Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Office of Secretary Of Defense											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603920D8Z: *Humanitarian De-mining*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	14.540	13.231	11.704	-	11.704	11.607	10.515	10.687	10.895	Continuing	Continuing
920: *Humanitarian De-mining*	-	14.540	13.231	11.704	-	11.704	11.607	10.515	10.687	10.895	Continuing	Continuing
Quantity of RDT&E Articles												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Humanitarian Demining Research and Development (HD R&D) program element rapidly develops, demonstrates and validates new technologies for DoD-supported nations to detect and clear landmines and unexploded ordnance (UXO), and to contribute to U.S. military countermine R&D. The HD R&D Program is the only U.S. organization conducting research and development for Humanitarian Mine Action (HMA) detection and mechanical clearance technologies. HMA is a critical component of stability operations, which HD R&D directly supports by speeding improvements to technologies used by U.S. forces in support of USG operations; reducing the post-conflict threat to host nation population and U.S. forces; reducing insurgent access to explosives (landmines and UXO); enhancing mine action capacity of non-governmental organizations and mine action centers in mine-affected countries; and providing engagement opportunities for DoD personnel in mine-affected countries.

The HD R&D Program adapts commercial-off-the-shelf equipment, integrates mature technologies, and leverages R&D activity within DoD, particularly in the Army's Night Vision and Electronic Sensors Directorate (NVESD) Tactical Countermine mission area. The program aims to improve existing technologies for: mine/UXO detection, technical survey/area reduction, mechanical mine/UXO clearance, vegetation clearance, mine neutralization, and post-clearance quality assurance (QA). Evaluations of HD R&D Program-developed technologies in actual minefields are conducted by host nation demining partners (foreign military, non-governmental organizations and mine action centers) and provide valuable data for U.S. military countermine R&D and next generation HD technology developments while directly contributing to worldwide mine and UXO clearance. Since 1995 the program has fielded technologies for 160 evaluations in 36 countries, including Iraq and Afghanistan. The program’s technologies have cleared 18+ million sq meters of the world’s toughest minefields; found or destroyed 80,000+ mines and UXO; and provided 280,000 mine/UXO disposal charges with 33 tons of explosive recovered from stockpiles and abandoned munitions in PACOM.

Under the Office of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict (OASD SO/LIC), the HD R&D Program works closely with the U.S. combatant commands (COCOMS) and the Humanitarian Demining Training Center (HDTC) to support the Warfighter. Areas of emphasis are identified and validated at a biennial Requirements Workshop held by OASD SO/LIC. The Requirements Workshop involves representatives from Department of State (DoS), COCOMS and mine-affected nations.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Office of Secretary Of Defense	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603920D8Z: *Humanitarian De-mining*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	14.544	13.231	11.779	-	11.779
Current President's Budget	14.540	13.231	11.704	-	11.704
Total Adjustments	-0.004	0.000	-0.075	-	-0.075
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.004	-	-0.075	-	-0.075

Change Summary Explanation

The FY 2014 baseline budget was reduced due to fiscal constraints and higher priorities within the Department.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: 0603920D8Z - SO/LIC Humanitarian De-mining	14.540	13.231	11.704

Description: The Humanitarian Demining Research and Development (HD R&D) program element rapidly develops, demonstrates and validates new technologies for DoD-supported nations to detect and clear landmines and unexploded ordnance (UXO), and to contribute to US military countermine R&D. The HD R&D Program focuses on development of new technologies to improve the efficiency and safety of indigenous nation-conducted, post-conflict clearance of residual mines and UXO, which pose a serious threat to US forces conducting stability operations, and to the host nation's population and economy.

The HD R&D Program adapts commercial-off-the-shelf equipment, integrates mature technologies, and leverages R&D activity within DoD, particularly in the Army's Night Vision and Electronic Sensors Directorate (NVESD) Tactical Countermine mission area. The program aims to improve existing technologies for: mine/UXO detection, technical survey/area reduction, mechanical mine/UXO clearance, vegetation clearance, mine neutralization, individual deminer protection, and post-clearance quality assurance (QA). Evaluations of HD R&D Program-developed technologies in actual minefields are conducted by host nation demining partners (foreign military, non-governmental organizations and mine action centers) and provide valuable data for US military countermine R&D and next generation HD technology developments while directly contributing to world-wide mine and UXO clearance. Since 1995 the program has fielded technologies for 139 evaluations in 36 countries, including Iraq and Afghanistan. The program's technologies have cleared 16+ million sq meters of the world's toughest minefields; found or destroyed 80,000+ mines and UXO; and provided 267,000 mine/UXO disposal charges with 33 tons of explosive recovered from stockpiles and abandoned munitions in PACOM.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Office of Secretary Of Defense	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603920D8Z: *Humanitarian De-mining*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014

Under the Office of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict (OASD SO/LIC), the HD R&D Program works closely with the COCOMS and the Humanitarian Demining Training Center (HDTC) to support the Warfighter by developing and implementing mine/UXO detection and clearance technologies; speeding improvements to technologies used by U.S. forces in support of USG operations; reducing the threat to host nation population and US forces; reducing insurgent access to explosives (landmines and UXO); enhancing mine action capacity of non-governmental organizations and mine action centers in mine-affected countries; and providing engagement opportunities for DoD personnel in mine-affected countries.

Areas of emphasis are identified and validated at a biennial Requirements Workshop held by OASD SO/LIC. The Requirements Workshop involves representatives from Department of State (DoS), U.S. combatant commands (COCOMS) and mine-affected nations.

FY 2012 Accomplishments:

The HD R&D Program completed ongoing equipment developments/modifications and continued 34 operational evaluations in 10 countries from FY2011. The program initiated new evaluations including the Badger vegetation/UXO clearance system in Guadalcanal; HSTAMIDS mine detection system in Mozambique; the Minehound, Luxor, and Scorpion mine/UXO detection systems and Wolverine quality assurance tiller in Cambodia; excavator UXO/mine sifting attachments and Terrapin UXO/ mine clearance system in Lebanon; and the Portable UXO Cutting System in Vietnam. The HD R&D Program held its biennial technology requirements workshop, bringing together representatives from demining non-governmental organizations, foreign nation military units and mine action centers, the U.S. Departments of State and Defense, and the Organization of American States. The workshop discussions focused future development efforts on technologies most needed to remove post-conflict mines and UXO. The HD R&D Program supported the combatant commands and U.S. Embassy staffs by conducting site surveys and country assessments. The program continued development, test and evaluation of prototype technologies in the following areas: mine/UXO detection, mechanical mine/UXO clearance, vegetation clearance, mine neutralization, technical survey, and post-clearance quality assurance (QA).

FY 2013 Plans:

The HD R&D Program will complete ongoing equipment developments/modifications, continue to support 53 ongoing operational evaluations in 13 countries from FY2012. The HD R&D Program will deploy at least nine new technologies for operational field evaluation, including Raptor II in Afghanistan, Rebel Crusher in Iraq, Mine Stalker in Angola, HSTAMIDS in Sri Lanka, Scout and Piranha in Cambodia, PAC-MAG in Laos, Mini MineWolf in Thailand, and Loader Based Demining in Chile. The HD R&D Program will support the combatant commands and U.S. Embassy staffs by conducting site surveys and country assessments. The program will develop, test and evaluate new prototype technologies in mine/UXO and detection, mechanical mine/UXO clearance, vegetation clearance, mine neutralization, technical survey, and post-clearance quality assurance (QA).

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Office of Secretary Of Defense	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603920D8Z: *Humanitarian De-mining*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
New developments include the latest ground penetrating radar and magnetic sensing technologies to detect mines and UXO among high densities of clutter; semi-autonomous platforms and advanced perception sensors to aid in navigation and detection operations; and Sparrow and Armtrac ground-engaging/rapid investigation tools for mine/UXO suspect areas. ***FY 2014 Plans:*** The HD R&D Program will complete ongoing equipment developments/modifications, continue operational evaluations from FY2013. The HD R&D Program will support the combatant commands and U.S. Embassy staffs by conducting site surveys and country assessments. The program will develop, test and evaluate new prototype technologies in the following areas: mine/UXO detection, mechanical mine/UXO clearance, vegetation clearance, mine neutralization, technical survey, and post-clearance quality assurance (QA).			
Accomplishments/Planned Programs Subtotals	14.540	13.231	11.704

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Following a rapid prototyping strategy, the program emphasizes the use/modification of existing, commercially-available items and components to build functional prototype equipment suited for humanitarian demining operations. This approach is required due to the immediate need for new demining technologies in the face of ongoing U.S. forces and host nation citizen casualties in mine-affected countries. The program evaluates prototype equipment by acquiring it off-the-shelf from industry using competition to the extent possible, by leveraging ongoing countermine R&D efforts in other U.S. and foreign R&D activities, and by taking advantage of extensive in-house fabrication capabilities at the Army's Night Vision and Electronic Sensors Division (NVESD).

F. Performance Metrics

Long Term Strategies: Obtain adequate funding to support critical shortfalls; prioritize proposals that are deemed acceptable and allocate funding accordingly; and establish outreach programs to leverage institutional knowledge and expertise.

Performance Indicator and Rating:

FY 2012 Target - Achieved:
90% of currently funded research technologies are completed on time and within budget
Complete scheduled R&D project tasks
Transition field-ready technologies to host nation demining partners

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Office of Secretary Of Defense	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603920D8Z: *Humanitarian De-mining*

Conduct biennial Humanitarian R&D Program Requirements Workshop

FY 2013 Target:
90% of currently funded research technologies are completed on time and within budget
Complete scheduled R&D project tasks
Transition field-ready technologies to host nation demining partners
Conduct focused working group on UXO detection and clearance in Southeast Asia

FY 2014 Target:
90% of currently funded research technologies are completed on time and within budget
Complete scheduled R&D project tasks
Transition field-ready technologies to host nation demining partners
Conduct biennial Humanitarian R&D Program Requirements Workshop

Basis of FY 2012 to Date Performance Rating: Currently the number of funded research technologies is on track to be completed per the target.

Verification: The Humanitarian Demining Program performs program reviews with other USG agencies (DOS PM WRA, DTRA SA/LW, DSCA, HDTC, CENTCOM, PACOM, SOUTHCOM, AFRICOM, EUCOM) and has oversight from OSD SO/LIC.

Validation: Completed R&D products increase the capabilities of the DoD to effectively perform demining missions.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Office of Secretary Of Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603920D8Z: *Humanitarian De-mining*	PROJECT 920: *Humanitarian De-mining*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Sub Allot	RDECOM-NVESD:Fort Belvoir, VA	0.000	7.844		7.434		6.576		-		6.576	Continuing	Continuing	Continuing
		Subtotal	0.000	7.844		7.434		6.576		0.000		6.576			

Remarks

The HD R&D Program adapts commercial-off-the-shelf equipment, integrates mature technologies, and leverages R&D activity within DoD, particularly in the Army's Night Vision and Electronic Sensors Directorate (NVESD) Tactical Countermine mission area.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Humanitarian Demining Research and Development Program	Sub Allot	RDECOM-NVESD:Fort Belvoir, VA	-	6.212		5.309		4.696		-		4.696	Continuing	Continuing	Continuing
		Subtotal	0.000	6.212		5.309		4.696		0.000		4.696			

Remarks

Under the Office of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict (OASD SO/LIC), the HD R&D Program works closely with the COCOMS and the Humanitarian Demining Training Center (HDTC) to support the Warfighter by developing and implementing mine/UXO detection and clearance technologies; speeding improvements to technologies used by U.S. forces in support of USG operations; reducing the threat to host nation population and US forces; reducing insurgent access to explosives (landmines and UXO); enhancing mine action capacity of non-governmental organizations and mine action centers in mine-affected countries; and providing engagement opportunities for DoD personnel in mine-affected countries.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Humanitarian Demining Program Management Support	Sub Allot	RDECOM-NVESD:Fort Belvoir, VA	-	0.484		0.488		0.432		-		0.432	Continuing	Continuing	Continuing
		Subtotal	0.000	0.484		0.488		0.432		0.000		0.432			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Office of Secretary Of Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603920D8Z: *Humanitarian De-mining*	PROJECT 920: *Humanitarian De-mining*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

The HD R&D Program adapts commercial-off-the-shelf equipment, integrates mature technologies, and leverages R&D activity within DoD, particularly in the Army's Night Vision and Electronic Sensors Directorate (NVESD) Tactical Countermine mission area. Areas of emphasis are identified and validated at a biennial Requirements Workshop held by OASD SO/LIC. The Requirements Workshop involves representatives from Department of State (DoS), U.S. combatant commands (COCOMS) and mine-affected nations.

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	14.540		13.231		11.704		0.000		11.704			

Remarks

The Humanitarian Demining Research and Development (HD R&D) program element rapidly develops, demonstrates and validates new technologies for DoD-supported nations to detect and clear landmines and unexploded ordnance (UXO), and to contribute to US military countermine R&D. The HD R&D Program focuses on development of new technologies to improve the efficiency and safety of indigenous nation-conducted, post-conflict clearance of residual mines and UXO, which pose a serious threat to US forces conducting stability operations, and to the host nation's population and economy.

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Office of Secretary Of Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603920D8Z: *Humanitarian De-mining*	PROJECT 920: *Humanitarian De-mining*

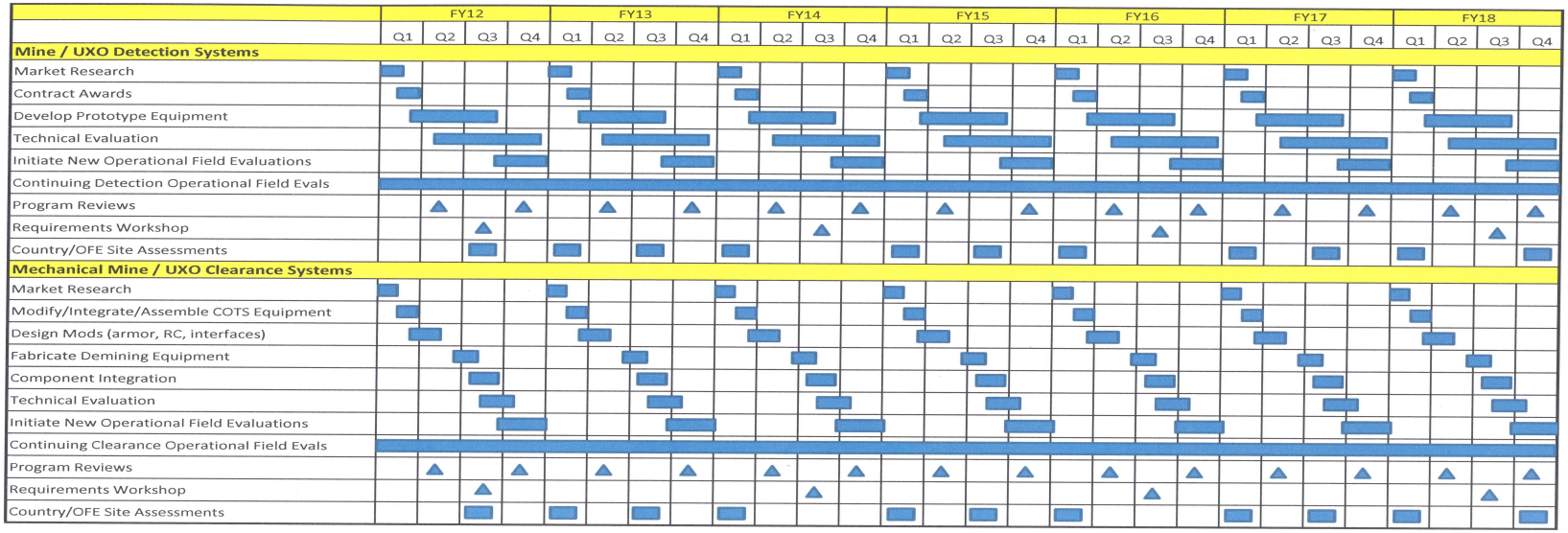

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Office of Secretary Of Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603920D8Z: *Humanitarian De-mining*	PROJECT 920: *Humanitarian De-mining*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Mine/UXO Detection Systems				
Market Research	1	2012	1	2012
Contract Awards	1	2012	1	2012
Develop Prototype Eq	1	2012	3	2012
Mechanical Mine/UXO Clearance Systems				
Market Research	1	2012	1	2012