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OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2006

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 5

PE NUMBER AND TITLE

0604709D8Z - Joint Robotics EMD

Cost (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total Program Element (PE) Cost	31.549	20.464	6.004	3.004	0.000	0.000	0.000
P609 Joint Service EOD	25.549	8.219	2.000	3.004	0.000	0.000	0.000
P610 GLADIATOR unmanned ground vehicle	6.000	9.534	4.004	0.000	0.000	0.000	0.000
P611 Mobile Detection Assessment Response System Exterior (MDARS-E)	0.000	2.711	0.000	0.000	0.000	0.000	0.000

A. Mission Description and Budget Item Justification: (U) This program is a budget activity level 5 based on the successful transition of robotic technologies from Concept and Technology Development activities to System Development and Demonstration (SDD) as part of an Evolutionary Strategy. Individual Services are responsible for requirements generation and procurement funding. Within the JRP, emphasis is on the development of robotic technologies that are usable in multi-service missions; provide capability in hazardous environments; provide improved battlefield efficiency using supervised autonomous operational capability; reduce or enhance force manpower and sustainability; and are affordable. This PE consolidates the DoD robotics program for Unmanned Ground Vehicles (UGV) and advances UGV concepts into SDD for programs of record.

The JRP is entering a planned transition period to re-orient this program element towards advancing and maturing robotics technologies for insertion into service SDD programs of record. This transition was approved by senior service representatives at the JRP Senior Steering Group meeting in November 2004. The Services agreed that after transition of the current programs of record, future SDD funding will become a Service responsibility. The JRP will concentrate on maturing specific technologies and interoperable capabilities for insertion into Service programs.

This PE will ramp down to zero funds as a new Program Element, 0603711D8Z (Joint Robotics Program/Autonomous Systems) will address new robotics technologies.

Family of Integrated Rapid Response Equipment (FIRRE)

FIRRE provides our forward deployed Soldiers, Airmen, Marines and Sailors with an enhanced Near and Long Term unmanned force protection system of systems capability that reduces manpower requirements, enhance force protection and keeps our forces out of harms way. Near Term FIRRE consists of the best available force protection unmanned systems technology: semi-autonomous Unmanned Ground Vehicles (UGV); Unmanned Sensors—the Battlefield Anti-Intrusion System (BAIS), Ground Surveillance Radars (GSR) and the Multiple Resource Host Architecture (MRHA) for command and control purposes. FIRRE allows commanders to return Soldiers to their normal wartime missions. The Near Term will feed the Long Term which includes Unmanned Ground Vehicles (UGV), Unmanned Aerial Vehicles (UAV), Unattended Ground Sensors (UGS) and other value added technology for a wide variety of force protection missions. Lessons learned from Near Term FIRRE will assist the Combat Developer to refine capabilities documentation required for the Joint Capabilities Integration Development System (JCIDS) process.

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	32.669	13.745	13.737

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Current BES/President's Budget (FY 2007)	31.549	20.464	6.004	
Total Adjustments	-1.120	6.719	-7.733	
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other	-1.120	6.719	-7.733	

C. Other Program Funding Summary: Not Applicable.**D. Acquisition Strategy:** Not Applicable.**E. Performance Metrics:** Not Applicable.

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OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)							Date: February 2006																								
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 5			PE NUMBER AND TITLE 0604709D8Z - Joint Robotics EMD				PROJECT P609																								
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P609 Joint Service EOD	25.549	8.219	2.000	3.004	0.000	0.000	0.000																								
<p>A. Mission Description and Project Justification: (U) This project supports the lifecycle management of EOD equipment for all four military Services. This project will conduct Concept and Technology Development efforts to determine maturity of existing technology and exploration of new concepts to meet EOD requirements. All four services have the Remote Ordnance Neutralization System (RONS) fielded with their EOD users, and this program includes the RONS Continuous Improvement Program to identify, develop, and qualify improvements to the system. The Joint EOD community has a requirement for a small Man Transportable Robotic System (MTRS) that can conduct EOD tasks to include the use of a manipulator arm to render safe or neutralize unexploded ordnance in confined areas that current systems have difficulty accessing. Once fielding of the MTRS begins, an MTRS Continuous Improvement Program will be initiated to add EOD capabilities and incrementally improve the system. Also, the Joint EOD community needs increased autonomy in its robotic platforms. The acquisition strategy for Joint Service EOD Robotics includes the conduct of an Analysis of Alternatives by the Joint users, development of a requirements document by the Joint Users, competitive solicitation of a development contract, with built-in options for production, upgrades, support and spare parts. Each Service individually funds for their production, upgrade, support, and spares.</p>																															
<p>B. Accomplishments/Planned Program:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Accomplishment/Planned Program Title</th> <th style="width: 10%;">FY 2005</th> <th style="width: 10%;">FY 2006</th> <th style="width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) FY 2005 Accomplishments</td> <td style="text-align: right;">25.549</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td colspan="4"> <ul style="list-style-type: none"> • Achieved Full Rate Production Decision for EOD Man Transportable Robotic System • Completed Multiple Improvement Software Integration for RONS CIP </td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Accomplishment/Planned Program Title</th> <th style="width: 10%;">FY 2005</th> <th style="width: 10%;">FY 2006</th> <th style="width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) FY 2006 - FY 2007</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">8.219</td> <td style="text-align: right;">2.000</td> </tr> <tr> <td colspan="4"> <ul style="list-style-type: none"> • Initiate EOD Man Transportable Robotic System incremental improvements as defined in requirements document. • Conduct formal Analysis of Alternatives for the Next Generation of DOD EOD Robotic Systems • Initiate Technology Development phase of Next Generation DOD EOD Robotic Systems Project </td> </tr> </tbody> </table>								Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007	(U) FY 2005 Accomplishments	25.549	0.000	0.000	<ul style="list-style-type: none"> • Achieved Full Rate Production Decision for EOD Man Transportable Robotic System • Completed Multiple Improvement Software Integration for RONS CIP 				Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007	(U) FY 2006 - FY 2007	0.000	8.219	2.000	<ul style="list-style-type: none"> • Initiate EOD Man Transportable Robotic System incremental improvements as defined in requirements document. • Conduct formal Analysis of Alternatives for the Next Generation of DOD EOD Robotic Systems • Initiate Technology Development phase of Next Generation DOD EOD Robotic Systems Project 			
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<p>C. Other Program Funding Summary: Not Applicable.</p>																															
<p>D. Acquisition Strategy: Not Applicable.</p>																															

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OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2006

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 5

PE NUMBER AND TITLE
0604709D8Z - Joint Robotics EMD

PROJECT
P609

E. Major Performers Not Applicable.

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Schedule Detail (R4a Exhibit)						Date: February 2006	
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 5		PE NUMBER AND TITLE 0604709D8Z - Joint Robotics EMD				PROJECT P609	
Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
MTRS PSVM T&E							
MTRS PRM T&E	1Q						
MTRS AAP PROD DEC	1Q						
RONs CIP							
Next Gen EOD RCV	1-4Q	1-4Q	1-4Q				
EOD Cooperative Robotics		1-4Q	1-4Q	1-4Q	1-4Q		
Comment:							

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OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2006

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 5PE NUMBER AND TITLE
0604709D8Z - Joint Robotics EMDPROJECT
P610

Cost (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
P610 GLADIATOR unmanned ground vehicle	6.000	9.534	4.004	0.000	0.000	0.000	0.000

A. Mission Description and Project Justification: (U) The Gladiator Program is a USMC initiative based on the Joint Army-Marine Corps Tactical Unmanned Vehicle (TUSV) ORD originated by the U.S. Army Infantry School. Mission Need Statement (MNS) INT 12.1.1 (dated 4 November 1993) validated the need for a tactical unmanned ground vehicle system, and the ORD was approved by the Army in August 1995 and by the Marine Corps in May 1996. Changes in Service deficiencies and required capabilities have led both Services to reevaluate the existing ORD and to initiate efforts to revise it or to approve new requirements documents for robotic systems supporting the tactical commander. The Marine Corps then initiated Change 1 to the MNS in April 2001 and a Marine Corps ORD for the Gladiator Tactical Unmanned Ground Vehicle was approved in July 2004 to support the dismounted infantry of the Marine Ground Combat Element (GCE) with the organic unmanned capability to remote combat tasks including scout/surveillance. The system will reduce risk and neutralize threats to Marines across the full spectrum of conflict and military operations. The Gladiator is a teleoperated/ armed and armored, highly mobile UGV with, initially, the basic capability to conduct scout/surveillance missions and to carry various mission payloads for specific tasks. It will be inherently simple, durable, multi-functional, and easily transported. In the conduct of Operational Maneuver From The Sea (OMFTS), Ship To Objective Maneuver (STOM), Sustained Operations Ashore (SOA), and Operations Other Than War (OOTW), the Gladiator will enhance the ability to accomplish assigned missions. Operating just forward of the GCE units, Gladiator will perform basic scouting/surveillance, obstacle breaching, lethal and non-lethal direct fire, logistic support, and NBC reconnaissance tasks while permitting the operator to remain covered or concealed. The basic Marine Corps system will consist of a mobile base unit (MBU), an Operator Control Unit (OCU), and specific mission payload modules (MPMs). Initial MPMs will include Shoulder-launched Multi-purpose Assault Weapon (SMAW), Anti-Personnel Obstacle Breaching System (APOBS), Light Vehicle Obscure Smoke System (LVOSS), M240 and M249 Machine Guns, and current NBC detectors.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
(U) FY 2005 Accomplishments	6.000	0.000	0.000

Begin DRR
Begin SDD

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
(U) FY 2006 - 2007 Plans	0.000	9.534	4.004

- Complete DRR
- Complete SDD
- Complete Developmental Testing.
- Obtain MS C.
- Award LRIP contract

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APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 5	PE NUMBER AND TITLE 0604709D8Z - Joint Robotics EMD	PROJECT P610
<p><u>C. Other Program Funding Summary:</u> Not Applicable.</p> <p><u>D. Acquisition Strategy:</u> Not Applicable.</p> <p><u>E. Major Performers</u> Not Applicable.</p>		

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APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 5				PE NUMBER AND TITLE 0604709D8Z - Joint Robotics EMD			PROJECT P611	
Cost (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
P611	Mobile Detection Assessment Response System Exterior (MDARS-E)	0.000	2.711	0.000	0.000	0.000	0.000	0.000

A. Mission Description and Project Justification: (U) The Mobile Detection Assessment Response System - Exterior (MDARS-E) serves as the Unmanned Ground Vehicle (UGV) or the Family of Rapid Response Equipment (FIRRE). Purpose is to provide a semi-autonomous, high speed, cross-country, detection, persistent surveillance and response capability for forward deployed forces. Mission payload package includes ANPPS-5D Ground Surveillance Radar (GSR) integrated with a SEAFLIR, FIRRE provides our forward deployed forces with an enhanced layered force protection system of systems capability that provides the means to assess, detect and respond to enemy intrusion activities. FIRRE reduces manpower requirements, keeps our forces out of harms way and allows commanders to return Soldiers to their primary wartime missions.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
(U) FY 2006 - 2007 Plans	0.000	2.711	0.000

Continue to participate in the TRADOC Unit Protection Concept Capability Plan IPT.
 Conduct in Unmanned Ground Vehicle critical design review and IPTs.
 Upgrade integration software to meet mission requirements.
 Evaluate command and control during field evaluations at the Early User Assessment.
 Deliver 3 fully integrated UGVs to the user by August 2006.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy Integrate with FIRRE and Transfer to Program of Record in 2008 - 2010 timeframe.

E. Major Performers Not Applicable.

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