Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Office of the Secretary Of Defense	Date: February 2015
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603920D8Z / *Humanitarian De-mining*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	26.281	11.395	10.180	10.129	-	10.129	10.451	10.976	11.600	11.744	Continuing	Continuing
920: *Humanitarian De-mining*	26.281	11.395	10.180	10.129	-	10.129	10.451	10.976	11.600	11.744	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Under the Office of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict (OASD SO/LIC), the Humanitarian Demining Research and Development (HD R&D) program element 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 works closely with the Geographical Combatant Commands (GCC) and the Humanitarian Demining Training Center (HDTC) to identify, develop and implement mine/UXO detection and clearance technologies; speed improvements to technologies used by U.S. forces in support of USG operations; reduce the threat to host nation population and US forces; reduce insurgent access to explosives (landmines and UXO); enhance mine action capacity of non-governmental organizations and mine action centers in mine-affected countries; and provide engagement opportunities for DoD personnel in mine-affected countries.

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 172 evaluations in 37 countries, including Vietnam, Cambodia, Solomon Islands, Iraq and Afghanistan. The program's technologies have cleared 26 million sq meters of the world's toughest minefields; found or destroyed 133,000 mines and UXO; and provided 350,000 mine/UXO disposal charges with 40 tons of explosive recovered from stockpiles and abandoned munitions in PACOM.

New technology requirements and 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), GCCs and mine-affected nations. The program element's work is consistent with the Department of Defense's strategic guidance to address instability and reduce the demand for significant US force commitments to stability operations; with DODI 3000.05 to foster security, economic security and development, and build indigenous capacity; and with § 407 and CJCSI 3207.01C to reduce the social, economic and environmental impact of landmines, unexploded ordnance and small arms ammunition.

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B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	11.688	10.194	9.192	-	9.192
Current President's Budget	11.395	10.180	10.129	-	10.129
Total Adjustments	-0.293	-0.014	0.937	-	0.937
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.288	-			
• Other Adjustments	-0.005	-0.014	0.937	-	0.937

C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: 0603920D8Z - SO/LIC Humanitarian De-mining	11.395	10.180	10.129

Description: 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, underwater UXO detection and clearance, vegetation clearance, mine neutralization, and post-clearance quality control (QC).

FY 2014 Accomplishments:

In FY14 the HD R&D Program's technologies cleared 4.1 million square meters of the world's toughest minefields and UXO threat areas, removing or destroying 7,378 mines and 22,970 UXO. The HD R&D Program completed ongoing equipment developments/modifications and continued operational evaluations from FY2013. The HD R&D program also continued to support 51 on-going operational field evaluations in 11 countries. New evaluations included the Raptor II and Rotary Mine Comb to Afghanistan; the Mine Clearing Loader to Chile; the Rebel Crusher to Iraq; the Riddle soil sifting bucket to Vietnam; the Wolverine and Quadcopter to Thailand; and the Quadcopter, Tamina, Piranha and Bearcat to Cambodia. The HD R&D Program supported the combatant commands and Embassy staffs by conducting site surveys and country assessments. The program developed and tested twelve prototype technologies in the following areas: technical survey, individual mine/UXO and minefield detection, mechanical mine/UXO and vegetation clearance, mine neutralization, and post-clearance quality control (QC).

FY 2015 Plans:

The HD R&D Program will deploy new technology to several countries, including the Mini MineWolf and Handheld Standoff Mine Detection System in Zimbabwe; Six-Tine Rotary Mine Comb in Afghanistan; Minehound, Sparrow, Delta and Minefield

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Office of the Secretary Of Defense	Date: February 2015
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Management System in Cambodia; Empact in Laos; Wet Soil Sifting System in Solomon Islands; Severe Terrain Support Vehicle in Marshall Islands; Rex in Angola; and Target Reacquisition Positioning System in West Bank. The program element will continue to support ongoing FY2014 operational field evaluations and will support the combatant commands and Embassy staffs by conducting site surveys or country assessments. The program will develop, test and evaluate new prototype technologies in the following areas: technical survey, individual mine/UXO and minefield detection, mechanical mine/UXO and vegetation clearance, underwater UXO detection and clearance, mine neutralization, and post-clearance quality assurance (QA). ***FY 2016 Plans:*** The HD R&D Program will complete ongoing equipment developments/modifications, and continue operational evaluations from FY2015. The HD R&D will support the combatant commands and Embassy staffs by conducting new site surveys or country assessments. The program will develop, test and evaluate new prototype technologies based on feedback from the field in the following areas: technical survey, individual mine/UXO and minefield detection, mechanical mine/UXO and vegetation clearance, underwater UXO detection and clearance, mine neutralization, and post-clearance quality assurance (QA).			
Accomplishments/Planned Programs Subtotals	11.395	10.180	10.129

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 2014 Target:
90% of currently funded research technologies are completed on time and within budget
Complete scheduled R&D project tasks

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Office of the Secretary Of Defense	Date: February 2015
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Transition field-ready technologies to host nation demining partners

FY 2015 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 2014 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, 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 2016 Office of the Secretary Of Defense			Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603920D8Z / *Humanitarian De-mining*	Project (Number/Name) 920 / *Humanitarian De-mining*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	RDECOM-NVESD : Ft Belvoir, VA	14.177	7.735		6.920		6.894		-		6.894	-	-	-
		Subtotal	14.177	7.735		6.920		6.894		-		6.894	-	-	-

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	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Humanitarian Demining Research and Development Program	Various	RDECOM-NVESD : Ft Belvoir, VA	11.228	3.210		2.858		2.834		-		2.834	-	-	-
		Subtotal	11.228	3.210		2.858		2.834		-		2.834	-	-	-

Remarks

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.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Humanitarian Demining Program Management Support	Various	RDECOM-NVESD : Ft Belvoir, VA	0.876	0.450		0.402		0.401		-		0.401	-	-	-
		Subtotal	0.876	0.450		0.402		0.401		-		0.401	-	-	-

Remarks

The HD R&D Program managers oversee adaptation of commercial-off-the-shelf equipment, integration of mature technologies, and leverage of 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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Office of the Secretary Of Defense			Date: February 2015
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
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.															

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	26.281	11.395		10.180		10.129		-		10.129	-	-	-

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 2016 Office of the Secretary Of Defense		Date: February 2015
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603920D8Z / *Humanitarian De-mining*	**Project (Number/Name)** 920 / *Humanitarian De-mining*

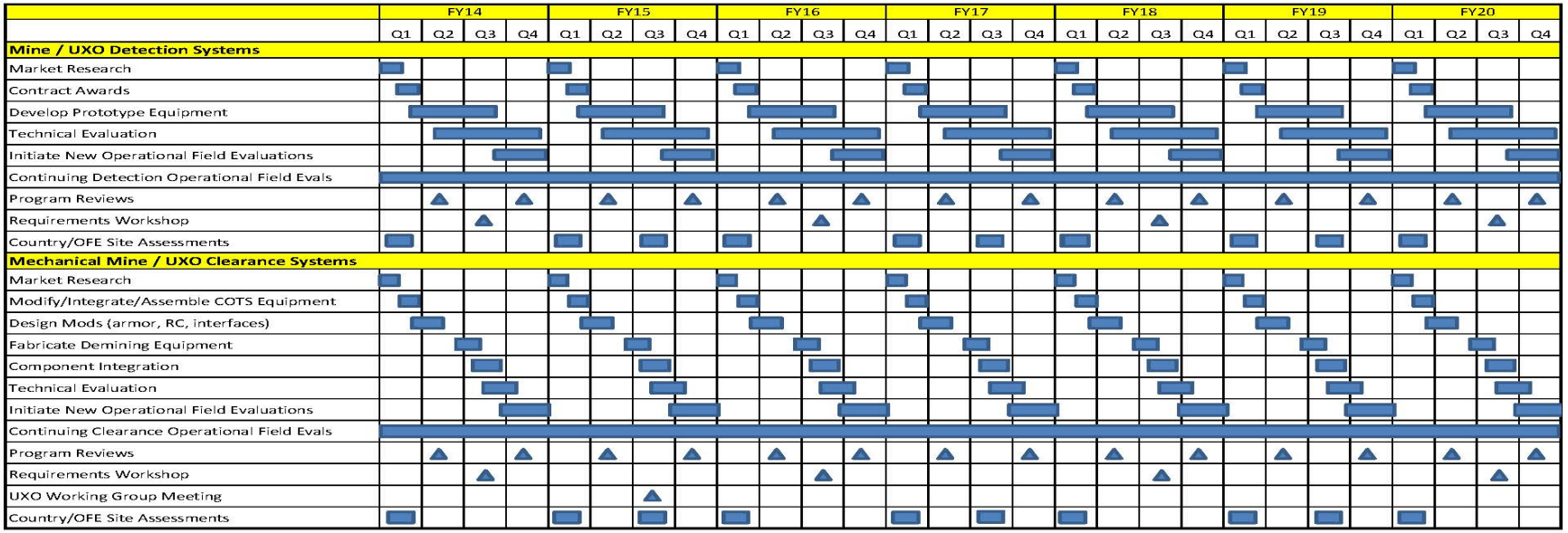

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Office of the Secretary Of Defense		Date: February 2015
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603920D8Z / *Humanitarian De-mining*	**Project (Number/Name)** 920 / *Humanitarian De-mining*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Mechanical Mine/UXO Clearance Systems	1	2014	4	2020
Mine/UXO Detection Systems	1	2014	4	2020