

UNCLASSIFIED

FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 02
PROGRAM ELEMENT: 0602651M
PROGRAM ELEMENT TITLE: JOINT NON-LETHAL WEAPONS PROGRAM
COST: (Dollars in Thousands)

Project Number & Actual Title	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
R0000 No Project Assigned	0	1,880	6,000	6,000	6,000	6,000	6,000	6,000

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This new Program Element (PE) continues and realigns funding for a program for the applied research, study, assessment, and demonstration of technologies that could provide a non-lethal capability or target effect. This effort was funded under PE 0602114N, Power Projection Applied Research in FY 2005. Because the Marine Corps serves as the Executive Agent for the Joint Non-Lethal Weapons Program, new program elements were created as part of the FY 2006 budget formulation, to properly reflect this designation. Investment areas include applied research related to: non-lethal directed energy weapons (lasers, millimeter wave and high power microwave) for counter-personnel and counter-material missions; non-lethal acoustic and optical technologies; advanced non-lethal materials (including materials for vehicle/vessel stopping and advanced anti-traction materials); associated human effects and effectiveness for new non-lethal stimuli; injury potential and effectiveness of directed energy, electric stun, ocular, and acoustic based non-lethal technologies; and developing models of crowd behavior and dynamics.

PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget Submission	0	0	0	0
Program Adjustment	0	1880	6000	6000
FY 2006/2007 President's Submission	0	1880	6000	6000

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: Not applicable.

Schedule: Not applicable.

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ACCOMPLISHMENTS/PLANNED PROGRAM:

FY 2005 Plans:

- Initial effort will perform research to examine non-lethal target effects/characterization of non-lethal acoustic and optical (light stun/distract)
- Research into the formation, optimization, and control of laser induced plasma phenomenon for its non-lethal applications. Laser induced plasma (LIP) is a phenomena of some high energy, short pulse lasers that has several potential applications to produce or transmit non-lethal stimuli. Investigate characteristics and optimization of the LIP phenomena for both counter-personnel and counter-material missions.
- Research, test and evaluate several advanced non-lethal material technologies for advanced non-lethal weapons, such as new anti-traction materials.

FY 2006 Plans:

- Investigate the human effects associated with high-energy counter-material and counter-personnel lasers. It will examine human effects from exposure to counter-material lasers' direct and scattered radiation and laser-induced plasmas from counter-personnel lasers. This research will also examine specific non-lethal effects and effectiveness associated with the laser-induced plasma phenomenon.
- Support further applied research currently being performed under the JNLWD's Non-Lethal Technology Innovation Center (NTIC). The continued mission of the NTIC is to foster the free flow of appropriate Science and Technology (S&T) information between the JNLWD and academia, industry, military, and other government entities.
- Continue research, test and evaluate several advanced non-lethal material technologies for advanced non-lethal weapons, such as new anti-traction materials, engine suffocates, morphing materials for new non-lethal rounds or flight bodies, and new non-lethal nano-materials.

FY 2007 Plans:

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- Explore the use of light and sound to confuse, startle, or incapacitate, for periods of a few seconds to minutes at operationally useful ranges. It will also determine injury thresholds. This initiative will also perform applied research on existing acoustic and optical non-lethal weapons, and support analyses to develop possible improvements and enhancements to existing NL Acoustic Weapons (including developing optimum aversive sounds, and developing better flash-bang grenades.
- Investigate the in-vitro and in-vivo bio-effects of intense electromagnetic fields and radio frequency radiation exposures that could result from directed energy non-lethal weapons systems.

C. OTHER PROGRAM FUNDING SUMMARY:

NAVY RELATED RDT&E:

PE 0603851M (Marine Corps Non-Lethal Warfare)

D. ACQUISITION STRATEGY:

Not applicable.