technology investment. The acquisition strategy for each weapon system is largely lead service dependent.										
(U) E. MAJOR PERFORMERS: FY04-FY07 - ARDEC, Picatinny Arsenal, NJ. Development and evaluation of the Airburst Non-lethal Munition program, the Non-Lethal (NL) Mortar program, the Mk19 Grenade Machine Gun NL Munitions program and the Vehicle Lightweight Arresting Device program. FY04-FY07 - Raytheon Company, Rancho Cucamonga, CA. Working with the Air Force Research Laboratory at Kirtland Air Force Base, NM on the Active Denial System (ADS) Advanced Concept Technology Demonstration (ACTD) to continue the evaluation, testing and target assessment of a HMMWV mounted directed energy system.										
(U) SCHEDULE PROFILE: Not Applicable.										

Exhibit R-3 Cost Analysis					DATE: February 2006							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME							
RDT&E, N /BA-4 Adv Comp Dev & Prototypes			0603851M Non-Lethal Warfare DEM/VAL		C2319 Non-Lethal Weapons Program							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development	MIPR	ARDEC, Picatinny, NJ	59.618	5.903	10/04	5.879	10/05	4.297	10/06	Cont	Cont	
Product Development	MIPR	SOCOM, McDill AFB, FL	4.500	0.500	12/04	0.540	12/05	0.000	12/06	Cont	Cont	
Product Development	WR	NSWC, Various	13.567	1.478	Various	1.296	Various	1.080	Various	Cont	Cont	
Product Development	MIPR	Kirtland AFB, NM	37.106	3.942	12/04	4.945	12/05	5.400	12/06	Cont	Cont	
Product Development	MIPR	JWCF, Ft. Monroe, VA	2.214	0.645	02/05	0.645	02/06	0.695	02/07	Cont	Cont	
Product Development	MIPR	Brooks AFB, TX	11.078	5.325	02/05	5.463	02/06	6.210	02/07	Cont	Cont	
Product Development	WR/RCP	MCSC, Quantico,VA	23.637	3.164	11/04	3.150	11/05	1.951	11/06	Cont	Cont	
Product Development	MIPR	NSMA,Arlington, VA	8.777	3.225	01/05	3.240	01/06	3.240	01/07	Cont	Cont	
Product Development	CPFF	MCLB, Albany,GA	2.654	2.465	01/05	0.000	01/06	0.000	01/07	Cont	Cont	
Product Development	MIPR	Various - M&S	3.675	1.613	Various	1.388	Various	1.438	Various	Cont	Cont	
Product Development	MIPR	Various - JIP	5.165	0.540	Various	0.648	Various	0.776	Various	Cont	Cont	
Product Development	MIPR	Var (Uniformed Services)	19.165	10.452	Various	12.378	Various	15.703	Various	Cont	Cont	
Subtotal Product Dev			191.156	39.252		39.572		40.790		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Support Cost	WR	MCSC, Quantico, VA	3.969	0.430	11/04	0.450	11/05	0.450	11/06	Cont	Cont	
Support Cost	WR	NSWC, Dahlgren, VA	2.693	0.420	10/04	0.440	10/05	0.440	10/06	Cont	Cont	
Support Cost	Various	MCSC, Quantico, VA	6.479	0.570	12/04	0.590	12/05	0.635	12/06	Cont	Cont	
Support Cost	Various	Various	6.452	1.864	Various	2.250	Various	2.500	Various	Cont	Cont	
Subtotal Support			19.593	3.284		3.730		4.025		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E Cost											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Management											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			210.749	42.536		43.302		44.815		Cont	Cont	

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Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-4 Adv Comp Dev & Prototypes	0603851M Non-Lethal Warfare DEM/VAL	C2319 Non-Lethal Weapons Program
(U) D. SCHEDULE PROFILE:		
<u>Mobility Denial System (MDS)</u>		
Milestone 0:	3rd Qtr, FY 1999	Contract Award: 1st Qtr, FY 2007
Milestone B:	1st Qtr, FY 2003	IOC: 3rd Qtr, FY 2007
DT / OT:	3rd Qtr, FY 2006	FOC: 4th Qtr, FY 2008
Milestone C:	4th Qtr, FY 2006	
 <u>Airburst Non-Lethal Munition (ANLM)</u>		
Milestone A:	3rd Qtr, FY2003	Contract Award: 4th Qtr, FY 2008
Milestone B:	3rd Qtr, FY2006	IOC: 2nd Qtr, FY 2009
DT / OT:	1st Qtr, FY 2008	FOC: 4th Qtr, FY 2010
Milestone C:	4th Qtr, FY 2008	
 <u>Active Denial System (ADS) ACTD</u>		
ACTD Approved:	3rd Qtr, FY2002	Contract Award: 1st Qtr, FY 2009 (for SD&D)
Milestone B:	1st Qtr, FY 2008	IOC: 4th Qtr, FY 2012
DT / OT:	4th Qtr, FY2010	FOC: 4th Qtr, FY 2014
Milestone C:	2nd Qtr, FY2012	
<p>The development of new technology NLW systems are in various stages of acquisition and the acquisition strategy for each weapon system is largely dependent on lead service.</p>		

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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-4 Demonstration and Validation		PROGRAM ELEMENT NUMBER AND NAME 0603851M Non-Lethal Warfare Dem/Val			PROJECT NUMBER AND NAME C9999 FY06 Congressional Adds		
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
Project Cost	0.000	3.600	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty							
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
 (U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:							
COST (\$ in Millions)	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost	0.000	1.000	0.000				
RDT&E Articles Qty							
Boat Trap System for Port Security/Craft Interdiction 9878N: This Congressional plus-up is intended to advance technology to broaden the boat trap system effectiveness against several threat water-crafts.							
COST (\$ in Millions)	FY 2005	FY06	FY07				
Accomplishment/Effort Subtotal Cost	0.000	2.600	0.000				
RDT&E Articles Qty							
Nat'l Center for /NL Tech Research 2319C: This Congressional plus-up is intended to assist in the cross-comparison of technology, human effects and long term programatics of several new initiatives and the independent technical assessment of Join NLWs.							
(U) Total \$	0.000	3.600	0.000				

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2006				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N /BA-4 Demonstration and Validation		0603851M Non-Lethal Warfare Dem/Val			C9999 FY06 Congressional Adds					
(U) PROJECT CHANGE SUMMARY:			<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>					
(U) FY 2006 President's Budget:			0.000	0.000	0.000					
(U) Adjustments from the President's Budget:										
(U) Congressional Program Reductions										
(U) Congressional Rescissions										
(U) Congressional Increases				3.600						
(U) POM 06 Core Adjustment										
(U) Reprogrammings										
(U) SBIR/STTR Transfer										
(U) Minor Affordability Adjustment										
(U) FY 2007 President's Budget:			0.000	3.600	0.000					
CHANGE SUMMARY EXPLANATION:										
(U) Funding: See above.										
(U) Schedule: Not Applicable.										
(U) Technical: Not Applicable.										
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
	<u>Line Item No. & Name</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) Related RDT&E:										
(U) RDT&E PE 0603851M, Project C2319, NL Warfare Dem/Val		42.536	43.302	44.815	45.613	46.261	47.264	48.261	Cont	Cont
(U) D. ACQUISITION STRATEGY:										
(U) E. MAJOR PERFORMERS:										